

x

INDEX GUIDELINE

Solactive ISS ESG Screened Euro IG Corporate Bond TR Index

Version 1.1

07 February 2019



TABLE OF CONTENTS

Introduction	4
1 Index Specifications.....	6
1.1 Short name and ISIN.....	6
1.2 Initial value.....	6
1.3 Distribution	6
1.4 Prices and calculation frequency.....	6
1.5 Weighting	7
1.6 Oversight	7
1.7 Publication	7
1.8 Historical Data.....	7
1.9 Licensing.....	7
2 Composition of the Index	9
2.1 Selection of the Index components	9
2.2 ESG Screening Criteria	9
2.3 Ordinary adjustment.....	10
3 Calculation of the Index	12
3.1 Index formula	12
3.2 Accuracy	13
3.3 Adjustments.....	13
3.6 Miscellaneous	16
3.6.1 Recalculation	16
3.6.2 Market Disruption	16
4 Definitions.....	18
5 Appendix	21
5.1 Contact data.....	21
5.2 Changes in calculation method	21



INDEX GUIDELINE

Introduction

Version 1.1 – 07 February 2019



INTRODUCTION

This document (the "Guideline") is to be used as a guideline with regard to the composition, calculation and maintenance of the Solactive ISS ESG Screened Euro IG Corporate Bond TR Index. Any changes made to the Guideline are initiated by the Committee specified in Section 1.6. The Index is calculated and published by Solactive AG. The name "Solactive" is trademarked.

It contains the underlying principles and rules regarding the structure and operation of the Solactive ISS ESG Screened Euro IG Corporate Bond TR Index (the "Index"). Solactive AG shall make every effort to implement the applicable regulations. Solactive AG does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the Index nor the Index value at any certain point in time nor in any other respect. The Index is merely calculated and published by Solactive AG and it strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for Solactive AG – 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 AG does not constitute a recommendation for capital investment and does not contain any assurance or opinion of Solactive AG regarding a possible investment in a financial instrument based on this Index.



INDEX GUIDELINE

Index Specifications



Version 1.1 – 07 February 2019



1 INDEX SPECIFICATIONS

- > The Solactive ISS ESG Screened Euro IG Corporate Bond TR Index (the "Index") is an Index by Solactive AG and is calculated and distributed by Solactive AG.
- > The Solactive ISS ESG Screened Euro IG Corporate Bond TR Index ("the Index") is designed to track the EUR denominated corporate bond market with eligible issuers operating in accordance with market standards on ESG controversy screens.
- > The ESG screen is based on data from ISS-ESG. The screens are based on established norms such as the United Nations Global Compact and the significant involvement in pre-defined sectors. The Indices aim to cover current and future regulation on ESG investments and also include a focus on issues related to climate change.
- > If the issuer crosses the threshold on any single criterion, then bonds from that issuer will not be eligible for the index. The details of the screening are given in Section 2.2.
- > The indices are rebalanced once a month and the bond issuer screens are updated on a quarterly basis.
- > The Index is calculated in Total Returns format and is published in EUR.

1.1 SHORT NAME AND ISIN

The Index series is distributed under the following identifiers:

Index	ISIN	RIC	Bloomberg
Solactive ISS ESG Screened Euro IG Corporate Bond TR Index	DE000SLA7S63	.SOLEUSRC	SOLEUSRC

1.2 INITIAL VALUE

The Index is based on 1000 at the close of trading on 27 December 2018.

1.3 DISTRIBUTION

The Index is published via the price dissemination services of Boerse Stuttgart AG and is distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute/display the Index via its information systems.

1.4 PRICES AND CALCULATION FREQUENCY

The Index Levels are calculated on each Business Day based on the Evaluated Bid Prices of the Index Components. Newly added bonds are added at the Evaluated Ask Price. Index analytical values are calculated each Business Day using the Last Evaluated Price.



In the event that data cannot be provided to the pricing services of Boerse Stuttgart AG, the Index cannot be distributed.

1.5 WEIGHTING

The constituents of the Index are market capitalization weighted, taking into account the size of each bond, the current market price and any accrued interest.

1.6 OVERSIGHT

A Committee composed of staff from Solactive AG (the "Committee" or the "Index Committee") is responsible for decisions regarding the composition of the Index as well as any amendments to the rules.

