

# INDEX GUIDELINE

*SOLACTIVE ILIM GLOBAL THEMATIC EQUITY INDEX*

*Version 1.1*

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## INTRODUCTION

This document (the "**GUIDELINE**") is to be used as a guideline with regard to the composition, calculation and maintenance of the Solactive ILLIM Global Thematic Equity Index (the "**INDEX**"). Any amendments to the rules made to the GUIDELINE are approved by the OVERSIGHT COMMITTEE specified in Section 5.5. The INDEX is owned, calculated, administered and published by Solactive AG ("**SOLACTIVE**") assuming the role as administrator (the "**INDEX ADMINISTRATOR**") under the Regulation (EU) 2016/1011 (the "**BENCHMARK REGULATION**" or "**BMR**"). The name "Solactive" is trademarked.

*The text uses defined terms which are formatted with "SMALL CAPS". Such Terms shall have the meaning assigned to them as specified in Section 6 (Definitions).*

**The GUIDELINE and the policies and methodology documents referenced herein contain the underlying principles and rules regarding the structure and operation of the INDEX. SOLACTIVE does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the INDEX nor the level of the INDEX at any certain point in time nor in any other respect. SOLACTIVE strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for SOLACTIVE – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the INDEX. The publication of the INDEX by SOLACTIVE does not constitute a recommendation for capital investment and does not contain any assurance or opinion of SOLACTIVE regarding a possible investment in a financial instrument based on this INDEX.**



# 1. INDEX SPECIFICATIONS

## 1.1. SCOPE OF THE INDEX

Category	Description
Asset Class	Equity
Strategy	The index aims to track a portfolio of global markets securities which have been filtered based on certain thematic activities and weighted based on their exposure to thematic, ESG and climate factors. The weights are optimized for thematic exposure subject to a range of constraints including style and ESG factors.
Regional Allocation	Global Markets
Rebalancing Fee	NA
Rebalancing Frequency	Semi-annually

## 1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC
Solactive ILIM Global Thematic Equity Index PR	DE000SLOGLK7	EUR	PR*	.SOILGTEP
Solactive ILIM Global Thematic Equity Index NTR	DE000SLOGLL5	EUR	NTR*	.SOILGTEN
Solactive ILIM Global Thematic Equity Index TR	DE000SLOGLM3	EUR	GTR*	.SOILGTET

\*PR, NTR, GTR means that the Index is calculated as price return, net total return, gross total return Index as described in the Equity Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>

The INDEX is published on the website of the INDEX ADMINISTRATOR ([www.solactive.com](http://www.solactive.com)) and is, in addition, available via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the INDEX via its information systems.

Any publication in relation to the INDEX (e.g. notices, amendments to the GUIDELINE) will be available at the website of the INDEX ADMINISTRATOR: <https://www.solactive.com/news/announcements/>.



### 1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on the 13/12/2022, the START DATE, is 100. Historical values from the 13/12/2022, the LIVE DATE, will be recorded in accordance with Article 8 of the BMR.

### 1.4. PRICES AND CALCULATION FREQUENCY

The level of the INDEX is calculated on each CALCULATION DAY from 9:00 a.m. to 10:50 p.m. CET based on the TRADING PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed. TRADING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the current Intercontinental Exchange (ICE) spot foreign exchange rate. Should there be no current TRADING PRICE for an INDEX COMPONENT, the later of: (i) the most recent CLOSING PRICE; or (ii) the last available TRADING PRICE for the preceding TRADING DAY is used in the calculation.

In addition to the intraday calculation a closing level of the INDEX for each CALCULATION DAY is also calculated. This closing level is based on the CLOSING PRICES for the INDEX COMPONENTS on the respective EXCHANGES on which the INDEX COMPONENTS are listed. The CLOSING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 04:00 p.m. London time WM Fixing quoted by Reuters. If there is no 04:00 p.m. London time WM Fixing for the relevant CALCULATION DAY, the last available 04:00 p.m. London time WM Fixing will be used for the closing level calculation.

### 1.5. LICENSING

Licenses to use the INDEX as the underlying value for financial instruments, investment funds and financial contracts may be issued to stock exchanges, banks, financial services providers and investment houses by SOLACTIVE.



## 2. INDEX SELECTION

On each SELECTION DAY, the INDEX ADMINISTRATOR will revise the composition of the INDEX.

In a first step, the INDEX ADMINISTRATOR determines the INDEX UNIVERSE in accordance with Section 2.1. The INDEX UNIVERSE comprises all those financial instruments which fulfill the INDEX UNIVERSE REQUIREMENTS (as specified in Section 2.1) and will constitute a starting pool from which the components of the INDEX will be selected. Based on this INDEX UNIVERSE, the new composition of the INDEX will be determined by applying the rules outlined in Section 2.2.

Each new INDEX COMPONENT will be assigned a weight as described in Section 2.3.

### 2.1. INDEX UNIVERSE REQUIREMENTS

The INDEX UNIVERSE is comprised of all financial instruments which fulfill the below requirements (the "**INDEX UNIVERSE REQUIREMENTS**"):

- 1) Part/ Component of the **GBS INDEX UNIVERSE** of the *Solactive GBS Developed Markets All Cap USD Index PR (ISIN: DE000SLA41P6)* or of the *Solactive GBS Emerging Markets Large & Mid Cap USD Index PR (ISIN: DE000SLA75V2)* on a SELECTION DAY.
- 2) Exclusion of any listing on a local EXCHANGE in China.
- 3) FREE FLOAT MARKET CAPITALIZATION of at least USD 250,000,000 for companies on the respective SELECTION DAY.
- 4) Minimum AVERAGE DAILY VALUE TRADED of at least USD 1,000,000 over 1 month and over 6 months prior to and including the SELECTION DAY.
- 5) Only one share class of each company is eligible for inclusion in the INDEX UNIVERSE. The eligible share class is the share class with the higher minimum AVERAGE DAILY VALUE TRADED over 1 month and over 6 months prior to and including the SELECTION DAY.

