

MSCI World Carbon Transition Technologies Select Index

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1 Introduction

The MSCI World Carbon Transition Technologies Select Index (the ‘Index¹’) aims to represent the performance of a set of companies that are associated with the development of new products and services focused on one or more of the following components and meet certain minimum ESG requirements.

- Batteries
- Smart Grids
- Future Fuels & Technologies
- Alternative Food & Agriculture
- MSCI Hydro-power generation (>25MW)
- MSCI Sustainable Impact Metrics categories:
 - Alternative Energy
 - Energy Efficiency
 - Sustainable Agriculture
 - Sustainable Water
 - Pollution Prevention and Control

¹ The Index is governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document. Please refer to Appendix III for more details.

2 Constructing the Index

The Index is constructed by selecting securities from the MSCI World Investable Market Index (IMI) ('Parent Index'), based on the filtering below.

2.1 Eligible Universe

2.1.1 ESG-based Screening²

The Index uses MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, MSCI Climate Change Metrics, and MSCI Impact Solutions' SDG Alignment to apply a set of exclusions screens that aim to address headline risks and/or reduce negative impact from select business activities. The exclusions are based on the following criteria:

ESG Controversy-based Criteria

- ESG Controversies Score
- Environmental Controversies Score

Business Involvement-based Criteria

- Controversial Weapons
- Tobacco
- Thermal Coal Mining
- Thermal Coal Power Generation
- Unconventional Oil & Gas Extraction
- Arctic Oil & Gas Extraction
- Palm Oil

SDG Criteria

- SDG Net Alignment

See Appendix I for more details on these exclusions criteria.

² Please refer to Section 4 for further information regarding the ESG and climate data used in the Index that MSCI Limited sources from MSCI ESG Research LLC, a separate subsidiary of MSCI Inc. MSCI ESG Research is solely responsible for the creation, determination and management of such data. MSCI Limited is the benchmark administrator for the MSCI indexes.

2.2 Selected Universe

The Selected Universe³ is constructed from the Eligible Universe by combining securities selected from one or more of the following components.

- **Hydro-power Generation (>25MW):** Securities are selected if they have reported or estimated revenue of 25% or more from Hydro-power Generation, as defined by MSCI Climate Change Metrics.
- Securities are selected if they have reported or estimated revenue of at least 25% from one or more of the following categories as defined by MSCI Sustainable Impact Metrics.
 - Alternative energy
 - Energy efficiency
 - Sustainable water
 - Pollution prevention and control
 - Sustainable Agriculture

- **Batteries⁴ and EV Value Chain:** Securities are selected if their Batteries and EV Value Chain Relevance Score is $\geq 50\%$

This component aims to capture securities that are associated with the development of new products and services focused on the Battery and Electric Vehicle value chain, as defined by the MSCI Thematic Relevance Score Methodology⁵. Business activities in scope include the following:

- Electro-chemical energy storage technologies,
- Mining companies that produce metals used to manufacture batteries,
- Electric vehicles (“EVs”), EV components and materials.

Smart Grids: Securities are selected if their Smart Grids Relevance Score is $\geq 50\%$

This component aims to capture securities that are associated with the development of new products and services focused on enabling two-way

³ It is possible that one security is selected in more than one component. In this case, this security is in the Selected Universe with the weighing defined in Section 2.3.

⁴ Prior to the May 2024 index review, the component was called ‘Batteries including EVs’.

⁵ For details of calculation of Relevance Scores, please refer to the MSCI Thematic Relevance Score Methodology document at <https://www.msci.com/index/methodology/latest/ThemRelevScore>.

flow of data and electric power, as defined by the MSCI Thematic Relevance Score Methodology. Business activities in scope include the following:

- Grid and energy management, including microgrids,
- Smart metering
- **Future Fuels & Technology:** Securities are selected if their Future Fuel & Technology Relevance Score is $\geq 25\%$

This component aims to capture securities that are associated with the development of new products and services focused on future sources of energy and technologies for conduit industries, as defined by the MSCI Thematic Relevance Score Methodology. Business activities in scope include the following:

- Hydrogen fuel value chain,
- Concentrated Solar Power (CSP),
- Ground source heating.
- **Alternative Food & Agriculture:** Securities are selected if their Alternative Food & Agriculture Relevance Score $\geq 25\%$

This component aims to capture securities that are associated with the development of new products and services focused on improving the way food is produced and consumed, as defined by the MSCI Thematic Relevance Score Methodology. Business activities in scope include the following:

- Plant-based meat substitutes,
- Insect-based protein,
- Agricultural technology (e.g., drones, soil moisture sensors, self-propelled crop sprayers etc.),
- Responsible farming.

Please refer to Appendix II for the details on the construction of the Thematic components, including the Relevance Score calculation, of the Batteries and EV Value Chain, Smart Grids, Future Fuels and Technology, Alternative Food & Agriculture components.

2.3 Weighting Scheme

Securities included in the Index are weighted in proportion to their weight in the Parent Index. The weights are then normalized to 100%. Additionally, constituent



weights are capped at the security level to mitigate concentration risk in the component. The security weight in the Index is capped at 5% at each rebalance.

