

MSCI WORLD NATURAL CAPITAL PARIS-ALIGNED EQUITY SELECT INDEX

September 2022

| | | |
|-----------------|-----|---|
| Contents | | |
| | 1 | Introduction 4 |
| | 2 | MSCI ESG Research 5 |
| | 2.1 | MSCI Climate Change Metrics 5 |
| | 2.2 | MSCI ESG Ratings 5 |
| | 2.3 | MSCI ESG Controversies 5 |
| | 2.4 | MSCI ESG Business Involvement Screening Research 6 |
| | 2.5 | MSCI Impact Solutions: Sustainable Impact Metrics 6 |
| | 2.6 | MSCI Impact Solutions: SDG Alignment 7 |
| | 3 | Constructing the MSCI World Natural Capital Paris-Aligned Equity Select Index 8 |
| | 3.1 | Applicable Universe 8 |
| | 3.2 | Eligible Universe 8 |
| | 3.3 | Security Selection and Weighting 9 |
| | 3.4 | Determining the Optimized Index 11 |
| | 4 | Maintaining the MSCI World Natural Capital Paris-Aligned Equity Select Index 12 |
| | 4.1 | Semi-Annual Index Review 12 |
| | 4.2 | Ongoing Event-Related Changes 12 |
| | | Appendix I: Select Climate Change- and Natural Capital-Related Criteria 14 |
| | | Appendix II: Controversial Business Involvement Exclusions Criteria 17 |
| | | Appendix III: Calculation of Target Metrics 19 |
| | | Appendix IV: Sector-Relative Management Score (SRMS) Calculation 22 |
| | | Appendix V: Barra Equity Model Used in The Optimization 23 |

| | |
|--|----|
| Appendix VI: New release of Barra® Equity Model or Barra® Optimizer | 24 |
| Appendix VII: MSCI World Natural Capital Paris-Aligned Equity Custom Index | 25 |

1 Introduction

The MSCI World Natural Capital Paris-Aligned Equity Select Index (the “Index”) is designed to meet the minimum standards of the EU Paris-Aligned Benchmark (PAB) as per the EU Low Carbon Benchmark Regulation¹, reduce exposure to select indicators that are associated with adverse impact on natural resources, and increase exposure to companies that are associated with positive contribution to the environment through their products or services, or through their management of their natural capital-related risks. The Index is constructed from MSCI World Index (the “Parent Index”) and applies an optimization-based approach to meet select climate change- and natural capital-related objectives, such as:

- Reduce the weighted average greenhouse gas intensity by 50% compared to the underlying investment universe.
- Reduce the weighted average GHG intensity by 7% on an annualized basis,
- Increase the weight of companies deriving revenue from products or services with positive environmental impact (“green revenue”) by 100% relative to the Parent Index,
- Increase the weight of the companies belonging to the top decile based on their management of natural capital-related risks by 100% relative to the Parent Index,
- Achieve a modest tracking error compared to the Parent Index and maintain relatively low turnover.

¹ Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks (EU Low Carbon Benchmarks Delegated Acts): <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1818&rid=1>

2 MSCI ESG Research

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

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

2.1 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>.

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 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 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.

2.5 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 2.4 of the MSCI ACWI Sustainable Impact Index Methodology available at <https://www.msci.com/index-methodology>.

2.6 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>.

3 Constructing the MSCI World Natural Capital Paris-Aligned Equity Select Index

3.1 Applicable Universe

The Applicable Universe of the Index includes all the constituents of the Parent Index.

3.2 Eligible Universe

The Eligible Universe comprises of all securities from the Applicable Universe that meet each of the below eligibility criteria:

3.2.1 ESG Controversies Score Eligibility Criteria

The Index uses MSCI ESG Controversies to identify companies that are involved in very serious environmental, social, or governance controversies related to their operations and/or products and services. Securities are excluded based on the following criteria:

1. **ESG Controversies:** Securities with environmental, social or governance controversies that are assessed as “Red Flags” (score of 0)
2. **Environment Controversies:** Securities with environmental controversies that are assessed as “Red” and “Orange” Flags (score 1 or below)
3. **Human Rights Controversies:** Securities with human rights-related controversies that are assessed as “Red Flags” (score of 0).
4. **Labor Rights Controversies:** Securities with labor rights-related controversies that are assessed as “Red Flags” (score of 0).
5. **Governance Controversies:** Securities with governance-related controversies that are assessed as “Red Flags” (score of 0).