The determination of the INDEX UNIVERSE is fully rule-based and the INDEX ADMINISTRATOR cannot make any discretionary decisions.

### 2.2. SELECTION OF THE INDEX COMPONENTS

Based on the INDEX UNIVERSE, the initial composition of the INDEX as well as any selection for an ordinary rebalance is determined on the SELECTION DAY in accordance with the following rules (the "**INDEX COMPONENT REQUIREMENTS**"):



1. The INDEX UNIVERSE is filtered based on controversial activities and best-in-class ESG criteria, as outlined below in the exclusion list below.
2. Using ARTIS®, SOLACTIVE'S proprietary natural language processing algorithm, the thematic exposure of the eligible companies is determined for ten themes, classified in three megatrends:
  - a. Future Living: Aging Population, Agritech & Food Innovation, Future Transportation, Smart Healthcare
  - b. Technological Disruption: Data Infrastructure, Data Intelligence, Digital Transformation
  - c. Environmental Opportunities: Clean Energy & Energy Transition, Resource Efficiency, Sustainable Building Environment
3. Before the optimization weighting, additional companies are removed based on two ESG screens to receive the final INDEX COMPONENTS.

Below the above steps are explained in more detail.

1. Exclusion list and best-in-class ESG criteria

Securities which are involved in any of the below controversial activities are excluded from the index composition. The exclusion list is determined based on information supplied by the DATA PROVIDER.

Filter	Detail	Commentary
UN GC violators		Remove any UNGC Violators
Controversy	Existing controversies in issues such as operations and employee incidents, human rights, business ethics and water use	Remove companies in the Severe Controversy Category
Controversial Weapons	Anti-Personnel Mines	Remove companies with any detectable involvement in the core weapon system, or components/services of the core weapon system that are considered tailor-made and essential for the lethal use of the weapon
	Biological and Chemical Weapons	
	Cluster Weapons	
	Depleted Uranium	
	Nuclear Weapons	
	White Phosphorus	
Tobacco	Tobacco Products Production	Remove any company which manufactures tobacco products
	Tobacco Products Related Products/Services	Remove any company which derives more than 10% of its revenues from supplying tobacco-related products/services



	Tobacco Products Retail	Remove any company which derives more than 10% of its revenues from the distribution and/or retail sale of tobacco products
Thermal Coal	Thermal Coal Extraction	Remove companies deriving more than 10% of its revenue from thermal coal extraction
	Thermal Coal Power Generation	Remove companies deriving more than 25% of its revenues based on generating electricity from thermal coal
Arctic Oil	Arctic Oil & Gas Exploration Extraction	Remove companies deriving more than 10% of its revenues from oil and gas exploration in Arctic regions
Oil Sands	Oil Sands Extraction	Remove companies deriving more than 10% of its revenues from oil sands extraction
Corporate Governance	Corporate Governance Score	Securities with a CORPORATE GOVERNANCE SCORE below 30 are excluded
Sustainable Revenues	Net Sustainable Revenues	Securities with a NET SUSTAINABLE REVENUE of below -20 are excluded.

All companies included in Step 1 of the INDEX UNIVERSE are ranked independently for the ESG RISK SCORE and CARBON INTENSITY, supplied by the DATA PROVIDER. Securities included the bottom 10% of each Factset Economy on either ESG RISK SCORE or CARBON INTENSITY are excluded from the index composition. Companies with missing data points for either metric are excluded.

## 2. ARTIS® Thematic relevance score

The selection is done based on screening of publicly available information such as financial news, business profiles, and company publications using ARTIS®, SOLACTIVE'S proprietary natural language processing algorithm.

Using keywords that describe ten index industry categories, ARTIS® identifies companies that have or are expected to have significant exposure to the provision of products and/or services that contribute to each industry category. ARTIS analyses the products and/or services deemed to suit the industry categories separately for each of the ten industry categories:

- Aging Population: Companies engaged in offering products and services intended to address the aging population. This includes healthcare and pharmaceutical companies targeting senior diseases, senior living and care companies, and financial service companies offering products aimed at the financial protection and insurance coverage of elders.
- AgriTech & Food Innovation: Companies engaged in the development and implementation of products, services and technologies used in agriculture, food production and food distribution. This includes products, services and technologies aiming to increase crop yield, reduce labor or optimize farming





through the use of controlled environments, agricultural biotechnology, as well as the development and production of plant-based protein and dairy alternatives.