3 Maintaining the Index

3.1 Semi-Annual Index Review

The 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 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.

In general, MSCI uses MSCI ESG Research data (including MSCI Impact Solutions, MSCI ESG Ratings, MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, and MSCI Climate Change Metrics) 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 Index.

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

3.2 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.

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 Index between Index Reviews on account of a security becoming ineligible because of reduced Component revenue or relevance score falling below the threshold, 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 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	<p>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.</p> <p>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.</p>
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 MSCI ESG Research

The Index is a product of MSCI Inc. that utilizes information such as company ratings and research produced and provided by MSCI ESG Research LLC (MSCI ESG Research), a subsidiary of MSCI Inc. In particular, the Index uses the following MSCI ESG Research products: MSCI Impact Solutions, MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, and MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited.

4.1 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	1. Alternative energy 2. Energy efficiency 3. Green building
	Natural capital	4. Sustainable water 5. Pollution prevention 6. Sustainable agriculture
Social Impact	Basic needs	7. Nutrition 8. Major Disease Treatment 9. Sanitation 10. Affordable Real Estate
	Empowerment	11. SME Finance 12. Education 13. 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 4.4 of the MSCI ACWI Sustainable Impact Index Methodology available at <https://www.msci.com/index-methodology>.

4.2 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>.

4.3 MSCI ESG Controversies

MSCI ESG Controversies provides 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>.

4.4 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.

4.5 MSCI Climate Change Metrics

MSCI Climate Change Metrics provides climate data & tools to support institutional investors seeking to integrate climate risk & opportunities into their investment strategy and processes. 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>.

Appendix I: ESG Exclusions Criteria

Companies are excluded from the Index based on the following MSCI ESG Controversies, MSCI Business Involvement Screening Research, MSCI Climate Change Metrics, and MSCI SDG Alignment filters:

ESG CONTROVERSY-BASED CRITERIA

- **ESG Controversies Score**
 - All companies assessed as having involvement in ESG controversies that are classified as Red Flags (MSCI ESG Controversy Score of 0) . A Red Flag indicates an ongoing, Very Severe ESG controversy implicating a company directly through its actions, products, or operations.
- **Environmental Controversies Score**
 - All companies assessed as having involvement in environmental controversies that are classified as Red Flags (MSCI Environmental Controversy Score of 0) or Orange Flags (score of 1)
 - A Red Flag indicates an ongoing, Very Severe ESG controversy implicating a company directly through its actions, products, or operations.
 - An Orange Flag indicates an ongoing Severe ESG controversy implicating a company directly, or a Very Severe ESG controversy that is either partially resolved or indirectly attributed to the company's actions, products, or operations.

BUSINESS INVOLVEMENT-BASED 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>.

- **Tobacco**

- All companies that manufacture tobacco products which include cigars, blunts, cigarettes, e-cigarettes, inhalers, kreteks, smokeless tobacco, snuff, snus, dissolvable and chewing tobacco. This category also covers companies that grow or process raw tobacco leaves.
- All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products

- **Thermal Coal Mining**

- All companies deriving 1% 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); intra-company sales of mined thermal coal; and revenue from coal trading.

- **Thermal Coal Power Generation**

- All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation.

- **Unconventional Oil & Gas Extraction**

- All companies deriving 5% or more revenue (either reported or estimated) from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal-seam gas, and coal-bed methane. It does not cover all types of conventional oil and gas production including Arctic onshore/offshore, deep water, shallow water and other onshore/offshore.

- **Arctic Oil & Gas Extraction**

- All companies deriving 5% or more revenue (either reported or estimated) from arctic oil and arctic gas production. The definition of Arctic is geographical and includes production activities north of the 66.5 latitude. This covers offshore or onshore oil and gas production.

- **Palm Oil**

- All companies deriving 5% or more revenue from the production of palm oil.

SDG CRITERIA

- **SDG Net Alignment**

- All companies that are assessed as Strongly Misaligned or Misaligned on their Net Alignment to any of the selected SDGs, in particular, SDG 6, 7, 9, 12, 13, 14, or 15⁶

Notes on Unrated Securities or Securities with Missing Coverage:

- Companies that are not assessed on MSCI ESG Research's ESG Controversies or Environmental Controversies are excluded from the Eligible Universe.
- Companies that are not assessed on MSCI ESG Research's SDG Alignment are not excluded from the Eligible Universe.

