

# INDEX GUIDELINE

*SOLACTIVE L&G LOW CARBON TRANSITION FAMILY*

*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 L&G Low Carbon Transition Family (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	Climate-tilted strategy which seeks to self-decarbonise by reducing exposure to carbon emissions over time aligning to carbon transition.
Regional Allocation	Developed and Emerging Markets [Global]
Rebalancing Fee	-
Rebalancing Frequency	Semi-Annually

## 1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Solactive L&G Low Carbon Transition Global GBP Index PR	DE000SLOB3Y6	GBP	PR*	.SLCTBGMP	-
Solactive L&G Low Carbon Transition Global GBP Index NTR	DE000SLOB3Z3	GBP	NTR*	.SLCTBGMN	SLCTBGMN
Solactive L&G Low Carbon Transition Global GBP Index TR	DE000SLOB301	GBP	GTR*	.SLCTBGMT	-
Solactive L&G Low Carbon Transition Developed Markets GBP Index PR	DE000SLOB319	GBP	PR*	.SLCTBDMP	-
Solactive L&G Low Carbon Transition Developed Markets GBP Index NTR	DE000SLOB8Q1	GBP	NTR*	.SLCTBDMN	SLCTBDMN
Solactive L&G Low Carbon Transition Developed Markets GBP Index TR	DE000SLOB8R9	GBP	GTR*	.SLCTBDMT	-



Solactive L&G Low Carbon Transition UK GBP Index PR	DE000SLOB8S7	GBP	PR*	.SLCTBGBP	-
Solactive L&G Low Carbon Transition UK GBP Index NTR	DE000SLOB8T5	GBP	NTR*	.SLCTBGBN	SLCTBGBN
Solactive L&G Low Carbon Transition UK GBP Index TR	DE000SLOBNU3	GBP	GTR*	.SLCTBGBT	-
Solactive L&G Low Carbon Transition Europe ex UK GBP Index PR	DE000SLOBNV1	GBP	PR*	.SLCTBEBP	-
Solactive L&G Low Carbon Transition Europe ex UK GBP Index NTR	DE000SLOBNW9	GBP	NTR*	.SLCTBEBN	SLCTBEBN
Solactive L&G Low Carbon Transition Europe ex UK GBP Index TR	DE000SLOBNX7	GBP	GTR*	.SLCTBEBT	-
Solactive L&G Low Carbon Transition North America GBP Index PR	DE000SLOBNY5	GBP	PR*	.SLCTBNAP	-
Solactive L&G Low Carbon Transition North America GBP Index NTR	DE000SLOBNZ2	GBP	NTR*	.SLCTBNAN	SLCTBNAN
Solactive L&G Low Carbon Transition North America GBP Index TR	DE000SLOBN06	GBP	GTR*	.SLCTBNAT	-
Solactive L&G Low Carbon Transition Japan GBP Index PR	DE000SLOBN14	GBP	PR*	.SLCTBJPP	-
Solactive L&G Low Carbon Transition Japan GBP Index NTR	DE000SLOBN22	GBP	NTR*	.SLCTBJPN	SLCTBJPN
Solactive L&G Low Carbon Transition Japan GBP Index TR	DE000SLOBN30	GBP	GTR*	.SLCTBJPT	-
Solactive L&G Low Carbon Transition APAC ex Japan GBP Index PR	DE000SLOBN48	GBP	PR*	.SLCTBPJP	-
Solactive L&G Low Carbon Transition APAC ex Japan GBP Index NTR	DE000SLOBN55	GBP	NTR*	.SLCTBPJN	SLCTBPJN



Solactive L&G Low Carbon Transition APAC ex Japan GBP Index TR	DE000SLOBN63	GBP	GTR*	.SLCTBPJT	-
Solactive L&G Low Carbon Transition Emerging Markets GBP Index PR	DE000SLOBN71	GBP	PR*	.SLCTBEMP	-
Solactive L&G Low Carbon Transition Emerging Markets GBP Index NTR	DE000SLOBN89	GBP	NTR*	.SLCTBEMN	SLCTBEMN
Solactive L&G Low Carbon Transition Emerging Markets GBP Index TR	DE000SLOBN97	GBP	GTR*	.SLCTBEMT	-