3.2.2 Select Climate Change- and Natural Capital-Related Criteria

Companies that are involved in specific business activities or lag peers in managing risks associated with negative contribution to climate change, natural resource scarcity, and pollution considerations are ineligible for inclusion in the Index. The Index uses MSCI ESG BISR, MSCI ESG Ratings, MSCI Climate Change Metrics, and MSCI Impact Solutions’ SDG Alignment to identify companies that are involved in the following business activities²:

² Please refer to Appendix I for more details on these criteria.

1. Thermal Coal Mining
2. Oil and Gas Value Chain
3. Unconventional Oil & Gas (including Arctic Oil) Extraction
4. Fossil Fuel-based Power Generation
5. Palm Oil
6. SDG 14 and 15 Net Alignment
7. Water Stress
8. Raw Material Sourcing

3.2.3 Controversial Business Involvement Exclusions Criteria

Companies that are involved in specific businesses, which are associated with negative environmental and/or social impact are ineligible for inclusion in the Index. The Index uses MSCI ESG BISR to identify companies that are involved in the following business activities³:

1. Controversial Weapons
2. Nuclear Weapons
3. Aggregate Weapons
4. Civilian Firearms
5. Tobacco
6. For Profit Prisons

3.3 Security Selection and Weighting

Securities in the Eligible Universe are selected and weighted following an optimization-based approach as described below:

At each Semi-Annual Index Review, the Index is constructed using an optimization process that aims to achieve replicability and investability, as well as minimize ex-ante tracking error relative to the Parent Index, subject to the following constraints:

1. Climate change and natural capital-related objectives – constraints detailed in Table 2
2. Diversification objectives – constraints detailed in Table 3

The definitions of the target metrics for the optimization are detailed in Appendix III.

³ Please refer to Appendix II for more details on these criteria.

Table 2: Constraints imposed to meet climate change and natural capital-related objectives

| No. | Climate Change and Natural Capital-Related Objectives | |
|-----|--|------|
| 1. | Minimum reduction in Greenhouse Gas (GHG) Intensity relative to EVIC (Scope 1+2+3 ⁴) relative to the Parent Index | 50% |
| 2. | Minimum average reduction (per annum) in GHG Intensity relative to EVIC relative to the GHG Intensity of the Index at the Base Date ⁵ | 7% |
| 3. | Minimum active weight in High Climate Impact Sector relative to Parent Index | 0% |
| 4. | Minimum increase in Weighted Average Green Revenue relative to the Parent Index | 100% |
| 5. | Minimum increase in Aggregate Weight of Companies belonging to the Top Decile based on their Sector Relative Management Score (SRMS) as defined in Appendix IV, using the following key issue management scores: <ul style="list-style-type: none"> • Water Stress • Biodiversity & Land Use • Raw Material Sourcing⁶ • Toxic Emissions & Waste • Packaging Material & Waste • Electronic Waste | 100% |

Table 3: Constraints imposed to meet diversification objectives

| No. | Diversification Objectives | |
|-----|---|--------|
| 1. | Constituent Active Weight relative to the Parent Index | +/- 2% |
| 2. | Security Weight as a multiple of its weight in the Parent Index | 20x |

⁴ Prior to the May 2020 Semi-Annual Index Review (SAIR) of the Index, the Weighted Average Carbon Emissions Intensity relative to EVIC has been calculated based on Scope 1+2 Emissions.

⁵ Prior to the May 2020 Semi-Annual Index Review (SAIR) of the Index, the average reduction in Weighted Average Carbon Emissions Intensity relative to EVIC has been calculated using Scope 1+2 Emissions since Inception.

⁶ There is no single management score for the Raw Material Sourcing Key Issue, as the underlying data incorporates six raw materials. As a result, the Raw Material Sourcing Key Issue Score is used in lieu of the management score.

| | | |
|----|--|--------|
| 3. | Active Sector Weights (the Energy GICS® ⁷ Sector is not constrained) relative to the Parent Index | +/-5% |
| 4. | Country Weight as a multiple of its weight in the Parent Index | 3x |
| 5. | Active Country Weights relative to the Parent Index ⁸ | +/-5% |
| 6. | One Way Turnover | 5% |
| 7. | Common Factor Risk Aversion | 0.0075 |
| 8. | Specific Risk Aversion | 0.075 |

During the Semi-Annual Index Review, in the event that there is no optimal solution that satisfies all the optimization constraints, the following constraints will be relaxed, until an optimal solution is found:

- Relax the one-way index turnover constraint in steps of 1% up to 20%
- Relax the active sector weight constraint in steps of 1% up/down to +/-20%
- The one-way index turnover constraint and the active sector weight constraint are alternately relaxed until a feasible solution is achieved.

