

INDEX GUIDELINE

Solactive L&G ESG Corporate Bond Index Family

Version 2.0

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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 ESG Corporate Bond Index Family (the "INDEX"). Any amendments to the rules made to the GUIDELINE are approved by the OVERSIGHT COMMITTEE as specified in the Bond Index Methodology. 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 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 of financial instruments or investment funds referencing the INDEX under a valid license – 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

The INDEXES aims to track the total return performance of EUR, USD and GBP denominated corporate bonds, adjusting for Environment, Social and Government (ESG) factors, and to satisfy a decarbonization requirement as outlined below:

- The Solactive L&G ESG Corporate Bond Index Series (the "Index") is an Index by Solactive AG and is calculated and distributed by Solactive AG.
- The Solactive L&G ESG EUR Investment Grade Corporate Bond TR Index is a rules-based, market value weighted index engineered to mirror the performance of EUR denominated corporate bonds, adjusting for Environment, Social and Government (ESG) factors. The INDEX is a Total Return Index, i.e. coupon payments will be reinvested in the INDEX on each rebalancing day.
- The Solactive L&G ESG USD Investment Grade Corporate Bond TR Index is a rules-based, market value weighted index engineered to mirror the performance of USD denominated corporate bonds, adjusting for Environment, Social and Government (ESG) factors. The INDEX is a Total Return Index, i.e. coupon payments will be reinvested in the INDEX on each rebalancing day.
- The Solactive L&G ESG GBP Investment Grade Corporate Bond TR Index is a rules-based, market value weighted index engineered to mirror the performance of GBP denominated corporate bonds,



adjusting for Environment, Social and Government (ESG) factors. The INDEX is a Total Return Index, i.e. coupon payments will be reinvested in the INDEX on each rebalancing day.

- The bonds in each currency universe are initially weighted according to their market value and are then tilted by their issuer Environmental, Social and Government (ESG) scores from Legal and General Asset Management (L&G). L&G provides updated ESG scores to Solactive on a semi-annual basis in the beginning of April and October (with data as of 31st March and 30th September, respectively), such that the updated scores are used for rebalancing, starting from April and October, respectively. With the selections based on the new ESG scores becoming effective on the first business day of May and November, respectively. Capping is applied to ensure that the resulting index remains representative of each respective benchmark and optimization is applied to achieve the decarbonization objective.

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	Calculation Formula*	RIC	BBG ticker
Solactive L&G ESG GBP Investment Grade Corporate Bond TR Index	DE000SLA52D9	GBP	TR	Direct	.SOESGBGB	
Solactive L&G ESG USD Investment Grade Corporate Bond TR Index	DE000SLA52E7	USD	TR	Direct	.SOESGBUS	
Solactive L&G ESG EUR Investment Grade Corporate Bond TR Index	DE000SLA52F4	EUR	TR	Direct	.SOESGBEU	
Solactive L&G ESG USD Investment Grade Corporate Bond TR Index – GBP Hedged	DE000SLA52G2	GBP	CH		SOESGHUS	SOESGHUS
Solactive L&G ESG EUR Investment Grade Corporate Bond TR Index – GBP Hedged	DE000SLA52H0	GBP	CH		SOESGHEU	SOESGHEU
Solactive L&G ESG EUR IG Corporate in GBP TR Index	DEESGSLA52E7	GBP	TR	Direct	.SOESGBEG	
Solactive L&G ESG USD IG Corporate in GBP TR Index	DEESGSLA52D9	GBP	TR	Direct	.SOESGBUG	

*The calculation formula refers to the index calculation's dependency on cash reinvestment, based on whether the cash reinvestment occurs on a daily/direct basis or periodically.



*TR means that the INDEX is calculated as Total Return index as described in the Bond Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>

*CH means that the INDEX is calculated as Currency Hedge index as described in the Bond Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>

The INDEX is published on the website of the INDEX ADMINISTRATOR (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 Solactive L&G ESG EUR Investment Grade Corporate Bond TR Index on the 23rd of May 2018 is 1000. Levels of the INDEX published for a period prior to this date have been back-tested. Historical values from the 23rd of May 2018 will be recorded in accordance with Article 8 of the BMR.