\*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 START DATE is 1000. Historical values from the LIVE DATE will be recorded in accordance with Article 8 of the BMR. The START DATE and LIVE DATE of the INDEX is indicated in the table below:

Index	START DATE	LIVE DATE
Solactive L&G Low Carbon Transition Global GBP Index	8 May 2017	30 December 2020
Solactive L&G Low Carbon Transition Developed Markets GBP Index	7 May 2015	30 December 2020
Solactive L&G Low Carbon Transition UK GBP Index	7 May 2015	30 December 2020
Solactive L&G Low Carbon Transition Europe ex UK GBP Index	7 May 2015	30 December 2020
Solactive L&G Low Carbon Transition North America GBP Index	7 May 2015	30 December 2020
Solactive L&G Low Carbon Transition Japan GBP Index	7 May 2015	30 December 2020
Solactive L&G Low Carbon Transition APAC ex Japan GBP Index	7 May 2015	30 December 2020
Solactive L&G Low Carbon Transition Emerging Markets GBP Index	8 May 2017	30 December 2020



Levels of the INDEX published for a period prior to the LIVE DATE have been back-tested.

## 1.4. PRICES AND CALCULATION FREQUENCY

The level of the INDEX is calculated on each CALCULATION DAY from 1:00 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**"):

- Part/ Component of the **GBS INDEX UNIVERSE** of the *Solactive GBS Global Markets Large & Mid Cap USD Index PR (ISIN: DE000SLA7729)*, on a 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:

SOLACTIVE evaluates all companies in the respective INDEX UNIVERSE based on the criteria outlined in the Future World Protection List (the "FWPL") produced by DATA PROVIDER 1. Any company listed on the FWPL are then excluded. The FWPL is reconstituted on a semiannual basis in March and September. The methodology by reference to which the FWPL is constructed is available here: [https://www.lgim.com/landg-assets/lgim/\\_document-library/capabilities/future-world-protection-list-public-methodology.pdf](https://www.lgim.com/landg-assets/lgim/_document-library/capabilities/future-world-protection-list-public-methodology.pdf)

. All companies for which an evaluation of these exclusion criteria is not possible due to insufficient and/or missing information or data are excluded.

The remaining companies constitute the respective INDEX (the "**INDEX COMPONENT REQUIREMENTS**").





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 based on the steps described below:

### A. Regional Assignment

Each security within the INDEX UNIVERSE as well as each INDEX COMPONENT will be attributed to one country based on Solactive's country assignment procedure performed during the selection of the Solactive GBS family. This way corresponding REGIONAL UNIVERSES (based on the INDEX UNIVERSE components) and corresponding REGIONAL INDICES (based on the INDEX COMPONENTS) are constructed. This is described in the guideline for the Solactive GBS family published under: [Solactive Global Benchmark Series Guideline](#). The regions considered include North America, Europe ex United Kingdom, United Kingdom, APAC ex Japan, Japan and Emerging Markets and are constructed based on the table below:

Country	REGIONAL INDEX
Canada, United States	North America
Austria, Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, Ireland, Italy, Israel, Netherlands, Norway, Portugal, Sweden	Europe ex United Kingdom
United Kingdom	United Kingdom
Australia, Hong Kong, New Zealand, Singapore	APAC ex Japan
Japan	Japan
Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Kuwait, Malaysia, Mexico, Pakistan, Peru, Philippines, Qatar, Russia, Saudi Arabia, South Africa, South Korea, Taiwan, Thailand, Turkey, United Arab Emirates	Emerging Markets

The respective allocation is subject to changes in the Solactive Country Classification Framework.