⁶ SDGs 6, 7, 9, 12, 13, 14, and 15 refer to seven of the 17 United Nations Sustainable Development Goals, as part of the 2030 Agenda for Sustainable Development that are specifically focused on environmental themes. SDG 6 aims to ensure availability and sustainable management of water and sanitation for all (<https://sdgs.un.org/goals/goal6>); SDG 7 aims to ensure access to affordable, reliable, sustainable and modern energy for all (<https://sdgs.un.org/goals/goal7>); SDG 9 aims to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (<https://sdgs.un.org/goals/goal9>); SDG 12 aims to ensure sustainable consumption and production patterns (<https://sdgs.un.org/goals/goal12>); SDG 13 aims to Take urgent action to combat climate change and its impacts (<https://sdgs.un.org/goals/goal13>); SDG 14 aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development (<https://sdgs.un.org/goals/goal14>); and SDG 15 aims to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (<https://sdgs.un.org/goals/goal15>)

Appendix II: Thematic Framework for constructing the Batteries and EV Value Chain, Smart Grids, Future Fuels & Technology, Alternative Food & Agriculture Components

Selection Rules for each thematic component

Securities from the Parent Index that have a Relevance Score of 25% or more are included in the thematic component. For details of calculation of Relevance Scores, please refer to the MSCI Thematic Relevance Score Methodology document⁷. The business activities in scope of the theme are as defined in Section 2.2.

Further filtering is applied to each thematic component as detailed below.

GICS®⁸ Sector and Sub-industry filter

Securities in the corresponding component mapped to the following GICS sub-industries are excluded from the respective thematic component.

Batteries and EV Value Chain Component

No	GICS Sector	GICS Sub-industry
1	Energy	<ul style="list-style-type: none"> Oil & Gas Equipment & Services Oil & Gas Refining & Marketing
2	Industrials	<ul style="list-style-type: none"> Marine Transportation Marine Ports & Services Heavy Electrical Equipment
3	Information Technology	<ul style="list-style-type: none"> Application Software Semiconductor Materials & Equipment
4	Communication Services	<ul style="list-style-type: none"> Advertising Broadcasting Cable & Satellite Publishing Movies & Entertainment Interactive Home Entertainment Interactive Media & Services
5	Utilities	<ul style="list-style-type: none"> Independent Power Producers & Energy Traders

⁷ Please see <https://www.msci.com/index/methodology/latest/ThemRelevScore>

⁸ GICS®, the global industry classification standard jointly developed by MSCI and S&P Global

Smart Grids Component

No	GICS Sector	GICS Sub-industry
1	Consumer Staples	• All Sub Industries
2	Healthcare	• All Sub Industries
3	Consumer Discretionary	• All Sub Industries
4	Industrials	<ul style="list-style-type: none"> • Construction Machinery & Heavy Transportation Equipment • Commercial Printing • Office Services & Supplies • Data Processing & Outsourced Services
5	Information Technology	• IT Consulting & Other Services
6	Materials	• Construction Materials
7	Financials	• Transaction Payment Processing Services

Future Fuels & Technology Component

GICS Sector	GICS sub industry
Energy	Integrated Oil & Gas
	Oil & Gas Exploration & Production

Further GICS® filtering is applied to each of the above three thematic components

No	GICS Sector	GICS Sub-industry
1	Consumer Staples	All
2	Healthcare	All
3	Financials	All
4	Real Estate	All
5	Communication Services	All
6	Utilities	Gas Utilities Water Utilities
7	Information technology	Internet Software & Services
		IT Consulting & Other Services
		Internet Services & Infrastructure
		Application Software
		Systems Software
8	Materials	Home Entertainment Software
		Fertilizers & Agricultural Chemicals
		Construction Materials
9	Industrials	Metal, Glass & Plastic Containers
		Trading Companies & Distributors
		Human Resource & Employment Services
		Research & Consulting Services
		Commercial Printing
		Office Services & Supplies
		Diversified Support Services
		Security & Alarm Services
		Data Processing and Outsourced Services

Alternative Food & Agriculture Component

No	GICS Sector	GICS Sub-industry
1	Consumer Staples	Personal Care Products

Appendix III: Methodology Set

The Index is governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document as mentioned below:

- Description of methodology set – www.msci.com/index/methodology/latest/ReadMe
- MSCI Corporate Events Methodology – www.msci.com/index/methodology/latest/CE
- MSCI Fundamental Data Methodology – www.msci.com/index/methodology/latest/FundData
- MSCI Index Calculation Methodology – www.msci.com/index/methodology/latest/IndexCalc
- MSCI Index Glossary of Terms – www.msci.com/index/methodology/latest/IndexGlossary
- MSCI Index Policies – www.msci.com/index/methodology/latest/IndexPolicy
- MSCI Global Industry Classification Standard (GICS) Methodology – www.msci.com/index/methodology/latest/GICS
- MSCI Global Investable Market Indexes Methodology – www.msci.com/index/methodology/latest/GIMI
- ESG Factors In Methodology⁹
- Thematic Relevance Score Methodology – <https://www.msci.com/index/methodology/latest/ThemRelevScore>
- MSCI ACWI IMI Sustainable Impact Indexes Methodology – www.msci.com/index/methodology/latest/SI

The Methodology Set for the Index can also be accessed from MSCI’s webpage <https://www.msci.com/index-methodology> in the section ‘Search Methodology by Index Name or Index Code’.

⁹ ‘ESG Factors in Methodology’ contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion). It can be accessed in the Methodology Set as described above.

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