The initial level of the Solactive L&G ESG USD Investment Grade Corporate Bond TR Index on the 23rd of May 2018 is 1000. Levels of the INDEX published for a period prior to this date have been back-tested. Historical values from the 23rd of May 2018 will be recorded in accordance with Article 8 of the BMR.

The initial level of the Solactive L&G ESG GBP Investment Grade Corporate Bond TR Index on the 23rd of May 2018 is 1000. Levels of the INDEX published for a period prior to this date have been back-tested. Historical values from the 23rd of May 2018 will be recorded in accordance with Article 8 of the BMR.

1.4. PRICES AND CALCULATION FREQUENCY

The INDEX is calculated and distributed once every BUSINESS DAY based on the EVALUATED BID PRICE of the INDEX COMPONENTS. Bonds added in a rebalancing (see Section 3) are included the INDEX at the EVALUATED BID PRICE on the relevant REBALANCE DAY. Bonds which are excluded from the INDEX in a rebalance are reflected in the calculation of the level of the INDEX for the REBALANCE DAY at the EVALUATED BID PRICE on the relevant REBALANCE DAY. INDEX analytical values are calculated each BUSINESS DAY using the EVALUATED BID PRICE Index Guideline 6 Version 2.0 – 28 May 2025 based on FIXING TIME. Prices of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 4:00 PM London time WM Fixing quoted by Reuters.

The currency hedged indices are calculated based on TRADING PRICES on the exchanges on which the UNDERLYING INDEX COMPONENTS are listed. TRADING PRICES of the UNDERLYING 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 underlying index and 4:00 PM Index Guideline 6 Version 2.0 – 26 June 2024 London WM Spot and Forward Fixings quoted by Reuters. If there is no 4:00 PM London time WM Fixing for the relevant CALCULATION DAY, the last available 4:00 PM London time WM Fixing will be used for the closing level calculation.

2. INDEX SELECTION

On each SELECTION DAY, all bonds which meet the INDEX COMPONENT REQUIREMENTS are eligible for inclusion in the INDEX and will be added as INDEX COMPONENT on the REBALANCE DAY. Additionally, on each SELECTION DAY, it will be evaluated whether all current INDEX COMPONENTS still meet the INDEX COMPONENT REQUIREMENTS. Each INDEX COMPONENT that does not meet the INDEX COMPONENT REQUIREMENTS will be removed from the INDEX on the next REBALANCE DAY.

2.1. SELECTION OF THE INDEX COMPONENTS

The initial composition of each INDEX, (as specified in Section 3) is determined using the following rules:

- The starting universe for each INDEX are the following BENCHMARK INDEX:
 - a. Solactive USD IG Liquid Corporate Bond Index.
 - b. Solactive EUR IG Liquid Corporate Bond Index.
 - c. Solactive GBP IG Liquid Corporate Bond Index.
- Bond issuers must not be on the L&G Future World Protection List. The L&G Future World Protection List includes:
 - a. companies that are involved in, and/or derive revenues from controversial weapons;
 - b. pure coal mining companies, and
 - c. certain companies that do not comply with the United Nations Global Compact screening criteria.
- Bonds with ESG Score with value -1 (negative 1) are excluded.
- A price from the PRICING PROVIDER must be available for each INDEX COMPONENT on each SELECTION DAY.



The determination of the INDEX COMPONENTS is fully rule-based and the INDEX ADMINISTRATOR has no discretion.

2.1.1 SELECTION OF THE INDEX CURRENCY COMPONENTS

Based on the INDEX CURRENCY 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 CURRENCY COMPONENT REQUIREMENTS"):

- All of the currencies from the INDEX CURRENCY UNIVERSE.

2.2. WEIGHTING OF THE INDEX COMPONENTS

On each SELECTION DAY each INDEX COMPONENT is weighted using the market value based on the EVALUATED BID PRICE and accrued interest as on the SELECTION DAY in order to achieve the aim of the INDEX. The weighting of the INDEX COMPONENTS will be as follows:

The purpose of the weighting schema is to tilt the market value weight of bonds according to their issuer's ESG score and the decarbonization goals, whilst ensuring that the resulting index remains representative of the benchmark index in terms of key risk factors.