### B. Carbon Score Calculation

For each INDEX COMPONENT a Carbon Score is calculated. The Score Calculation is relative to the region an INDEX COMPONENT is assigned to. Scores for INDEX COMPONENTS assigned to North America, Europe ex United



Kingdom, United Kingdom, APAC es Japan, and Japan are relative to all INDEX COMPONENTS assigned to any of these REGIONAL INDICES taken together as one SUPRA-REGIONAL INDEX. Scores for INDEX COMPONENTS assigned to Emerging Markets are relative to all INDEX COMPONENTS assigned to this REGIONAL INDEX. The Carbon Score calculation uses data provided by the DATA PROVIDER 2 and is based on 3 separate scores:

1. Carbon Emissions Intensity Score:

- a. Carbon Emissions Intensity is calculated by dividing the cumulative scope 1 and scope 2 emissions by the Enterprise Value including Cash as of the latest fiscal year end of the INDEX COMPONENT. If the Enterprise Value of the INDEX COMPONENT was zero or no Carbon Emissions could be assigned, the INDEX COMPONENT does not receive a Carbon Emissions Intensity or a Carbon Emissions Intensity Score.
- b. The Carbon Emissions Intensity of each INDEX COMPONENT is standardized by applying the following formula

$$CEI_{S,i} = \frac{CEI_i - \mu_{CEI}}{\sigma_{CEI}}$$

Where

$CEI_i$  = Carbon Emissions Intensity of INDEX COMPONENT i

$CEI_{S,i}$  = Standardized Carbon Emissions Intensity of INDEX COMPONENT i

$\mu_{CEI}$  = The average Carbon Emissions Intensity across all INDEX COMPONENTS with eligible Carbon Emissions Intensity

$\sigma_{CEI}$  = The standard deviation across the Carbon Emissions Intensity of all INDEX COMPONENTS with eligible Carbon Emissions Intensity

- c. If one or more INDEX COMPONENTS receive a  $CEI_{S,i}$  of smaller than -3 or larger than +3, the  $CEI_{S,i}$  of each such INDEX COMPONENT is winsorized to -3 and +3. Afterwards, steps b. and c. are applied again.
- d. Steps b. and c. are applied in an iterative manner, until each INDEX COMPONENT receives a  $CEI_{S,i}$  of minimum -3 and maximum +3.
- e. Based on the  $CEI_{S,i}$  calculated in d., each INDEX COMPONENT receives an S Score,  $S_i$ , by applying the standard normal distribution function.
- f. The Carbon Emissions Intensity Score for each Index Component,  $Score_{CEI,i}$ , is derived by transforming  $S_i$  to have boundaries between -1 and +1 and then multiplying with -1:

$$Score_{CEI,i} = (2 \times S_i - 1) \times (-1)$$

2. Carbon Reserves Intensity Score:

- a. Coal Reserves Intensity Score:



- i. Coal Reserves Intensity is calculated by dividing the coal reserves by the Enterprise Value including Cash as of the latest fiscal year end of the INDEX COMPONENT. If the Enterprise Value of the INDEX COMPONENT was zero or no Coal Reserves could be assigned, the INDEX COMPONENT does not receive a Coal Reserves Intensity or a Coal Reserves Intensity Score.
- ii. The Coal Reserves Intensity of each INDEX COMPONENT is standardized by applying the following formula

$$CoRI_{S,i} = \frac{CoRI_i - \mu_{CoRI}}{\sigma_{CoRI}}$$

Where

$CoRI_i$  = Coal Reserves Intensity of INDEX COMPONENT i

$CoRI_{S,i}$  = Standardized Coal Reserves Intensity of INDEX COMPONENT i

$\mu_{CoRI}$  = The average Coal Reserves Intensity across all INDEX COMPONENTS with eligible Coal Reserves Intensity

$\sigma_{CoRI}$  = The standard deviation across the Coal Reserves Intensity of all INDEX COMPONENTS with eligible Coal Reserves Intensity

