

INDEX GUIDELINE

Solactive 360 Euro IG Corporate CTB Index

Version 1.3

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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 360 Euro IG Corporate CTB Index (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 INDEX is a rules-based index, engineered to measure the performance of a portfolio of Euro denominated investment grade corporate bonds weighted by ESG characteristics. The INDEX provides exposure to a portfolio that is based on ISS ESG climate analysis and reduces the carbon footprint of the BENCHMARK INDEX considerably. At the same time the INDEX displays credit and interest rate risk distributions as well as a sector allocation similar to the BENCHMARK INDEX, the Solactive Euro IG Corporate Index.
- The GROSS GHG EMISSIONS of the INDEX are reduced compared to the BENCHMARK INDEX. The TARGET GROSS GHG EMISSIONS of the INDEX is defined by the minimum of:
 - o a 30% reduction vs the BENCHMARK INDEX’S GROSS GHG EMISSIONS on the annual rebalancing date.
 - o at least a 7% SELF-DECARBONIZATION TRAJECTORY as measured from the BASE DATE on the annual rebalancing date.



1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	Calculation Formula*	RIC	BBG ticker
Solactive 360 Euro IG Corporate CTB Index	DE000SLOBSN7	Euro	TR	PERIODIC	.SBV360ET	SBV360ET

*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 a 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/>

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 Börse 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 June 28th 2021 is 1000. Levels of the INDEX published for a period prior to this date have been back-tested. Historical values from the June 28th 2021 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 LAST EVALUATED MID PRICE OF THE INDEX COMPONENTS. Bonds added in a rebalancing (see Section 3) are included the INDEX at the LAST EVALUATED MID 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 LAST EVALUATED MID PRICE on the relevant REBALANCE DAY. INDEX analytical values are calculated each BUSINESS DAY using the LAST EVALUATED MID PRICE based on FIXING TIME.

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 well as any selection for a rebalance (as specified in Section 3) is determined using the following rules:

- A price from the PRICING PROVIDER must be available for each INDEX COMPONENT on each SELECTION DAY.
- All INDEX COMPONENTS must be a member of the BENCHMARK INDEX.

All bonds and their issuers are evaluated based on the criteria outlined in the table below. Bonds which do not comply with the screens are excluded from the INDEX. The evaluation is based on data provided by the ESG DATA PROVIDER. Any bond and their issuer for which an evaluation of the exclusion criteria is not possible due to insufficient and/or missing information or data are excluded.

Theme	Topic	Exclusion criterion
Norm-Based Research	Environment	Verified failure to respect established norms as well as severe or very severe controversies
	Human Rights	
	Corruption	
	Labour Rights	
Controversial Weapons Research	Chemical weapons	Verified or alleged ongoing involvement
	Biological weapons	
	Nuclear weapons	
	Depleted Uranium	
	Nuclear weapons outside the NPT	
	Cluster munitions	
Activity-Based Screening	Tobacco	>0% for production /cultivation >=5% for distribution/services
	Civilian firearms	>0% for production >=5% for distribution
	Gambling	>0% for production >=5% for distribution
	Pornography	>0% for production >=5% for distribution
Environmental Objectives	Sustainable Development Goal 12: Responsible Consumption and Production	Significant Negative Impact, i.e. single SDG Impact Rating of < -5.0
	Sustainable Development Goal 13: Climate Action	
	Sustainable Development Goal 14: Life Below Water	
	Sustainable Development Goal 15: Life on Land	



Explanation: % figures refer to revenue threshold (for degree of involvement)

The number of bonds included in the INDEX is capped at 1000 bonds. The target number of bonds per issuer is calculated as follows:

$$\text{Target Number of Bonds}_{\text{issuer}} = \text{round}\left(\frac{\text{Number of Bonds in Benchmark}_{\text{issuer}}}{\text{Number of Bonds in Benchmark}} * 1000, 0\right)$$

In case the number of bonds in the INDEX is less than 1000, the companies are ranked according to their residual between the unrounded target number of bonds and the rounded target number of bonds. In an iterative process the companies with the highest residual will receive one extra bond until the INDEX achieves its target size of 1000 bonds.

For any other selection the INDEX composition will not change unless bonds have a maturity of less than 1 year. In this case the bond is replaced with another bond from the same issuer.

(the “INDEX COMPONENT REQUIREMENTS”)

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

2.2. WEIGHTING OF THE INDEX COMPONENTS

On each SELECTION DAY in January each INDEX COMPONENT is weighted using an optimization algorithm which determines the optimal weights of each INDEX COMPONENT. More formally the optimization algorithm is described as follows:

$$\min_{w_i, crr_i} \sum_{i=1}^N -(w_i * \text{Modified Carbon Risk Rating}_i)^2$$

subject to the following constraints:

$$\sum_{i=1}^N w_i = 1$$

$$\sum_{i=1}^N (w_i * YTM_i) - YTM_{\text{Benchmark}} \geq 0$$

$$\text{Duration Tolerance} - |(\sum_{i=1}^N (w_i * \text{Duration}_i) - \text{Duration}_{\text{Benchmark}})| \geq 0$$

$$\text{Sector Tolerance} - \max_k |(\sum_{i=1}^N (w_i * I(\text{Sector}_i = k)) - \text{Sector } k \text{ Weight}_{\text{Benchmark}})| \geq 0$$