- Future Transportation: Companies that are involved in innovative solutions for the transportation industry. This includes companies involved in autonomous driving technology, electric vehicle charging infrastructure and battery production, development and production of zero-emission and electric vehicles, and companies enabling shared mobility and public transportation.
- Smart Healthcare: Companies involved in the development and implementation of innovative healthcare technologies and services. This includes biotechnology, medical imaging and diagnostic technology, robotic surgery, analytics-driven healthcare, and telemedicine.
- Data Infrastructure: Companies engaged in the development and maintenance of the infrastructure and technology that supports data networks. This includes data centers, cellular, 5g and broadband towers, cellular networking equipment, embedded systems, robotics, and semiconductors.
- Data Intelligence: Companies engaged in the development and application of big data and AI solutions. This includes data network providers, data analytics, cloud services, cyber security software and services, as well as innovative computing solutions such as quantum computers.
- Digital Transformation: Companies enabling digitization and the transition to online business operations, as well as the supporting software and technology. This includes supervisory and regulatory reporting software, electronic signature solutions, AI-based insurance, online real estate, distributed ledger technology, digital payments and blockchain technology.
- Clean Energy & Energy Transition: Companies involved in the production and distribution of renewable energy. This includes the production of hydroelectricity, solar energy, wind energy and hydrogen, as well as the infrastructure, technology and equipment which enables the production and distribution.
- Resource Efficiency: Companies engaged in the development and implementation of solutions that ensure the sustainable and efficient use of resources. This includes treatment and recycling of solid and liquid waste, paper, plastic and metal recycling, desalination and other water treatments, and energy storage solutions.
- Sustainable Building Environment: Companies engaged sustainable building and construction as well as the development and production of related materials and technologies. This includes sustainable architecture and construction, eco-friendly building materials, home energy management technologies and devices, and green real-estate development.

Within the ten index industry categories, each company identified by ARTIS® receives a score that reflects their exposure to the relevant industry category. This set of companies are then reviewed to ensure relevance to the industry category based on business operations. Companies that do not have relevant business exposure to the industry category are removed from the selection process at this stage. Individual exclusion criteria for certain index industries are applied based on their FactSet Sector Classification as outlined in Appendix 7.1.



The remaining companies are ranked by their score (in descending order) in each industry category. The highest-ranking stock from each industry category is included first, then the second-highest-ranking stock from each industry category is included. This process is repeated until 50 stocks are included for the industry category Agritech & Food Innovation, and 75 stocks are included for the remaining industry categories.

In order to avoid excess turnover, the following buffer rule applies:

- a) Securities in each industry category are sorted by its score in descending order. Each security is assigned a rank based on the position in the sorted list, e.g., the security with the highest score is assigned rank 1.
- b) All securities ranked in the top 20 of the industry category Agritech & Food Innovation and all securities ranked in the top 30 of the remaining industry categories are selected as INDEX COMPONENTS.
- c) Current INDEX COMPONENTS with a rank from 21 to 75 within the industry category Agritech & Food Innovation are added to the INDEX until the total number of stocks in each industry reaches 50. Current INDEX COMPONENTS with a rank from 31 to 100 within the remaining industry categories are added to the INDEX until the total number of stocks in each industry reaches 75.
- d) If the total number of INDEX COMPONENTS is still below 50 within the industry category Agritech & Food Innovation after the previous steps (steps a-c), the highest-ranking securities are added to the INDEX until 50 INDEX COMPONENTS are reached. If the total number of INDEX COMPONENTS is still below 75 within the remaining industry categories after the previous steps (steps a-c), the highest-ranking securities are added to the INDEX until 75 INDEX COMPONENTS are reached.

The selection of the INDEX COMPONENTS is fully rule-based and the INDEX ADMINISTRATOR cannot make any discretionary decision.

## 2.3. WEIGHTING OF THE INDEX COMPONENTS

On each SELECTION DAY each INDEX COMPONENT is assigned a weight according to an optimization algorithm to maximize the overall SECURITY ARTIS SCORE of the INDEX subject to the following constraints:

- HHI capped at the minimum of 150 and 33% of the number of INDEX COMPONENTS.
- Compared to the INDEX UNIVERSE, absolute deviation of the sector weights is capped at 5%. The sectors are defined in Appendix 7.3.<sup>1</sup>
- Compared to the INDEX UNIVERSE, absolute deviation of the region weights is capped at 5%. The sectors are defined in Appendix 7.4.<sup>2</sup>

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<sup>1</sup> Constraint is valid for all sectors with more than 5 eligible securities

<sup>2</sup> Constraint is valid for all regions with more than 5 eligible securities



- Compared to the INDEX UNIVERSE, absolute deviation of the INVESTMENT TRUST weights is capped at 0.25%. In case less than 5 INVESTMENT TRUSTS are eligible for the INDEX, the INVESTMENT TRUSTS weight is capped at 2.5% without deviation constraint. .
- The absolute weight deviation of each of the ARTIS sub-themes from equal weighting is capped at 1%, based on the weighted ARTIS SCORES in the respective sub-themes.
- Compared to the INDEX UNIVERSE, overall CORPORATE GOVERNANCE SCORE overweight of at least 5%.
- Compared to the INDEX UNIVERSE, overall NET SUSTAINABLE REVENUE overweight of at least 5x.
- Compared to the INDEX UNIVERSE, overall CARBON INTENSITY reduction of at least 30%.
- Factor exposure based on Z-scores and factors as defined in Appendix 7.5 within the following bounds:
  - o Size: [-0.5, 0.25]
  - o Volatility: [-0.25, 0.25]
  - o Value: [0, 0.25]
  - o Quality: [0, 0.25]
  - o Momentum: [0, 0.25]
- Individual weights are floored at the maximum of 0 and the INDEX UNIVERSE weight minus 2.5%
- Individual weights are capped at the minimum of 50\*INDEX UNIVERSE weight and INDEX UNIVERSE weight plus 2.5% with a total cap at 5%.

If no solution can be found, the constraints are iteratively relaxed in the following order until all constraints are met:

- a. Absolute deviation of the sector weights constraint threshold is increased
- b. Absolute deviation of the region weights constraint threshold is increased
- c. Factor exposure bounds for Size, Volatility, Quality and Momentum are widened
- d. NET SUSTAINABLE REVENUE overweight threshold is reduced
- e. CORPORATE GOVERNANCE SCORE overweight threshold is reduced
- f. CARBON INTENSITY reduction threshold is reduced

Weights below 0.02% are removed from the final INDEX COMPONENTS after the optimization and the those weights are redistributed to the remaining INDEX COMPONENTS maintaining sector-neutrality.