- iii. If one or more INDEX COMPONENTS receive a  $CoRI_{S,i}$  of smaller than -3 or larger than +3, the  $CoRI_{S,i}$  of each such INDEX COMPONENT is winsorized to -3 and +3. Afterwards, steps ii. and iii. are applied again.
- iv. Steps ii. and iii. are applied in an iterative manner, until each INDEX COMPONENT receives a  $CoRI_{S,i}$  of minimum -3 and maximum +3.
- v. Based on the  $CoRI_{S,i}$  calculated in iv., each INDEX COMPONENT receives an S Score,  $S_i$ , by applying the standard normal distribution function.
- vi. The Coal Reserves Intensity Score for each INDEX COMPONENT,  $Score_{CoRI,i}$ , is derived by transforming  $S_i$  to have boundaries between -1 and -0.75:

$$Score_{CoRI,i} = (-0.25 \times S_i) - 0.75$$

b. Oil & Gas Reserves Intensity Score:

- i. Oil & Gas Reserves Intensity is calculated by dividing the Oil & Gas Reserves by the Enterprise Value including Cash as of the latest fiscal year end of the INDEX COMPONENT. If the Enterprise Value of the INDEX COMPONENT was zero or no Oil & Gas Reserves could be assigned, the INDEX COMPONENT does not receive an Oil & Gas Reserves Intensity or an Oil & Gas Reserves Intensity Score.



- ii. The Oil & Gas Reserves Intensity of each INDEX COMPONENT is standardized by applying the following formula

$$OGRI_{S,i} = \frac{OGRI_i - \mu_{OGRI}}{\sigma_{OGRI}}$$

Where

$OGRI_i$  = Oil & Gas Reserves Intensity of INDEX COMPONENT i

$OGRI_{S,i}$  = Standardized Oil & Gas Reserves Intensity of INDEX COMPONENT i

$\mu_{OGRI}$  = The average Oil & Gas Reserves Intensity across all INDEX COMPONENTS with eligible Oil & Gas Reserves Intensity

$\sigma_{OGRI}$  = The standard deviation across the Oil & Gas Reserves Intensity of all INDEX COMPONENTS with eligible Oil & Gas Reserves Intensity

- iii. If one or more INDEX COMPONENTS receive an  $OGRI_{S,i}$  of smaller than -3 or larger than +3, the  $OGRI_{S,i}$  of each such INDEX COMPONENT is winsorized to -3 and +3. Afterwards, steps ii. and iii. are applied again.
- iv. Steps ii. and iii. are applied in an iterative manner, until each INDEX COMPONENT receives an  $OGRI_{S,i}$  of minimum -3 and maximum +3.
- v. Based on the  $OGRI_{S,i}$  calculated in iv., each INDEX COMPONENT receives an S Score,  $S_i$ , by applying the standard normal distribution function.
- vi. The Oil & Gas Reserves Intensity Score for each Index Component,  $Score_{OGRI,i}$ , is derived by transforming  $S_i$  to have boundaries between -0.75 and -0.25:

$$Score_{OGRI,i} = (-0.50 \times S_i) - 0.25$$

- c. The Carbon Reserves Intensity Score for each INDEX COMPONENT,  $Score_{CRI}$ , is defined according to below:

$$Score_{CRI,i} = \begin{cases} Score_{CoRI,i}, & \text{if } Score_{CoRI,i} \text{ was calculated} \\ Score_{OGRI,i}, & \text{if only } Score_{OGRI,i} \text{ was calculated} \\ NA, & \text{if neither } Score_{CoRI,i} \text{ nor } Score_{OGRI,i} \text{ were calculated} \end{cases}$$

### 3. Green Revenue Score:

- a. For each INDEX COMPONENT, the cumulative relative green revenue is calculated. If no Green Revenue could be assigned to an INDEX COMPONENT, this does not include revenues of zero, the INDEX COMPONENT does not receive a Green Revenue Score. Green Revenue is defined as revenue attributed to activities benefitting the following objectives, that utilize the UN Sustainable Development Goals (SDG's) as reference framework:



Objectives	Sustainable Development Goals
Achieving sustainable agriculture and forestry	SDG 2: Zero Hunger SDG 15: Life on Land
Conserving water	SDG 6: Clean Water & Sanitation
Promoting sustainable building	SDG 11: Sustainable Cities and Communities
Optimising Material Use	SDG 12: Responsible Consumption and Production
Mitigating climate change	SDG 13: Climate Action
Preserving marine ecosystem	SDG 14: Life below Water
Preserving terrestrial ecosystem	SDG 15: Life on Land