The process follows two main steps:

1. Tilting and Capping

The market value weight of each Index Component is tilted using the following formula, which takes into account ESG score assigned to the issuer:

$$W_i^{tilt} = (1 + ESG\ Score)^T \times W_i^{MC} \times Green\ Bond\ Indicator_i$$

where,

W_i^{tilt}	is the weight of bond i after the ESG tilting has been applied
W_i^{MC}	is the market-value weight of bond i relative to all the eligible bonds of the same currency.
$ESG\ Score$	is the latest available L&G Issuer ESG score which takes a value between 1 or +1. Unrated issuers are given a score of 0.
T	is the tilting strength or power. The default value is 3.



<i>Green Bond Indicator_i</i>	is a binary flag which is 2 if the bond is classified as green bond by the CBI and is included in the Solactive Green Bond Index, otherwise it is 1
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In the next step, the new weights are checked relative to the benchmark weights across the following dimensions: sector, issuer, bond and maturity ranges. These weights must fall within the following limits:

- No single sector has a weight +/- 3% relative to the benchmark
- No bond issuer has a weight +/- 1%
- No single bond has a weight +/- 0.25%
- No maturity band has a weight +/- 1%

These checks are to ensure that no single sector, issuer, bond or maturity range is under or overrepresented in the final index relative to the benchmark. The checks are applied iteratively and, in the sequence listed above until all dimensions are within the limits. If a sector or maturity band exceeds these limits, its weight is redistributed proportionally to bonds belonging to the sectors or maturity bands which are within the limits. If an issuer or bond exceeds the limits, its weight is redistributed proportionality to all the other eligible bonds that belong to the same sector.

If there are multiple breaches within a single dimension, the largest deviation is found and adjusted, before the process is repeated.

Finally, the minimum weight for any bond is set at 0%, so that it does not fall to a negative weight at any stage during the capping process.

In the rare cases where a solution cannot be found within the constraints given above, the tilting power, T will be reduced in 0.5 increments until the weighting procedure completes successfully and all the dimensions are within the limits.

The weights formed by the former procedure are called the Adjusted Tilted Weights.

2. Optimization with Decarbonization

The Adjusted Tilted Weights are then used as the starting weights in the optimization algorithm that ensures compliance with the decarbonization targets using trajectories. The Base Date for computing the starting value for carbon intensities is taken as of 8th April 2021.

We have implemented a mapping logic for calculating carbon intensities for the securities. The following rules define the formulas for different scenarios. If there are no values after applying the carbon intensity mapping rules, we fill the missing values with the sector medians. The carbon intensities formulas are given below,



Carbon Intensity Mapping Rule:

A) If the issuer is public,

$$CI_i = \frac{GHG_i^I}{EVIC_i^I}$$

B) If the issuer is private and the credit parent is public and, both are in the same sector.

$$CI_i = \frac{GHG_i^P}{EVIC_i^P}$$

C) If issuer is private and the credit parent is public and, the issuer is in Finance.

$$CI_i = \frac{GHG_i^P}{EVIC_i^P}$$

D) The issuer is private, the credit parent is private and both are in the same sector.

$$CI_i = \frac{GHG_i^P}{Book\ Value_i^P}$$

E) The issuer is private, the credit parent is private and, the parent and issuer are in Finance.

$$CI_i = \frac{GHG_i^P}{Book\ Value_i^P}$$

F) The issuer is private, the credit parent and the issuer are not in the same sector and the issuer is not in Finance.

$$CI_i = \frac{GHG_i^I}{Book\ Value_i^I}$$

where,

CI_i	Carbon Intensity of the i^{th} index component.
GHG_i^I	GHG metric is calculated as the sum of Scope 1 and Scope 2 emissions of the issuer.
GHG_i^P	GHG metric is calculated as the sum of Scope 1 and Scope 2 emissions of the parent.
$EVIC_i^I$	Issuer EVIC of the i^{th} index component.
$EVIC_i^P$	Parent EVIC of the i^{th} index component.
$Book\ Value_i^I$	Issuer book value of the i^{th} index component.
$Book\ Value_i^P$	Parent book value of the i^{th} index component.