In the event that no optimal solution is found after the above constraint relaxations are exhausted, the relevant Index will not be rebalanced for that Semi-Annual Index Review.

3.4 Determining the Optimized Index

The Index is constructed using the Barra Open Optimizer in combination with the relevant Barra Equity Model. The optimization uses the universe of eligible securities and the specified optimization objectives and constraints to determine the constituents of and the weights of constituents in the Index.⁹

⁷ GICS®, the Global Industry Classification Standard, jointly developed by MSCI Inc. and S&P Global.

⁸ In case there are countries in the Parent Index which weigh less than 2.5% in the Parent Index then for such countries the active country upper bound of +5% is not applicable. When a country weighs less than 2.5% in Parent Index then the upper bound of country weight in the Index is set at three times of the country's weight in Parent Index.

⁹ Please refer to Appendix V and VI for more details.

4 Maintaining the MSCI World Natural Capital Paris-Aligned Equity Select Index

4.1 Semi-Annual Index Review

The Index is rebalanced 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 Review of the MSCI Global Investable Market Indexes. The pro forma Index is in general announced nine business days before the effective date.

In general, MSCI uses MSCI ESG Research data (including MSCI Climate Change Metrics, MSCI ESG Ratings, MSCI ESG Controversies, MSCI Business Involvement Screening Research and MSCI Impact Solutions) as of the end of the month preceding the Index Reviews for the rebalancing of the Index.

4.2 Ongoing Event-Related Changes

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.

Additionally, if the frequency of Index Reviews in the Parent Index is greater than the frequency of Index Reviews in the Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the Index.

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 if the spin-off security is also

added to the Parent Index. 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 I: Select Climate Change- and Natural Capital-Related Criteria

Companies whose activities meet the following business activities- and key issue-based criteria, as evaluated by MSCI ESG Research, are excluded from the Index:

1. 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

2. Oil and Gas Value Chain

- All companies deriving 10% or more revenue (either reported or estimated) from the following select oil and gas related activities:
 - o *Oil and Gas Extraction and Production*: Revenue from the extraction and production of conventional and unconventional oil and gas
 - o *Oil and Gas Refining*: Revenue from the refining of oil and gas
 - o *Oil and Gas Distribution/Retail*: Revenue from the distribution and retailing of oil and gas and related products. It covers revenues from crude and petroleum products storage facilities and terminals, bulk stations, gasoline and fuel oil retail stations as well as liquefied petroleum gas stations and natural gas distribution
 - o *Oil and Gas Pipelines and Transportation*: Revenue from oil and gas pipelines and transportation. It covers revenues from mid-stream operations but does not cover revenues from terminals and storage facilities

3. Unconventional Oil & Gas (including Arctic Oil) Extraction

- All companies that meet the below two-step conditional exclusions rule:
 - o **Step 1**: Identify all companies deriving 5% or more revenue from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane, or 1% or more revenue from arctic oil production

- **Step 2:** Exclude all companies flagged in Step 1 and either have a Low Carbon Transition (LCT) Management Score of 4 or below, or have a score belong to the bottom half of the Low Carbon Transition Management Score Quartile (defined as scores 3 or 4)

4. Fossil Fuel-based Power Generation

- All companies deriving 50% or more aggregate revenue from thermal coal-, oil- (liquid fuel), and/or natural gas-based power generation
- All companies deriving 30% or more revenue from thermal coal-based power generation
- All companies that meet the below two-step conditional exclusions rule:
 - **Step 1:** Identify all companies deriving 5% or more revenue from thermal coal-based power generation
 - **Step 2:** Exclude all companies flagged in Step 1 and either have a Low Carbon Transition (LCT) Management Score of 4 or below, or have a score belong to the bottom half of the Low Carbon Transition Management Score Quartile (defined as scores 3 or 4)