- b. The Green Revenue Score for each INDEX COMPONENT is calculated based on the following formula:

$$Score_{GR,i} = \min(\text{cumulative relative green revenue} ; 1)$$

#### 4. Carbon Score:

- a. The Carbon Score for each INDEX COMPONENT is calculated by aggregating the available Carbon Intensity Score, the Carbon Reserves Intensity Score, and the Green Revenue Score as a geometric mean. I.e., the Carbon Score is calculated based on the formula below:

$$Carbon\ Score_i = \left( [1 + Score_{CEI,i}] \times [1 + Score_{CRI,i}] \times [1 + Score_{GR,i}] \right)^{\frac{1}{\text{number of available scores}}} - 1$$

- b. To clarify, if a single score is not available for an INDEX COMPONENT, the single score would be set to zero in the formula above. Hence, if an INDEX COMPONENT does not receive any single score, the Carbon Score for this INDEX COMPONENT is zero.

#### C. Weight Tilting



For each security within each REGIONAL INDEX an initial weight  $w_{init,R,i}$  is determined based on its FREE FLOAT MARKET CAPITALIZATION.

The respective initial weight is then tilted based on the below function:

$$w_{adj,R,i} = w_{init,R,i} \times (1 + Carbon\ Score_i)^{T_R}$$

Where

$w_{adj,R,i}$  = Adjusted weight of security i within region R

$w_{init,R,i}$  = Initial weight of security i within region R

$Carbon\ Score_i$  = The Carbon Score of security i as calculated above

$T_R$  = The tilt power which is required in order to achieve the CARBON OBJECTIVE. This, as well as the determination mechanism of the tilt power are detailed further below

The obtained weights are then modified in such a way as to fulfil the requirements below:

- a. Add up to 100%
- b. The weight of any SECTOR cannot deviate by more than 2% from the weight of the same SECTOR within the REGIONAL UNIVERSE. In case of a breach, the weight of the SECTOR will be decreased or increased to fulfil the requirement by increasing or decreasing the weight of each security within the respective SECTOR proportionally.
- c. The individual weight of any security cannot deviate by more than 3% from and not exceed 20 times the weight as determined based on FREE FLOAT MARKET CAPITALIZATION (except for the securities which are removed from the index, which always receive a weight of zero in the INDEX) within the REGIONAL UNIVERSE. In case of a breach, the excess weight will be redistributed proportionally within the SECTOR of the breaching security.

These will represent the final weights  $w_{f,R,i}$  of each INDEX COMPONENT within the respective REGIONAL INDEX.

#### D. Carbon Objectives

The exponent of the tilting function  $T_R$  is the parameter targeted (i.e. solved for) to achieve the overall CARBON OBJECTIVE for the INDEX on each SELECTION DAY.

The overall CARBON OBJECTIVE for each REGIONAL INDEX is to meet the stricter between the Carbon Emissions Intensity Reduction Objective and the Decarbonization Objective on each SELECTION DAY. Each REGIONAL INDEX is calculated separately, the CARBON OBJECTIVE applies to each REGIONAL INDEX and, where



appropriate, comparisons are made with the relevant REGIONAL UNIVERSE. The more stringent of the two Objectives on a particular SELECTION DAY is used to set the tilt power based on the function described above.

- *Carbon Emissions Intensity Reduction Objective (CIRO)*: the objective for each REGIONAL INDEX to have at least 70% lower Carbon Emissions Intensity than the relevant REGIONAL UNIVERSE on the SELECTION DAY. In case of the United Kingdom region, the Carbon Emission Intensity Reduction is set however to 60% vs its REGIONAL UNIVERSE.

$$CIRO_{RI,t} = CEI_{RU,t} \times (1 - CIRO\ Reduction_R)$$

Where

$CIRO_{RI,t}$  = Carbon Emission Intensity Reduction Objective on SELECTION DAY t for the relevant REGIONAL INDEX

$CEI_{RU,t}$  = Carbon Emission Intensity of the relevant REGIONAL UNIVERSE on SELECTION DAY t