Inflation Adjustment of EVIC: If the simple average EVIC of the INDEX has increased or decreased during the last calendar year, the EVIC of an INDEX COMPONENT shall be adjusted by an adjustment factor. The factor is calculated as the average EVIC of the BENCHMARK INDEX at the end of the latest calendar year, divided by the average EVIC of the BENCHMARK INDEX at the end of the previous calendar year.

The decarbonization trajectory for a carbon intensity measure is defined as a step function starting at the Base Date with the value of 50% of the weighted average carbon measure of the benchmark index at the Base Date and reducing geometrically by 7% yoy on each rebalancing (every month except December).

The optimal weights minimize a weighted sum of the summed squared weight differences to the Capped weights and the risk dimensions - rating, maturity bucket, sector, and issuer. The summed squared weight differences and four risk dimensions have the weight contributions of 250, 1, 1, 1 and 1, respectively in the objective function. To make sure the optimization algorithm is not assigning zero-weights to bonds, a minimum weight of 0,01% is added.

The optimization observes the following initial constraints:

- The weighted average carbon intensity of the index must be smaller than or equal to the minimum of the following two quantities: 50% of the weighted average carbon intensity of the benchmark index, and the current value of the carbon intensity decarbonization trajectory
- The deviation in aggregate index weight from the Adjusted Tilted Weights is limited among several dimensions as follows:

Dimension	Maximum Deviation from Adjusted Tilted Weights
Rating (AAA, AA+, AA, ..., BBB-)	+/- 2.5%
Maturity (1-5, 5-10, ... 25+ Years)	+/- 2.5%
Sector	+/- 2.5%
Issuer	+/- 1.25%
Bond	+/- 0.02%

- The maximum issuer weight must be smaller than 3%.

In case the optimization is unable to find a optimal solutions the constraints are loosened in the following order:



- 1) Bond weight constraint: Compared to the Adjusted Tilted Weights, the deviation of the bond weight constraint is iteratively increased by 0.01% from $-/+0.02\%$ to $-/+0.10\%$
- 2) Issuer weight constraint: Compared to the Adjusted Tilted Weights, the deviation of the issuer weight constraint is iteratively increased by 0.025% from $-/+1.25\%$ to $-/+1.30\%$
- 3) Sector weight constraint: Compared to the Adjusted Tilted Weights, the deviation of the sector weight constraint is iteratively increased by 0.1% from $-/+2.5\%$ to $-/+5\%$

If no solution can still be found, the bond weight constraint and issuer weight constraint should be further relaxed jointly by 0.01% and 0.025% respectively until a solution is found. If then still the optimization algorithm does not find a feasible result, the constraints are loosened further until a solution is found.

2.2.1 WEIGHTING OF THE INDEX CURRENCY COMPONENTS

On each SELECTION DAY, the weight of each INDEX CURRENCY COMPONENT is assigned according to the aggregated weights of all the UNDERLYING INDEX COMPONENTS quoted in the respective Currency.

3. ORDINARY REBALANCE

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

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

SOLACTIVE will publish any changes made to the INDEX COMPONENTS with sufficient notice before the REBALANCE DAY on the SOLACTIVE webpage.

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. Adjustments to the INDEX to account for corporate actions will be made in compliance with the Bond Index Methodology.



5. DEFINITIONS

"BENCHMARK INDEX" for USD, EUR and GBP currencies are Solactive USD IG Liquid Corporate Bond Index, Solactive USD IG Liquid Corporate Bond Index and Solactive USD IG Liquid Corporate Bond Index.

"Base Date" is April 8th, 2021.

"BENCHMARK REGULATION" shall have the meaning as defined in Section "Introduction".

"BMR" shall have the meaning as defined in Section "Introduction".