## 3. REBALANCE

### 3.1. ORDINARY REBALANCE

In order to reflect the new selection of the INDEX COMPONENTS determined on the SELECTION DAY (in accordance with Section 2.1 and 2.2) the INDEX is adjusted on the REBALANCE DAY after CLOSE OF BUSINESS.

This is carried out by implementing the shares as determined on the FIXING DAY based on the weights calculated on the SELECTION DAY.

For more information on the rebalance procedure please refer to the Equity Index Methodology, which is incorporated by reference and available on the Solactive website: <https://www.solactive.com/documents/equity-index-methodology/>.

SOLACTIVE will publish any changes made to the INDEX COMPONENTS with sufficient notice before the REBALANCE DAY on the SOLACTIVE website under the section "Error! Hyperlink reference not valid., which is available at <https://www.solactive.com/news/announcements/>

### 3.2. EXTRAORDINARY REBALANCE

The INDEX is not rebalanced extraordinarily.



## 4. CALCULATION OF THE INDEX

### 4.1. INDEX FORMULA

The INDEX is calculated as a price return, net total return, gross total return Index.

The calculation is performed according to the Equity Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>. The divisor index formula stipulates that the level of the INDEX changes based on the change of the prices of its INDEX COMPONENTS taking into account their weight in the INDEX and any currency conversion in case the price of an INDEX COMPONENT is quoted in a currency other than the INDEX CURRENCY.

Any dividends or other distributions are reinvested across the entire basket of INDEX COMPONENTS by means of a divisor at the opening of the effective date (the so-called ex-date) of the payment of such dividend or other distribution.

A more detailed description of the mechanics of the index calculation formula can be found in the Equity Index Methodology under Section 1.2.

### 4.2. ACCURACY

The level of the INDEX will be rounded to 2 decimal places. Divisors will be rounded to six decimal places. TRADING PRICES and foreign exchange rates will be rounded to six decimal places.

### 4.3. ADJUSTMENTS

Under certain circumstances, an adjustment of the INDEX may be necessary between two regular REBALANCE DAYS. Such adjustment has to be made if a corporate action (as specified in Section 4.4 below) in relation of an INDEX COMPONENT occurs. Such adjustment may have to be done in relation to an INDEX COMPONENT and/or may also affect the number of INDEX COMPONENTS and/or the weighting of certain INDEX COMPONENTS and will be made in compliance with the Solactive Equity Index Methodology, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>.

SOLACTIVE will announce the INDEX adjustment giving a notice period of at least two TRADING DAYS (with respect to the affected INDEX COMPONENT) on the SOLACTIVE website under the Section "Announcements", which is available at <https://www.solactive.com/news/announcements/>. The INDEX adjustments will be implemented on the effective day specified in the respective notice.



## 4.4. CORPORATE ACTIONS

As part of the INDEX maintenance SOLACTIVE will consider various events – also referred to as corporate actions – which result in an adjustment to the INDEX between two regular REBALANCE DAYS. Such events have a material impact on the price, weighting or overall integrity of INDEX COMPONENTS. Therefore, they need to be accounted for in the calculation of the INDEX. Corporate actions will be implemented from the cum-day to the ex-day of the corporate action, so that the adjustment to the INDEX coincides with the occurrence of the price effect of the respective corporate action.

Adjustments to the INDEX to account for corporate actions will be made in compliance with the Equity Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/equity-index-methodology/>. This document contains for each corporate action a brief definition and specifies the relevant adjustment to the INDEX variables.

While SOLACTIVE aims at creating and maintaining its methodology for treatment of corporate actions as generic and transparent as possible and in line with regulatory requirements, it retains the right in accordance with the Equity Index Methodology to deviate from these standard procedures in case of any unusual or complex corporate action or if such a deviation is made to preserve the comparability and representativeness of the INDEX over time.

SOLACTIVE considers following, but not conclusive, list of corporate actions as relevant for INDEX maintenance:

- > Cash Distributions (e.g. payment of a dividend)
- > Stock distributions (e.g. payment of a dividend in form of additional shares)
- > Stock distributions of another company (e.g. payment of a dividend in form of additional shares of another company (e.g. of a subsidiary))
- > Share splits (company's present shares are divided and therefore multiplied by a given factor)
- > Reverse splits (company's present shares are effectively merged)
- > Capital increases (such as issuing additional shares)
- > Share repurchases (a company offer its shareholders the option to sell their shares to a fixed price)
- > Spin-offs (the company splits its business activities into two or more entities and distributes new equity shares in the created entities to the shareholders of the former entity)
- > Mergers & Acquisitions (transaction in which the ownership of a company (or other business organizations) are transferred or consolidated with other entities, e.g. fusion of two or more separate companies into one entity)
- > Delistings (company's shares are no longer publicly traded at a stock exchange)
- > Nationalization of a company (effective control of a legal entity is taken over by a state)
- > Insolvency



## 4.5. RECALCULATION

SOLACTIVE makes the greatest possible efforts to accurately calculate and maintain its indices. However, errors in the determination process may occur from time to time for variety reasons (internal or external) and therefore, cannot be completely ruled out. SOLACTIVE endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of "a reasonable period of time" as well as the general measures to be taken are generally depending on the underlying and is specified in the Solactive Correction Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/correction-policy/>.