$CIRO\ Reduction_R$  = Carbon Emissions Intensity Reduction level for each region in Carbon Emission Intensity on SELECTION DAY t vs the relevant REGIONAL UNIVERSE (60% for United Kingdom, 70% for all other regions)

The REGIONAL UNIVERSE Carbon Emission Intensity  $CEI_{RU,t}$  on a given SELECTION DAY t is determined as:

$$CEI_{RU,t} = \sum_{i=1}^N \frac{(CEI_{i,t} \times w_{RU,i})}{\sum (w_{RU,i} | CEI_{i,t} \geq 0)}$$

Where

$CEI_{RU,t}$  = Carbon Emission Intensity of the relevant REGIONAL UNIVERSE on SELECTION DAY t

$CEI_{i,t}$  = Carbon Emission Intensity of security i on SELECTION DAY t

$w_{RU,i}$  = FREE FLOAT MARKET CAPITALIZATION based weight of security i within the REGIONAL UNIVERSE R on SELECTION DAY t

Securities with missing individual Carbon Emission Intensity are ignored in the calculation above of the regional Carbon Emission Intensity.



- *Decarbonization Objective (DO)*: the objective for each REGIONAL INDEX to have a Carbon Emissions Intensity not exceeding the Carbon Emission Intensity as calculated based on the below formula and relative to the BASE DATE.

On the BASE DATE, the Decarbonization Objective is calculated as:

$$DO_{RI,BD} = CEI_{RU,BD} \times (1 - DO \text{ Reduction})$$

Where

$DO_{RI,BD}$  = Decarbonization Objective on BASE DATE for the relevant REGIONAL INDEX

$CEI_{RU,BD}$  = Carbon Emission Intensity of the relevant REGIONAL UNIVERSE on BASE DATE

*DO Reduction* = Decarbonization Reduction level in Carbon Emission Intensity vs the relevant REGIONAL UNIVERSE (50%)

On each following SELECTION DAY, this objective reduces by 7% YoY applied semi-annually based on the function below and is also adjusted by the performance of the relevant REGIONAL INDEX between the BASE DATE and the SELECTION DAY:

$$DO_{RI,t} = CEI_{RU,BD} \times (1 - DO \text{ Reduction}) \times (1 - 7\%)^{(SDS - BDS)/2} \times \frac{IL_{RI,BD}}{IL_{RI,SD}}$$

Where

$DO_{RI,t}$  = Decarbonization Objective on SELECTION DAY t for the relevant REGIONAL INDEX

$CEI_{RU,BD}$  = Carbon Emission Intensity of the relevant REGIONAL UNIVERSE on the BASE DATE

*DO Reduction* = Decarbonization Reduction level in Carbon Emission Intensity vs the relevant REGIONAL UNIVERSE (50%)

$SDS - BDS$  = The number of semesters between the SELECTION DAY and the BASE DATE

$IL_{RI,BD}$  = The INDEX level of the REGIONAL GTR INDEX on the BASE DATE

$IL_{RI,SD}$  = The INDEX level of the REGIONAL GTR INDEX on the SELECTION DAY

The overall CARBON OBJECTIVE targeted on SELECTION DAY t is then determined as:

$$CO_{RI,t} = \min(CIRO_{RI,t}, DO_{RI,t})$$

Where

$CO_{RI,t}$  = Overall CARBON OBJECTIVE targeted on SELECTION DAY t





$CIRO_{RI,t}$  = Carbon Emission Intensity Reduction Objective on SELECTION DAY t for the relevant REGIONAL INDEX

$DO_{RI,t}$  = Decarbonization Objective on SELECTION DAY t for the relevant REGIONAL INDEX

The Carbon Emission Intensity  $CEI_{RI,t}$  of each REGIONAL INDEX on a given SELECTION DAY t should be at or below the overall CARBON OBJECTIVE  $CO_{RI,t}$ . The REGIONAL INDEX Carbon Emission Intensity  $CEI_{RI,t}$  on a given SELECTION DAY t is determined as:

$$CEI_{RI,t} = \sum_{i=1}^N \frac{(CEI_{i,t} \times w_{RI,i})}{\sum (w_{RI,i} | CEI_{i,t} \geq 0)}$$