"BUSINESS DAY" is with respect to the INDEX each day Monday to Friday except the following sets of days:

- London Stock Exchange holidays for the Solactive L&G ESG GBP Investment Grade Corporate Bond TR Index
- European Banking Holidays for the Solactive L&G ESG EUR Investment Grade Corporate Bond TR Index
- New York Stock Exchange holidays and SIFMA for the Solactive L&G ESG USD Investment Grade Corporate Bond TR Index

"CARBON INTENSITY" If the CARBON INTENSITY is not computable for a company due to missing data, the company receives the median CARBON INTENSITY of all the securities in the same industry. If the company is not classified in an industry, the company receives the median CARBON INTENSITY of all companies classified in an industry.

If the simple average EVIC of the BENCHMARK INDEX has increased or decreased during the last calendar year, the EVIC of an INDEX COMPONENT shall be adjusted by an adjustment factor. The factor is calculated as the average EVIC of the BENCHMARK INDEX at the end of the latest calendar year, divided by the average EVIC of the BENCHMARK INDEX at the end of the previous calendar year.

"CLOSE OF BUSINESS" is a time stamp when an INDEX is calculated.

"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.

"CURRENCY HEDGE INDEX" represent the return resulting from the sum of an underlying index performance and the performance of the hedge of this index using currency forward contracts.

"Effective Maturity Date" is the minimum of the next call or put date and the final maturity date.

"ESG Score" is the latest available L&G Issuer ESG score.

L&G Future World Protection List is the list of companies compiled by L&G based on their methodology

[L&G's Future World Protection List Methodology](#).



"GUIDELINE" shall have the meaning as defined in Section "Introduction".

"GHG" are the Greenhouse Gas Emissions of a company as of the SELECTION DAY. According to the GHG Protocol, the GHG metric is calculated as the sum of Scope 1 and Scope 2 emissions. In particular:

- Scope 1 emissions: All direct Greenhouse Gas Emissions;
- Scope 2 emissions: Indirect Greenhouse Gas Emissions from consumption of purchased electricity, heat or steam,

"INDEX" shall have the meaning as defined in Section "Introduction".

"INDEX ADMINISTRATOR" shall have the meaning as defined in Section "Introduction".

"INDEX CALCULATOR" is SOLACTIVE or any other appropriately appointed successor in this function.

"INDEX COMPONENT" is each bond reflected in the INDEX.

"INDEX COMPONENT REQUIREMENTS" shall have the meaning as defined in Section 2.1.

"INDEX CURRENCY" is the currency specified in the column "Currency" in the table in Section 1.2.

"INDEX CURRENCY COMPONENTS" is each currency on which UNDERLYING INDEX COMPONENT trades in the market.

"INDEX CURRENCY COMPONENT WEIGHT" is value resultant from the sum of all the UNDERLYING INDEX COMPONENT'S weights quoted in the respective Currency.

"INDEX CURRENCY UNIVERSE" is the sum of all currencies which fulfill the INDEX CURRENCY UNIVERSE REQUIREMENTS.

"INDEX CURRENCY UNIVERSE REQUIREMENTS" shall have the meaning as defined in Section 2.1.1

"ISSUER" is the issuing entity of the respective bond.

"OVERSIGHT COMMITTEE" shall have the meaning as defined in the Bond Index Methodology.

"PRICING PROVIDER" is Intercontinental Exchange.

"REBALANCE DAY" is the last BUSINESS DAY of each month from January to November. The INDEX is not rebalanced in December.

"SELECTION DAY" is 3 BUSINESS DAYS before the scheduled REBALANCE DAY, disregarding any potential change of the REBALANCE DAY

"SOLACTIVE" shall have the meaning as defined in Section "Introduction".

"SPOT" is the spot foreign exchange rate to convert the currency of the INDEX COMPONENT into the denomination of the INDEX CURRENCY.

"UNDERLYING INDEX COMPONENTS" is each security reflected in the composition of the UNDERLYING INDEX.



Please note that the definitions included in the Bond Index Methodology apply to this guideline. In case of a discrepancy, the definition presented in the guidelines should prevail.



6. HISTORY OF INDEX CHANGES

Version	Date	Description
1.0	<i>26 March 2024</i>	Index Guideline Creation (Initial version)
1.1	<i>26 June 2024</i>	New Index Guideline Format
2.0	<i>28 May 2025</i>	Change in index methodology by introducing decarbonization feature.

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