Members of the Committee can recommend changes to the Guideline and submit them to the Committee for approval.

1.7 PUBLICATION

All specifications and information relevant for calculating the Index are made available on the <http://www.solactive.com> web page and sub-pages.

1.8 HISTORICAL DATA

Historical data will be maintained from the launch of the Index on Dec 27 2018. The simulated index back history is available from 31 December 2013.

1.9 LICENSING

Licenses to use the Index as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by Solactive AG.



INDEX GUIDELINE

Composition of the Index



Version 1.1 – 07 February 2019



2 COMPOSITION OF THE INDEX

2.1 SELECTION OF THE INDEX COMPONENTS

On each monthly Selection Date, the potential constituents are drawn from the Solactive Euro IG Corporate benchmark index.

The potential constituents must pass the Issuer-based screening using data from ISS-ESG, as described in Section 2.2. This data is updated once a quarter in December, March, June and September. The updated screening will then be incorporated in the next monthly Selection Date.

If a new issuer is not assessed by ISS-ESG, it will not be eligible for the index until the next quarterly update. Issuers will continue to remain ineligible if there is insufficient or missing information in order to perform the ESG assessment.

2.2 ESG SCREENING CRITERIA

The table below lists the exclusion criteria for potential issuers. If an issuer breaches any single criterion, or has insufficient available data in order to perform an assessment, it is ineligible for the index.

Theme	Exclusion criterion	
Norm-Based Research	Environment	
	Human Rights	
	Corruption	
	Labour Rights	
Controversial Weapons Research	Chemical weapons	
	Biological weapons	
	Nuclear weapons	
	Depleted Uranium	
	Nuclear weapons outside the NPT	
	Cluster munitions	
Sector-Based Screening	Anti-personnel mines	
	Fossil Fuel	50% Services, 5% Production, 5% Distribution or 5% Exploration
	Oil sands	0% Production, 0% Exploration
	Military	50% Services, 5% Production or 5% Distribution
	Pornography	5% overall, 0% Production
	Tobacco	50% Services, 0% Production or 5% Distribution



Gambling	50% Services, 5% Production or 5% Distribution
Alcohol	50% Services, 5% Production or 5% Distribution
Cannabis	50% Services, 5% Production or 5% Distribution
Explanation: % figures refer to revenue threshold (for degree of involvement) above which criterion is breached	

2.3 ORDINARY ADJUSTMENT

The composition of the Index is ordinarily adjusted on the Adjustment Day, which falls on the last calendar day of each month. Additionally, any income (e.g. resulting from coupon payments or corporate actions) is reinvested proportionately across all constituents at the end of the Adjustment Day.

The composition of the Index is ordinarily reviewed on the monthly Selection Day. The monthly Selection Day is 2 Business Days prior to the Adjustment Day.



INDEX GUIDELINE

Calculation of the Index



Version 1.1 – 07 February 2019



3 CALCULATION OF THE INDEX

3.1 INDEX FORMULA

The Solactive ISS ESG Screened Euro IG Corporate Bond TR Index is calculated in Total Return format, which recognizes price movements, accrued interest, coupon income and other cash payments. Coupon and other cash payments are reinvested on each rebalance Adjustment Day proportionally across all index constituents. The Total Return index calculation is performed according to the standard rules applied by Solactive:

As a formula:

$$Index_t = Index_n \cdot \frac{MarketValue_t + Cash_t}{BaseValue_n}$$

$$BaseValue_t = \sum_{i=1}^a (Price_{i,n} + AI_{i,n} + Cap_{i,n} + CPAdj_{i,n}) \cdot SinkFactor_{i,n} \cdot Amt_{i,SD} \cdot CF_{i,SD} \cdot FX_{i,n}$$

$$MarketValue_t = \sum_{i=1}^a (Price_{i,t} + AI_{i,t} + Cap_{i,t} + CPAdj_{i,t}) \cdot SinkFactor_{i,t} \cdot Amt_{i,t} \cdot CF_{i,SD} \cdot FX_{i,t}$$

$$Cash_t = CashCoupon_t + CashSink_t + CashCA_t$$

$$CashCoupon_t = \sum_{i=1}^a CashCoupon_{i,t-1} + \sum_{i=1}^a Coupon_{i,t}/100 \cdot SinkFactor_{i,t-1} \cdot Amt_{i,t} \cdot CF_{i,SD} \cdot FX_{i,t}$$