## 4.6. MARKET DISRUPTION

In periods of market stress SOLACTIVE calculates its indices following predefined and exhaustive arrangements as described in the Solactive Disruption Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/disruption-policy/>. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX COMPONENTS. The determination of the INDEX may be limited or impaired at times of illiquid or fragmented markets and market stress.



## 5. MISCELLANEOUS

### 5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the INDEX UNIVERSE (if applicable), the selection of the INDEX COMPONENTS (if applicable) or any other relevant decisions in relation to the INDEX) shall be made in accordance with strict rules regarding the exercise of discretion or expert judgement.

### 5.2. METHODOLOGY REVIEW

The methodology of the INDEX is subject to regular review, at least annually. In case a need of a change of the methodology has been identified within such review (e.g. if the underlying market or economic reality has changed since the launch of the INDEX, i.e. if the present methodology is based on obsolete assumptions and factors and no longer reflects the reality as accurately, reliably and appropriately as before), such change will be made in accordance with the Solactive Methodology Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

Such change in the methodology will be announced on the SOLACTIVE website under the Section "Error! Hyperlink reference not valid.", which is available at <https://www.solactive.com/news/announcements/>. The date of the last amendment of this INDEX is contained in this GUIDELINE.

### 5.3. CHANGES IN CALCULATION METHOD

The application by the INDEX ADMINISTRATOR of the method described in this document is final and binding. The INDEX ADMINISTRATOR shall apply the method described above for the composition and calculation of the INDEX. However, it cannot be excluded that the market environment, supervisory, legal and financial or tax reasons may require changes to be made to this method. The INDEX ADMINISTRATOR may also make changes to the terms and conditions of the INDEX and the method applied to calculate the INDEX that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The INDEX ADMINISTRATOR is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the INDEX ADMINISTRATOR will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.





## 5.4. TERMINATION

SOLACTIVE makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Where necessary, SOLACTIVE follows a clearly defined and transparent procedure to adapt Index methodologies to changing underlying markets (see Section 5.2 "Methodology Review") in order to maintain continued reliability and comparability of the indices. Nevertheless, if no other options are available the orderly cessation of the INDEX may be indicated. This is usually the case when the underlying market or economic reality, which an index is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the index, the index rules, and particularly the selection criteria, can no longer be applied coherently or the index is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

SOLACTIVE has established and maintains clear guidelines on how to identify situations in which the cessation of an index is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified in the Solactive Termination Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/termination-policy/>.

## 5.5. OVERSIGHT

An oversight committee composed of staff from SOLACTIVE and its subsidiaries (the "**OVERSIGHT COMMITTEE**") is responsible for decisions regarding any amendments to the rules of the INDEX. Any such amendment, which may result in an amendment of the GUIDELINE, must be submitted to the OVERSIGHT COMMITTEE for prior approval and will be made in compliance with the Methodology Policy, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.



## 6. DEFINITIONS

The “**ARTIS SCORE**” is calculated by transforming each ARTIS sub-theme rank (1= Best) to a score

1. Set all ranks greater than or equal to 51 equal to 51
2. Linear rescale to [0,1] i.e.  $(x - 1) / (51 - 1)$
3. Subtract from 1
4. Fill winsorised ranks with non-zero values e.g. 0.01
5. Square

“**BENCHMARK REGULATION**” shall have the meaning as defined in Section “Introduction”.

“**BMR**” shall have the meaning as defined in Section “Introduction”.

“**CALCULATION DAY**” is every weekday from Monday to Friday.

“**CARBON INTENSITY**” is based on Scope 1 and 2 GHG Emissions as provided by the DATA PROVIDER and capped at 10000.

“**CLOSE OF BUSINESS**” is the calculation time of the closing level of the INDEX as outlined in Section 1.4.

The “**CLOSING PRICE**” in respect of an INDEX COMPONENT and a TRADING DAY is a security's final regular-hours TRADING PRICE published by the EXCHANGE and determined in accordance with the EXCHANGE regulations. If the EXCHANGE has no or has not published a CLOSING PRICE in accordance with the EXCHANGE rules for an INDEX COMPONENT, the last TRADING PRICE will be used.

“**CORPORATE GOVERNANCE SCORE**” is the Overall Corporate Governance Score as defined by the DATA PROVIDER.

“**DATA PROVIDER**” is Sustainalytics. For more information, please visit: <https://www.sustainalytics.com/>.

“**ELIGIBLE REBALANCING DAY**” is each day that is a TRADING DAY at the New York Stock Exchange, the London Stock Exchange, the EUREX Exchange, and the Tokyo Stock Exchange.

“**ESG RISK SCORE**” is the ESG Risk Score as defined by the DATA PROVIDER.

“**EXCHANGE**” is with respect to the INDEX and every INDEX COMPONENT, the respective exchange where the INDEX COMPONENT has its listing as determined in accordance with the rules in Section 2.

“**FIXING DAY**” is equal to the SELECTION DAY.

The “**FREE FLOAT**” is with regard to each of the securities fulfilling the INDEX COMPONENT REQUIREMENTS on a SELECTION DAY the share class-specific fraction of the total number of shares of such share class issued that are available for trading by market participants and not locked-in by long term holders, as sourced from data vendors.

The “**FREE FLOAT MARKET CAPITALIZATION**” is with regard to each of the securities fulfilling the INDEX COMPONENT REQUIREMENTS on a SELECTION DAY the share class-specific free float market capitalization. It is



calculated as the multiplication of the shares outstanding in FREE FLOAT (as sourced from data vendors) with the CLOSING PRICE of the share class as of the respective SELECTION DAY.