5. Palm Oil

- All companies that meet the below two-step conditional exclusions rule:
 - **Step 1:** Identify all companies deriving 5% or more revenue from palm oil production of, or 5% or more revenue from palm oil distribution
 - **Step 2:** Exclude all companies flagged in Step 1 and have less than 50% of their palm holdings / estates certified by the Roundtable on Sustainable Palm Oil

6. SDG 14 and 15 Net Alignment

- All companies that are assessed as Strongly Misaligned on their Net Alignment to SDG 14 (Life Below Water) or to SDG 15 (Life on Land)
- All companies that meet the below two-step conditional exclusions rule:
 - **Step 1:** Identify all companies that are assessed as Misaligned on their Net Alignment to SDG 14 or SDG 15
 - **Step 2:** Exclude all companies flagged in Step 1 and deriving less than 20% green revenue

7. Water Stress Score Quartile

- All companies assessed on the Water Stress Key Issue, with more than 5% weight assigned, and have a score belonging to the bottom Water Stress Score Quartile (defined as score of 4)

Exception clause: This rule does not apply to the Water Utilities GICS Sub-industry (GICS Sub-industry code 55104010)

8. Raw Material Sourcing Score Quartile

- All companies assessed on the Raw Material Sourcing Key Issue, with more than 5% weight assigned, and have a score belonging to the bottom Raw Material Sourcing Quartile (defined as score of 4)

Appendix II: Controversial Business Involvement Exclusions Criteria

Companies whose activities meet the following business activities-based criteria, as evaluated by MSCI ESG Research, are excluded from the Index:

1. 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>

2. Nuclear Weapons

- All companies that manufacture nuclear weapons, including nuclear warheads, intercontinental ballistic missiles, and ballistic missile submarines, which are capable of the delivery of nuclear warheads
- All companies that manufacture key nuclear weapons components

3. Aggregate Weapons

- All companies deriving 5% or more aggregate revenue from weapons systems, components, and support systems and services

4. Civilian Firearms

- All companies deriving 5% or more aggregate revenue from the production and distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use

5. Tobacco

- All companies classified as a “Producer”
- All companies deriving 5% or more revenue from the distribution of tobacco products
- All companies deriving 5% or more revenue from retail sales of tobacco products
- All companies deriving 5% or more revenue from the supply of products essential to the tobacco industry

6. For Profit Prisons

- All companies deriving 5% or more revenue from involvement in the operation of “For Profit Prisons” or the provision of integral services to these types of facilities. These facilities may be alternatively known as private prisons

Appendix III: Calculation of Target Metrics

Calculation of GHG Intensity relative to EVIC

For Parent Index constituents where Scope 1+2+3 Emissions Intensity is not available, the average Scope 1+2+3 Emissions Intensity relative to EVIC of all the constituents of the MSCI ACWI in the same GICS Industry Group in which the constituent belongs to is used.

Security Level GHG Intensity relative to EVIC =

$$\frac{\text{Scope 1 + 2 + 3 Carbon Emissions} * (1 + EVIAF)}{\text{Enterprise Value} + \text{Cash(in M\$)}}$$

Enterprise Value Inflation Adjustment Factor (EVIAF) =

$$EVIAF = \left(\frac{\text{Average(Enterprise Value} + \text{Cash)}}{\text{Previous (Average(Enterprise Value} + \text{Cash))}} \right) - 1$$

Weighted Average GHG Intensity relative to EVIC of the Parent Index =

$$\sum (\text{Weight in Parent Index} * \text{Security Level GHG Intensity relative to EVIC})$$

Weighted Average GHG Intensity relative to EVIC of the Optimized Index =

$$\sum (\text{Index Weight} * \text{Security Level GHG Intensity relative to EVIC})$$

Calculation of Average Decarbonization

On average, the Index follows a 7% decarbonization trajectory since the Base Date. The Weighted Average GHG Intensity relative to EVIC at the Base Date (W_1) is used to compute the target Weighted Average GHG Intensity relative to EVIC at any given Semi-Annual Index Review (W_t) as per the below formula:

$$W_t = W_1 * 0.93^{\frac{(t-1)}{2}}$$

Where 't' is the number of Semi-Annual Index Reviews since the Base Date.

Thus, for the 3rd Semi-Annual Index Review since the Base Date (t=3), the target Weighted Average GHG Intensity relative to EVIC will be $W_1 * 0.93$.