$$CashSink_t = \sum_{i=1}^a CashSink_{i,t-1} + \sum_{i=1}^a SinkPayment_{i,t}/100 \cdot Amt_{i,t} \cdot CF_{i,SD} \cdot FX_{i,t}$$

$$CashCA_t = \sum_{i=1}^a CashCA_{i,t-1} + \sum_{i=1}^a (RedemptionPrice_{i,t} + AI_{i,t} + CAP_{i,t} + CPAdj_{i,t})/100 \cdot$$

$$\cdot SinkFactor_{i,t-1} \cdot Amt_{i,t-1} \cdot CF_{i,SD} \cdot FX_{i,t}$$

Whereas:

$AI_{i,t}$	Accrued Interest of the bond i on day t
$Amt_{i,t}$	Amount Outstanding of bond i on day t
$Cap_{i,t}$	Capitalization rate of bond i on day t (only relevant for capitalizing bonds, otherwise the default value is 0)
$Cash_t$	Aggregated cash consisting of all payments made by index constituents up to and including day t, which is between two regular Adjustment Days. In Price Return indices,



the Cash term includes cash derived from Corporate Actions and sink cash, while Total Return indices also reflect coupon payments and accrued interest. On the next Adjustment Day, Cash is reinvested into the index and is set to 0

$CashCA_t$	Aggregated value of all extraordinary repayments resulting from Corporate Actions effective up to and including day t
$CashCoupon_{i,t}$	Aggregated value of all coupon payments made by index members up to and including day t
$CashSink_t$	Aggregated value of all early repayments of sinkable bonds up to and including day t
$CF_{i,SD}$	Capping factor of bond i on the last Selection Day. It is used to scale the weight of bond i defined on the last Selection Day
$Coupon_{i,t}$	Coupon value of bond i on day t
$CPAdj_{i,t}$	Variable coupon adjustment factor of bond i on day t. If the bond enters the index during the ex-dividend period, the factor is 0. If the bond is already in the index during the ex-dividend period, the variable coupon adjustment factor equals the coupon amount
$FX_{i,t}$	Foreign exchange rate of bond i on day t
$Index_t$	Value of the Index on day t
n	Last Rebalancing Day
$Price_{t,i}$	Clean price of bond i on day t
$RedemptionPrice_{i,t}$	Price at which bond i is redeemed due to a Corporate Action effective on day t
SD	Last Selection Day
$SinkFactor_{i,t}$	Sinking fund factor of bond i on day t (only relevant for sinkable bonds, otherwise default value is 1)
$SinkPayment_{i,t}$	Value of the early repayment of sinkable bond i on day t, which is a sink date. Sink Payment is calculated as $(SinkFactor_{t-1} - SinkFactor_t) \cdot 100$
t	Business Day t which is between two regular Adjustment Days

3.2 ACCURACY

The displayed value of the Indices will be rounded to 2 decimal places.

3.3 ADJUSTMENTS

Indices may need to be adjusted to reflect any market structure changes. The Committee will regularly review the indices to determine if they need to be adjusted to take into account any market changes.



The following Extraordinary Events will result in changes or adjustments to an index as indicated below between Adjustment Days:

- 1) Early Redemption or Full Call: Any cash proceeds are re-invested into the index on the day that they are received. For the avoidance of doubt a Tender must be mandatory, an offer to tender a bond will not be considered for adjustment until the results have been announced.
- 2) Flat Trading: A bond is flat trading if the bond issuer is not expected to meet its coupon payment obligation which means that the buyer of a bond is not responsible for paying the interest that has accrued since the last payment. If a bond is defined to be "flat trading" between two Adjustment Days the respective accrued interests and coupons will be set to 0. The bond will be removed on the next Adjustment Day, if it is identified as Flat Trading on selection date.
- 3) Defaulted Bonds: If the status of a bond changes to "In Default", the bond will remain as part of the index or portfolio at the last available evaluated price provided by the pricing source until the next regular index Adjustment Day.
- 4) Exchange Offers:
 - a) Optional Exchange Offers: Optional Exchange Offers will not result in an adjustment of the index*
 - b) Mandatory Exchanges Offers:
 - i. In the case when less than 90% of the Amount Outstanding is exchanged the exchange will not be considered to be an event that affects the relevant bond's position in the index.
 - ii. In case more than 90% of the Amount Outstanding is exchanged the exchange will be considered in the index calculation by exchanging the relevant bonds, so that the new bond will receive the weight of the old exchanged bond.