“**GBS INDEX UNIVERSE**” is the INDEX UNIVERSE as defined in the guideline of the Solactive Global Benchmark Series (<https://solactive.com/downloads/Guideline-Solactive-GBS-Benchmark-Series.pdf>) for the for the GBS Index specified in Section 2.1.

“**GBS INDEX COMPONENT**” is each security reflected in the GBS Index specified in Section 2.1.

“**GUIDELINE**” shall have the meaning as defined in Section “Introduction”.

“**HHI**” is the Herfindahl-Hirschman-Index (HHI), where

$$\text{HHI} = \sum_{i=1}^N x_i^2.$$

“**INDEX**” shall have the meaning as defined in Section “Introduction”.

“**INDEX ADMINISTRATOR**” shall have the meaning as defined in Section “Introduction”.

“**INDEX COMPONENT**” is each security reflected in the INDEX.

“**INDEX COMPONENT REQUIREMENTS**” shall have the meaning as defined in Section 2.2.

“**INDEX CURRENCY**” is the currency specified in the column “Currency” in the table in Section 1.2.

“**INDEX UNIVERSE REQUIREMENTS**” shall have the meaning as defined in Section 2.1.

“**INDEX UNIVERSE**” is the sum of all financial instruments which fulfill the INDEX UNIVERSE REQUIREMENTS.

“**LIVE DATE**” shall have the meaning as defined in Section 1.3.

“**NET SUSTAINABLE REVENUE**” is calculated as follows:

1. NET SUSTAINABLE REVENUE = GREEN REVENUE
2. If TAXONOMY REVENUE > 0, NET SUSTAINABLE REVENUE = TAXONOMY REVENUE
3. NET SUSTAINABLE REVENUE = NET SUSTAINABLE REVENUE + SOCIAL REVENUE
4. NET SUSTAINABLE REVENUE = NET SUSTAINABLE REVENUE – BROWN REVENUE
5. NET SUSTAINABLE REVENUE is capped and floored at [-100, +100]

GREEN REVENUE, TAXONOMY REVENUE, SOCIAL REVENUE and BROWN REVENUE are defined in Appendix 7.2.

“**OVERSIGHT COMMITTEE**” shall have the meaning as defined in Section 5.5.

“**REBALANCE DAY**” is 10 CALCULATION DAYS after the SELECTION DAY. If that day is not an ELIGIBLE REBALANCING DAY, the REBALANCE DAY will be the following ELIGIBLE REBALANCING DAY.

“**SELECTION DAY**” is the Friday after the first Wednesday in May and November.

“**SOLACTIVE**” shall have the meaning as defined in Section “Introduction”.

“**START DATE**” shall have the meaning as defined in Section 1.3.



The **“TOTAL MARKET CAPITALIZATION”** is with regard to each of the securities in the INDEX on a SELECTION DAY the sum of all SHARE CLASS MARKET CAPITALIZATIONS of a company.

**“TRADING DAY”** is with respect to an INDEX COMPONENT included in the INDEX at the REBALANCE DAY and every INDEX COMPONENT included in the INDEX at the CALCULATION DAY immediately following the REBALANCE DAY (for clarification: this provision is intended to capture the TRADING DAYS for the securities to be included in the INDEX as new INDEX COMPONENTS with close of trading on the relevant EXCHANGE on the REBALANCE DAY) a day on which the relevant EXCHANGE is open for trading (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading may be ceased prior to the scheduled EXCHANGE closing time and days on which the EXCHANGE is open for a scheduled shortened period. The INDEX ADMINISTRATOR is ultimately responsible as to whether a certain day is a TRADING DAY.

The **“TRADING PRICE”** in respect of an INDEX COMPONENT and a TRADING DAY is the most recent published price at which the INDEX COMPONENT was traded on the respective EXCHANGE.



## 7. APPENDIX

### 7.1 INDUSTRY EXCLUSION

Index Industry Category	Exclusion Criteria
Aging Population	-
Agritech & Food Innovations	Industries: Consumer Durables, Beverages: Non-alcoholic, Restaurants, Food Retail, Specialty Stores
Future Transportation	Economy: Energy. Industries: Telecommunications Equipment, Internet Retail, Automotive Aftermarket, Advertising/Marketing Services
Smart Healthcare	-
Data Infrastructure	-
Data Intelligence	-
Digital Transformation	-
Clean Energy	Industries: Oil & Gas Pipelines, Oilfield Services/Equipment, Integrated Oil, Motor Vehicles, Homebuilding
Resource Efficiency	Industries: Oil & Gas Pipelines, Oilfield Services/Equipment, Integrated Oil, Motor Vehicles
Sustainable Building Environment	Economy: Finance with GREEN REVENUE = 0 Industries: Oil & Gas Pipelines, Oilfield Services/Equipment, Integrated Oil, Electric Utilities, Gas Distributors, Hotels/Resorts/Cruiselines

Where Economy and Industry is based on the first and third level of the FactSet Sectors classification and GREEN REVENUE is defined in Appendix 7.2.