Climate Impact Sectors

NACE¹⁰ is the European Union’s classification of economic activities. As per the EU Low Carbon Benchmark Delegated Acts, stocks in the NACE Section codes A, B, C, D, E, F, G, H, L are classified as “High Climate Impact” sectors and other stocks are classified ‘Low Climate Impact’ sectors. The GICS Sub-Industry code for each security is mapped to the corresponding “Climate Impact Sector” using a mapping. This mapping is constructed in the following steps:

1. MSCI has published a mapping¹¹ between the NACE classes and GICS Sub-Industry.
2. For each GICS Sub-Industry, the number of NACE classes which fall under the High Climate Impact Sector (say the number of classes is N_H) and Low Climate Impact Sector (say the number of classes is N_L) is identified
3. If all the NACE classes for a given GICS Sub-Industry are identified in the High Climate Impact Sector ($N_L = 0$), then the GICS Sub-Industry is mapped to the High Climate Impact Sector. Conversely, if all the NACE classes for a given GICS Sub-Industry are identified in the Low Climate Impact Sector ($N_H = 0$) then the GICS Sub-Industry is mapped to the Low Climate Impact Sector
4. In case a GICS Sub-Industry is mapped to some NACE classes in the High Climate Impact Sector and the others in the Low Climate Impact Sector, the GICS Industry is mapped to the Climate Impact Sector in the following manner:
 - a. **$N_H \geq N_L$** : If the number of NACE classes in the High Climate Impact Sector is at least equivalent to the number of NACE classes in the Low Climate Impact Sector, the GICS Sub-Industry is mapped to the High Climate Impact Sector
 - b. **$N_H < N_L$** : If the number of NACE classes in the High Climate Impact Sector is less than the number of NACE classes in the Low Climate Impact Sector, the GICS Sub-Industry is mapped to the Low Climate Impact Sector
5. Using the GICS Sub-Industry to Climate Impact Sector mapping created in Step 4, and the security-level GICS Sub-Industry, each security in the Parent Index is classified in either High Climate Impact Sector or Low Climate Impact Sector.

¹⁰ For further details regarding NACE, please refer to https://ec.europa.eu/eurostat/statistics-explained/index.php?title=NACE_background

¹¹ This mapping is available in the [Handbook of Climate Transition Benchmarks, Paris-Aligned Benchmark and Benchmarks’ ESG Disclosures](#)

Green Revenue

For each constituent in the Parent Index, the Green Revenue% is calculated as the cumulative revenue (%) from the six Clean Tech themes which are as follows:

- Alternative Energy – products and services that support the transmission, distribution and generation of renewable energy and alternative fuels to reduce carbon and pollutant emissions in supporting affordable and clean energy to combat climate change
- Energy Efficiency – products, and services that support the maximization of productivity in labor, transportation, power and domestic applications with minimal energy consumption to ensure universal access to affordable, reliable and modern energy services
- Sustainable Water – 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
- Green Building – design, construction, redevelopment, retrofitting, or acquisition of green-certified properties to promote mechanisms for raising capacity for effective climate change mitigation and adaptation
- Pollution Prevention – products, services, infrastructure projects and technologies that reduces volume of waste materials through recycling, minimizes introduction of toxic substances, and offers remediation of existing contaminants such as heavy metals and organic pollutants in various environmental media to significantly address pollution in all levels and its negative effects
- Sustainable Agriculture - revenues from forest and agricultural products that meet environmental and organic certification requirements to address significantly biodiversity loss, pollution, land disturbance, and water overuse

Weighted Average Green Revenue% of the Index =

$$\sum (Index\ Weight * Green\ Revenue\%)$$

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

The calculation steps for the SRMS are as follows:

1. An average management score (AMS) is calculated for companies in the Parent Index using management scores based on the identified key issues, granted that they meet the following conditions:
 - Companies are assessed on any of the identified key issues listed in Table 2 of Section 3.4.
 - Companies have corresponding key issue weights 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

The MSCI Natural Capital Paris-Aligned Equity Index also applies the following additional filter to companies with an SRMS:

- Companies belonging to the bottom 25% on any of the six key issue management scores are excluded. The exclusion is applied on each key issue, excluding the bottom 25% score for key issue 1, bottom 25% score for key issue 2, and so forth. The bottom 25% per key issue management score is calculated from companies in the Parent Index with more than 5% weight assigned to the respective key issue.