$$\text{Rating Tolerance} - \max_k |(\sum_{i=1}^N (w_i * I(\text{Rating}_i = k)) - \text{Rating } k \text{ Weight}_{\text{Benchmark}})| \geq 0$$

$$\text{Issuer Limit} - \max_l [(\sum_{i=1}^N (w_i * I(\text{Issuer}_i = l)))] \geq 0$$

$$\text{Carbon Target} - [(\sum_{i=1}^N (w_i * \text{Carbon Emissions}_i))] \geq 0$$

$$(\sum_{i=1}^N (w_i * \text{Carbon Emissions}_i) - \text{Minimum Carbon Target}) \geq 0$$



$$Diversification\ Target - \frac{(\sum_{i=1}^N w_i^2) - \frac{1}{n}}{1 - \frac{1}{n}} \geq 0$$

$$\min(w_i) \geq 0.0005$$

$$\max(w_i) \leq 0.005$$

where the constraints are initially set as follows in Iteration 1, and will be loosened according to the subsequent specifications:

Iteration 1:

Constraint	Definition
Duration Tolerance	0.5 years
Sector Tolerance	10%
Rating Tolerance	2%
Issuer Limit	3%
Carbon Target	Regulatory Carbon Target
Minimum Carbon Target	Regulatory Carbon Target * 0.95
Diversification Target	1%

If no feasible solution is found the following constraints apply:

Iteration 2:

Constraint	Definition
Duration Tolerance	0.5 years
Sector Tolerance	12.5%
Rating Tolerance	2%
Issuer Limit	3%
Carbon Target	Regulatory Carbon Target
Minimum Carbon Target	Regulatory Carbon Target * 0.85
Diversification Target	1%



If no feasible solution is found the following constraints apply:

Iteration 3:

Constraint	Definition
Duration Tolerance	0.5 years
Sector Tolerance	12.5%
Rating Tolerance	2%
Issuer Limit	4%
Carbon Target	Regulatory Carbon Target
Minimum Carbon Target	Regulatory Carbon Target * 0.8

If no feasible solution is found the following constraints apply:

Iteration 4:

Constraint	Definition
Duration Tolerance	1.25 years
Sector Tolerance	12.5%
Rating Tolerance	7.5%
Issuer Limit	4%
Carbon Target	Regulatory Carbon Target
Minimum Carbon Target	Regulatory Carbon Target * 0.5
Diversification Target	1%

If still no feasible solution is found, the index committee will determine the most suitable index composition.



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

“**BASE DATE**” is 31/01/2022.

“**BENCHMARK INDEX**” is the Solactive Euro IG Corporate Index (SOLEUIGC).

“**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: Common European banking holidays.

“**CARBON EMISSIONS**” is provided by the ESG DATA PROVIDER.

“**CARBON RISK RATING**” is provided by the ESG DATA PROVIDER and ranges from 0 to 100.

“**CLOSE OF BUSINESS**” is a time stamp when an INDEX is calculated.

“**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.



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

“**FIXING TIME**” is the time when the prices for the INDEX COMPONENTS are fixed for index calculation. [This is specified in the Bond Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>.]

“**GROSS GHG EMISSIONS**” are the Greenhouse Gas Emissions of a company. As provided by the ESG DATA PROVIDER. GROSS GHG EMISSIONS are updated annually.

“**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 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.

“**MANAGEMENT FEE FACTOR**” is set to 0.3525.

“**MODIFIED CARBON RISK RATING**” is calculated as

$$\text{Modified Carbon Risk Rating}_i = \left(1 + \frac{\text{Carbon Risk Rating}_i}{100}\right) * \left(1 + \frac{\text{SDS Glide Path}_i}{10}\right)$$

$$\text{SDS Glide Path}_i = \frac{\text{SDS Year}_i - \text{current year}}{2050 - \text{current year}}$$

“**OVERSIGHT COMMITTEE**” shall have the meaning as defined in the Bond Index Methodology.

“**PRICING PROVIDER**” is available under <https://www.solactive.com/documents/bond-pricing-provider/>

“**REBALANCE DAY**” is the last BUSINESS DAY of the month.

“**SELECTION DAY**” is three (3) BUSINESS DAYS before the scheduled REBALANCE DAY, disregarding any potential change of the REBALANCE DAY

“**SELF-DECARBONIZATION TRAJECTORY**”: The INDEX follows a self-decarbonization trajectory of at least 7% annually compared to the GROSS GHG EMISSIONS of the INDEX on the BASE DAY in a geometric progression.



“SDS YEAR” is provided by the ESG Data Provider

“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.

“TARGET GROSS GHG EMISSIONS” are the minimum between:

- a 30% reduction vs the current BENCHMARK INDEX’S GROSS GHG EMISSIONS on the annual SELECTION DAY in January
- the required GROSS GHG EMISSIONS level from the SELF-DECARBONIZATION TRAJECTORY on the annual SELECTION DAY in January.

“TRADING PRICES” 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.

“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	28 June 2021	Index Guideline creation (initial version).
1.1	18 November 2021	Added value of the MANAGEMENT FEE FACTOR.
1.2	12 January 2022	Update of BASE DATE due to Scope 3 GHG emission measurement methodology change of the ESG DATA PROVIDER; for more background see the announcement at https://www.solactive.com/methodology-change-all-solactive-owned-administered-eu-climate-transition-benchmarks-and-eu-paris-aligned-benchmarks-based-on-institutional-shareholder-services-iss-data-effective-date-05-01-2/ .
1.3	03 July 2024	Guideline updated to new format.

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