Where

$CEI_{RI,t}$  = Carbon Emission Intensity of the relevant REGIONAL INDEX on SELECTION DAY t

$CEI_{i,t}$  = Carbon Emission Intensity of security i on SELECTION DAY t

$w_{RI,i}$  = Weight of security i within the respective Tilted REGIONAL INDEX on SELECTION DAY t

In case the optimization does not yield a solution, the constraints will be relaxed in the order and steps described below:

*First order relaxation.*

Sector deviation vs the REGIONAL UNIVERSE in steps of 0.5%

Individual weight deviation vs the REGIONAL UNIVERSE in steps of 0.5%

*Second order relaxation.*

In the event that after 10 subsequent relaxations of the above steps, there is still no solution attainable, the Carbon Emissions Intensity Reduction Objective will also be relaxed in steps of 5%.

In the event that even a triple relaxation of the above objective still doesn't render a solution, the Decarbonization Objective may also be relaxed in steps of 1% until a solution can be found.

## E. SUPRA-REGIONAL INDEX Construction

Based on the final weights  $w_{f,R,i}$  as determined in the Tilting section, the Developed Markets and Global Markets SUPRA-REGIONAL INDICES are created. The aggregation is outlined in the below table:



Region	SUPRA-REGIONAL INDEX
North America, Europe ex United Kingdom, United Kingdom, APAC ex Japan, Japan	Developed Markets
North America, Europe ex United Kingdom, United Kingdom, APAC ex Japan, Japan, Emerging Markets	Global Markets

The weight of each security within the SUPRA-REGIONAL INDICES above is determined based on the weight of each Index Component of each Regional Index and the weight of each region within the Index Universe:

$$w_{SRI,i} = w_{f,R,i} \times \sum_{i \in R} w_{IU,i}$$

where:

$w_{SRI,i}$  = the weight of security i in the respective SUPRA-REGIONAL INDEX

$w_{f,R,i}$  = the final weight of security i within Region R

$w_{IU,i}$  = the weight of security i within the INDEX UNIVERSE and is calculated based on FREE FLOAT MARKET CAPITALIZATION

The respective weights are then rescaled to add up to 100% in order to obtain the final INDEX COMPONENT weight within each SUPRA-REGIONAL INDEX:

$$w_{fin,SRI,i} = \frac{w_{SRI,i}}{\sum_i w_{SRI,i}}$$



## 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 webpage under the section "Announcement", 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 *two* 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 "[Announcement](https://www.solactive.com/news/announcements/)", 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

“**BASE DATE**” shall refer to the SELECTION DAY on the 7<sup>th</sup> of October 2020.

“**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 Objectives**” shall have the meaning as defined in Section 2.3 “Weighting of the Index Components”.

“**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.

“**DATA PROVIDER 1**” is Legal & General Investment Management (“LGIM”). For more information, please visit: <https://www.lgim.com/>

“**DATA PROVIDER 2**” is ISS. For more information, please visit: <https://www.issgovernance.com/>

“**ELIGIBLE REBALANCE 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.

“**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 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.

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

“**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.

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

“**REBALANCE DAY**” is the first Wednesday in May and November. If that day is not an ELIGIBLE REBALANCE DAY the REBALANCE DAY will be the immediately following ELIGIBLE REBALANCE DAY.

“**REGIONAL INDEX**” shall have the meaning as defined in Section 2.3 “Weighting of the Index Components”.

“**REGIONAL UNIVERSE**” shall have the meaning as defined in Section 2.3 “Weighting of the Index Components”.

“**SECTOR**” is based on the FactSet Economy Classification.

“**SELECTION DAY**” is 20 CALCULATION DAYS before the scheduled REBALANCE DAY, disregarding any potential change of the REBALANCE DAY.

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

“**SUPRA-REGIONAL INDEX**” shall have the meaning as defined in Section 2.3.

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

“**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.

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