Appendix V: Barra Equity Model Used in The Optimization

The MSCI Natural Capital Paris-Aligned Equity Index currently uses an optimization setup using the MSCI Barra Global Equity Model for Long-Term Investors (GEMTLT).

Appendix VI: New release of Barra® Equity Model or Barra® Optimizer

A major new release of the relevant Barra Equity Model or Barra Optimizer may replace the former version within a suitable timeframe.

Appendix VII: MSCI World Natural Capital Paris-Aligned Equity Custom Index

The MSCI World Natural Capital Paris-Aligned Equity Custom Index (the “Custom Index”) is constructed with an aim to meet the minimum standards of the EU Paris-Aligned Benchmark (PAB) as per the EU Low Carbon Benchmark Regulation¹², reduce exposure to select indicators that are associated with adverse impact on natural resources, and increase exposure to companies that are associated with positive contribution to the environment through their products or services, or through their management of their natural capital-related risks. The Custom Index also applies a few additional values-based exclusions criteria. The Custom Index is constructed from the Parent Index and applies an optimization-based approach to meet select climate change- and natural capital-related objectives.

The Custom Index follows the methodology outlined in Section 3 and the maintenance rules outlined in Section 4, but applies the following variations to Section 3.2:

- Lower revenue threshold for the Oil and Gas Value Chain screen
 - All companies deriving 5% or more revenue (either reported or estimated) from the select oil and gas related activities instead of 10% as per Appendix I, criterion no. 2
- An additional sub-criterion for the Tobacco screen (see Appendix II, criteria no. 5)
 - All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products
- Additional screens:
 - **Adult Entertainment:** All companies deriving 5% or more aggregate revenue from the production, distribution and retail of adult entertainment materials
 - **Alcohol:** All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of alcohol-related products

¹² Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks (EU Low Carbon Benchmarks Delegated Acts): <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1818&rid=1>

- **Gambling:** All companies deriving 5% or more aggregate revenue from gambling-related business activities

Contact us

clientservice@msci.com

AMERICAS

| | |
|---------------|-------------------|
| Americas | 1 888 588 4567 * |
| Atlanta | + 1 404 551 3212 |
| Boston | + 1 617 532 0920 |
| Chicago | + 1 312 675 0545 |
| Monterrey | + 52 81 1253 4020 |
| New York | + 1 212 804 3901 |
| San Francisco | + 1 415 836 8800 |
| São Paulo | + 55 11 3706 1360 |
| Toronto | + 1 416 628 1007 |

EUROPE, MIDDLE EAST & AFRICA

| | |
|-----------|--------------------|
| Cape Town | + 27 21 673 0100 |
| Frankfurt | + 49 69 133 859 00 |
| Geneva | + 41 22 817 9777 |
| London | + 44 20 7618 2222 |
| Milan | + 39 02 5849 0415 |
| Paris | 0800 91 59 17 * |

ASIA PACIFIC

| | |
|-------------|-----------------------|
| China North | 10800 852 1032 * |
| China South | 10800 152 1032 * |
| Hong Kong | + 852 2844 9333 |
| Mumbai | + 91 22 6784 9160 |
| Seoul | 00798 8521 3392 * |
| Singapore | 800 852 3749 * |
| Sydney | + 61 2 9033 9333 |
| Taipei | 008 0112 7513 * |
| Thailand | 0018 0015 6207 7181 * |
| Tokyo | + 81 3 5290 1555 |

* = toll free

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit www.msci.com.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: <https://www.msci.com/index-regulation>.

Notice and disclaimer

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or disseminated in whole or in part without prior written permission from MSCI. All rights in the Information are reserved by MSCI and/or its Information Providers.

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company filings on the Investor Relations section of www.msci.com.

MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P Global Market Intelligence. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and S&P Global Market Intelligence.

MIFID2/MIFIR notice: MSCI ESG Research LLC does not distribute or act as an intermediary for financial instruments or structured deposits, nor does it deal on its own account, provide execution services for others or manage client accounts. No MSCI ESG Research product or service supports, promotes or is intended to support or promote any such activity. MSCI ESG Research is an independent provider of ESG data, reports and ratings based on published methodologies and available to clients on a subscription basis. We do not provide custom or one-off ratings or recommendations of securities or other financial instruments upon request.

Privacy notice: For information about how MSCI collects and uses personal data, please refer to our Privacy Notice at <https://www.msci.com/privacy-pledge>.