The capping factor of the new bond is calculated based on the following formula:

$$CapFactor_{t,new} = \frac{(Price_{t,old} + ACCInt_{t,old}) * Amount_{SD,old} * Cap_{SD,old}}{(Price_{t,new} + ACCInt_{t,new}) * Amount_{t,new}}$$

- 5) The treatment of events for Fungible Bonds depends on whether:
 - a) The parent bond and the sub-tranche are both index constituents: Both bonds are kept in the index until the next Adjustment Day. On the next Adjustment Day, the new bond will be



removed and the Amount Outstanding of the parent bond will be increased by the amount of the new bond issue.

- b) The parent bond is an index constituent and the sub-tranche is not: on the next Adjustment Day the Amount Outstanding of the parent bond will be increased by the amount of the sub-tranche.
 - c) The parent bond is not an index constituent but the sub-tranche is. The fund will be treated as an exchange into the parent bond, if it meets the index eligibility criteria with an amount equal to that of the sub-tranche. On the next adjustment day, the amount of the parent bond will be updated to include its full amount as of the index selection day. If the parent bond does not fulfil the selection criteria, the fund will be treated as a deletion and the sub-tranche will be removed from the index at the latest available price.
- 6) Payment-in-Kind Bonds: These bonds pay interest in additional bonds rather than in cash. Assuming the additional bonds will be sold immediately and the proceeds will be reinvested in the index, payments-in-kind are therefore considered as cash in all Total Return calculations.
- 7) Ex-dividend Bonds: "Ex-dividend" means that the next coupon is detached from the bond several days in advance of the coupon payment date. Between ex-date and pay-date a buyer of the bond does not get the right to receive the next coupon. Therefore, accrued interest is negative during that period. However, the coupon will be paid to the original bondholder, i.e. if a bond is already in the index the next coupon payment is held separate in the Variable Coupon Adjustment Factor $CP_{Adj,t}$. If the bond enters the index during the ex-dividend period $CP_{Adj,t}$ is zero as the next coupon payment will not accrue to the index.

*For the avoidance of doubt, an optional tender or exchange offer may lead to an index adjustment in between Adjustment Dates. In case the tender or exchange has been successful for at least 90% of the amount outstanding, the bond will be removed from the index/exchanged into the relevant bond.

In case of an Extraordinary Event that is not covered by the standard treatments mentioned above the Committee will meet and decide on how to treat the Extraordinary Event in the index based on the information available. An extraordinary adjustment will only be implemented if the majority of the Committee supports the suggested treatment. As soon as a decision has been taken all parties related to the index are informed about the Extraordinary Event as well as the decided treatment and date of implementation.



3.6 MISCELLANEOUS

3.6.1 Recalculation

Solactive AG makes the greatest possible efforts to accurately calculate and maintain its indices. However, the occurrence of errors in the index determination process cannot be ruled out. In such cases Solactive AG adheres to its publicly available [Correction Policy](#).

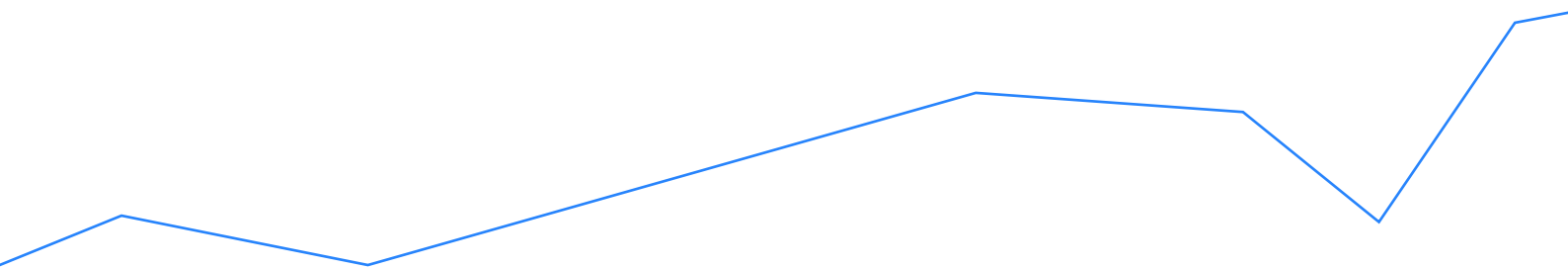
3.6.2 Market Disruption

In periods of market stress Solactive AG calculates its indices following predefined and exhaustive arrangements set out in its publicly available [Disruption Policy](#).