### 7.2 REVENUES

Green Revenue
Technologies_Energy Efficiency Distribution
Technologies_Energy Efficiency Materials
Technologies_Energy Efficiency Industrials
Transmission_Energy Efficiency Distribution
Consumer Electronics_Energy Efficiency
Technologies_Green Buildings
Equipment_Green Buildings
Professional Services_Green Buildings
Acquisition_Green Buildings
Development_Green Buildings
Construction_Green Buildings
Renovation_Green Buildings



Technologies Maintenance\_Green Buildings  
Devices\_Green Buildings  
Technologies\_Green Transportation  
Batteries\_Green Transportation  
Urban\_Green Transportation  
Interurban Passengers\_Green Transportation  
Rail Infrastructure\_Green Transportation  
Low Carbon Infrastructure\_Green Transportation  
Technologies\_Green Vehicles  
Technologies\_Renewable Energy  
Solar PV\_Renewable Energy Generation  
Solar PV\_Renewable Energy Support  
CSP\_Renewable Energy Generation  
CSP\_Renewable Energy Support  
Wind\_Renewable Energy Generation  
Wind\_Renewable Energy Support  
Ocean\_Renewable Energy Generation  
Ocean\_Renewable Energy Support  
Hydropower\_Renewable Energy Generation  
Hydropower\_Renewable Energy Support  
Bioenergy\_Renewable Energy Generation  
Bioenergy\_Renewable Energy Support  
Geothermal\_Renewable Energy Generation  
Geothermal\_Renewable Energy Support  
Technologies Maintenance\_Renewable Energy  
Construction\_Water Supply Services  
Construction\_Water Supply Infrastructure  
Renewal\_Water Supply Infrastructure  
Construction\_Wastewater Services  
Construction\_Wastewater Infrastructure  
Renewal\_Wastewater Infrastructure  
Technologies\_Water  
Water\_Adaptation  
Wetlands\_Adaptation  
Hazardous Waste\_Management  
Technologies\_Pollution Prevention  
Non-Hazardous Waste\_Recycling Services  
Non-Hazardous Waste\_Recycling Sales  
Machinery\_Recycling



### Brown Revenue

Thermal Coal Extraction-Revenue Percentage  
 Thermal Coal Power Generation-Revenue Percentage  
 Oil & Gas Production-Revenue Percentage  
 Oil & Gas Generation-Revenue Percentage  
 Oil & Gas Supporting Products/Services-Revenue Percentage

### Green Taxonomy

The revenue percentage in activities that are Aligned with the EU Taxonomy Climate Change Mitigation objective

### Social Revenue

Affordable Housing Overall-Revenue Percentage  
 Financial Inclusion Overall-Revenue Percentage  
 Health Overall-Revenue Percentage  
 Education Overall-Revenue Percentage

Input data as provided by the DATA PROVIDER

## 7.3 SECTOR MAPPING

Industry	Sector
Other Metals/Minerals	Materials
Finance/Rental/Leasing	Financials
Homebuilding	Consumer Discretionary
Real Estate Investment Trusts	Real Estate
Multi-Line Insurance	Financials
Beverages: Alcoholic	Consumer Staples
Investment Managers	Financials
Industrial Conglomerates	Industrials
Aerospace & Defense	Industrials
Tobacco	Consumer Staples
Electronic Equipment/Instruments	Information Technology
Major Banks	Financials
Food Retail	Consumer Staples
Food: Major Diversified	Consumer Staples
Publishing: Books/Magazines	Communication Services
Life/Health Insurance	Financials



Electric Utilities	Utilities
Integrated Oil	Energy
Containers/Packaging	Materials
Medical Specialties	Health Care
Pharmaceuticals: Major	Health Care
Industrial Machinery	Industrials
Internet Retail	Consumer Discretionary
Regional Banks	Financials
Information Technology Services	Information Technology
Semiconductors	Information Technology
Packaged Software	Information Technology
Precious Metals	Materials
Chemicals: Specialty	Materials
Specialty Stores	Consumer Discretionary
Property/Casualty Insurance	Financials
Biotechnology	Health Care
Oil & Gas Production	Energy
Food: Meat/Fish/Dairy	Consumer Staples
Oil Refining/Marketing	Energy
Cable/Satellite TV	Communication Services
Telecommunications Equipment	Information Technology
Agricultural Commodities/Milling	Consumer Staples
Data Processing Services	Information Technology
Electrical Products	Industrials
Major Telecommunications	Communication Services
Electronics/Appliance Stores	Consumer Discretionary
Restaurants	Consumer Discretionary
Air Freight/Couriers	Industrials
Recreational Products	Consumer Discretionary
Oil & Gas Pipelines	Energy
Gas Distributors	Utilities
Internet Software/Services	Communication Services
Electronic Components	Information Technology
Miscellaneous Commercial Services	Industrials
Railroads	Industrials
Wireless Telecommunications	Communication Services
Medical Distributors	Health Care
Trucks/Construction/Farm Machinery	Industrials
Household/Personal Care	Consumer Staples
Forest Products	Industrials
Steel	Materials





Other Consumer Services	Consumer Discretionary
Beverages: Non-Alcoholic	Consumer Staples
Hotels/Resorts/Cruiselines	Consumer Discretionary
Financial Publishing/Services	Financials
Apparel/Footwear	Consumer Discretionary
Investment Banks/Brokers	Financials
Environmental Services	Industrials
Discount Stores	Consumer Discretionary
Advertising/Marketing Services	Communication Services
Specialty Telecommunications	Communication Services
Financial Conglomerates	Financials
Chemicals: Major Diversified	Materials
Department Stores	Consumer Discretionary
Chemicals: Agricultural	Materials
Wholesale Distributors	Industrials
Insurance Brokers/Services	Financials
Broadcasting	Communication Services
Food: Specialty/Candy	Consumer Staples
Oilfield Services/Equipment	Energy
Construction Materials	Materials
Computer Communications	Information Technology
Home Improvement Chains	Consumer Discretionary
Managed Health Care	Health Care
Trucking	Industrials
Electronic Production Equipment	Information Technology
Casinos/Gaming	Consumer Discretionary
Auto Parts: OEM	Consumer Discretionary
Specialty Insurance	Financials
Building Products	Industrials
Drugstore Chains	Consumer Staples
Services to the Health Industry	Health Care
Home Furnishings	Consumer Discretionary
Motor Vehicles	Consumer Discretionary
Computer Peripherals	Information Technology
Other Transportation	Industrials
Industrial Specialties	Materials
Apparel/Footwear Retail	Consumer Discretionary
Tools & Hardware	Industrials
Airlines	Industrials
Food Distributors	Consumer Staples
Medical/Nursing Services	Health Care



Hospital/Nursing Management	Health Care
Electronics/Appliances	Consumer Discretionary
Automotive Aftermarket	Consumer Discretionary
Engineering & Construction	Industrials
Real Estate Development	Real Estate
Marine Shipping	Industrials
Movies/Entertainment	Communication Services
Miscellaneous Manufacturing	Industrials
Publishing: Newspapers	Communication Services
Media Conglomerates	Consumer Discretionary
Pulp & Paper	Materials
Pharmaceuticals: Other	Health Care
Personnel Services	Industrials
Computer Processing Hardware	Information Technology
Coal	Energy
Aluminum	Materials
Other Consumer Specialties	Consumer Discretionary
Pharmaceuticals: Generic	Health Care
Metal Fabrication	Industrials
Commercial Printing/Forms	Industrials
Textiles	Consumer Discretionary
Contract Drilling	Energy
Electronics Distributors	Information Technology
Investment Trusts/Mutual Funds	Financials
Miscellaneous	Industrials
Water Utilities	Utilities
Catalog/Specialty Distribution	Health Care
Alternative Power Generation	Utilities
Savings Banks	Financials
Office Equipment/Supplies	Industrials
Consumer Sundries	Consumer Discretionary

Where Industry is based on the third level of the FactSet Industries and Economic Sectors classification.

## 7.4 REGION MAPPING

Country (ISO2)	Region
AU	Asia ex-Japan
CN	Asia ex-Japan
HK	Asia ex-Japan
IN	Asia ex-Japan



ID	Asia ex-Japan
MY	Asia ex-Japan
NZ	Asia ex-Japan
PK	Asia ex-Japan
PH	Asia ex-Japan
SG	Asia ex-Japan
KR	Asia ex-Japan
TW	Asia ex-Japan
TH	Asia ex-Japan
AT	Europe
BE	Europe
CZ	Europe
DK	Europe
FI	Europe
FR	Europe
DE	Europe
GR	Europe
HU	Europe
IE	Europe
IT	Europe
NL	Europe
NO	Europe
PL	Europe
PT	Europe
ES	Europe
SE	Europe
CH	Europe
TR	Europe
GB	Europe
JP	Japan
BR	Latin America
CL	Latin America
CO	Latin America
MX	Latin America
PE	Latin America
EG	Middle East & Africa
IL	Middle East & Africa
KW	Middle East & Africa
QA	Middle East & Africa
SA	Middle East & Africa
ZA	Middle East & Africa



AE	Middle East & Africa
CA	North America
US	North America

Where Country is based on the GBS country classification.

## 7.5 FACTOR DEFINITION

*Size = natural log(Total Market Capitalization in USD)*

$$\text{Momentum} = \frac{\text{Price}_{t-1m}}{\text{Price}_{t-12m}} - 1$$

Where:

$\text{Price}_{t-1m}$  = Local price adjusted for splits and spinoffs as of 1-month prior to SELECTION DAY t

$\text{Price}_{t-12m}$  = Local price adjusted for splits and spinoffs as of 12-month prior to SELECTION DAY t

$$\text{Volatility} = \sqrt{\frac{1}{n-1} \sum_{t=1}^n (r_t - \bar{r})^2}$$

Where:

$n = 251$

$r =$  Total return on day t

$$\text{Investment} = \frac{\text{Total Assets}_t}{\text{Total Assets}_{t-1y}} - 1$$

Where:

$\text{Total Assets}_t =$  Assets as of last fiscal year prior to SELECTION DAY t

$\text{Total Assets}_{t-1y} =$  Assets as of second to last fiscal year prior to SELECTION DAY t

$$\text{Profitability} = \frac{\text{Earnings}_t}{\text{Book Value of Equity}_t}$$

Where:



$Earnings_t$  = Earnings as of last fiscal year prior to SELECTION DAY t

$Book\ Value\ of\ Equity_t$  = Book value of equity as of last fiscal year prior to SELECTION DAY t

$$SPS = \frac{Revenues_t}{Price_t}$$

Where:

$Revenues_t$  = Sales as of last fiscal year prior to SELECTION DAY t

$Price_t$  = Local price adjusted for splits and spinoffs as of SELECTION DAY t

$$Estimated\ EPS = \frac{EPS\ Estimate_{t+1}}{Price_t}$$

Where:

$EPS\ Estimate_t$  = Earnings estimate for current fiscal year of SELECTION DAY t

$Price_t$  = Local price adjusted for splits and spinoffs as of SELECTION DAY t

Factor Z-scores are calculated based on weighted mean and equal weighted standard deviation. Each raw factor score is winsorized at a 3% level. Z-scores are afterwards capped at a lower bound of -3 and an upper bound of 3.

The quality factor is a combination of the *low investment* and *profitability* factors.

The value factor is a combination of the *SPS* and *Estimated EPS* factors.

## 8. HISTORY OF INDEX CHANGES

Version	Date	Description
1.0	13.12.2022	Index Guideline creation ( <i>initial version</i> )
1.1	27.10.2023	Update of Green Revenues datapoints