INDEX GUIDELINE

Definitions



Version 1.1 – 07 February 2019



4 DEFINITIONS

“Adjustment Day” is the last Business Day every month.

“Amount Outstanding” is the face value of the respective bond.

The “Base Universe” of the index encompasses all the bonds belonging to the Benchmark.

“Bond Price Provider” is Interactive Data Corporation part of the ICE group.

A “Business Day” in relation to the index is each day Monday to Friday except the common European banking holidays. Common European banking holidays are Good Friday, Easter Monday, Christmas Day, Boxing Day and New Year’s Day.

A “Credit Event” is the suspension of debt service, insolvency or failure to pay.

“Early Redemption” includes every event that leads to a redemption of a bond before the actual maturity date.

“Effective Time to Maturity” is the minimum of the next call or put date and the final maturity date.

“Exchange Offer” means that the holder of a bond is invited to exchange the existing bond to another debt security.

In particular, an “Extraordinary Event” is:

- an early redemption of the bond
- a credit event

A bond is “Flat Trading” if the bond issuer does not meet its coupon payment obligation which means that the buyer of a bond is not responsible for paying the interest that has accrued since the last payment.

A bond is “In Default” once the issuer is not able to fulfil its bond payment obligations anymore after the 30 days grace period.

The “Index Currency” is the same as the currency of the underlying constituents of each index.

“Issuer” is the issuing entity of the respective bond.



"Last Evaluated Ask Price" the last available evaluated Ask price by the designated Pricing Provider.

"Last Evaluated Bid Price" the last available evaluated Bid price by the designated Pricing Provider.

The "Market Value" of a bond is defined as the sum of the Last Evaluated Price and Accrued Interest multiplied by the Amount Outstanding.

"Monthly Selection Day" is a Business Day 2 Business Days prior to the Adjustment Day.

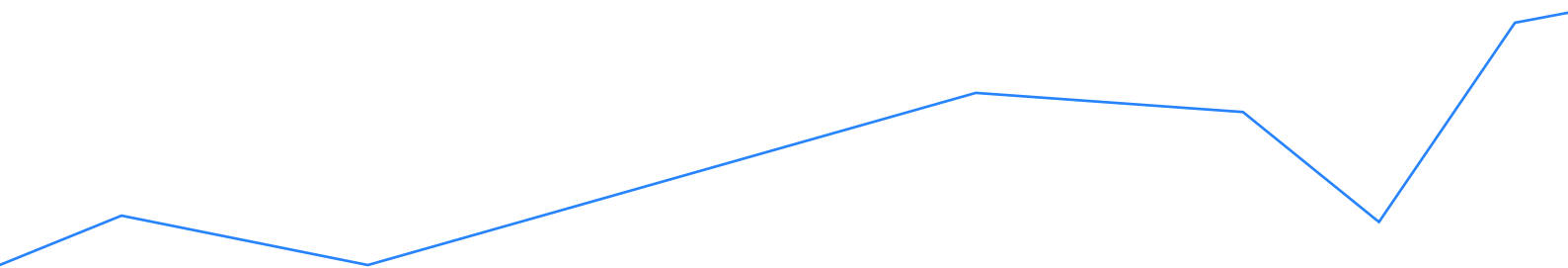
"Tender Offer" means that a holder of a bond is invited to tender the bond for a specific price at a specific time before the actual maturity date.

"Weighting Cap Factor" in the case of capping, the weighting cap factor is the factor that transforms the market value into the capped market value.



INDEX GUIDELINE

Appendix



Version 1.1 – 07 February 2019



5 APPENDIX

5.1 CONTACT DATA

Solactive AG

German Index Engineering

Guiollettstr. 54

60325 Frankfurt am Main

Germany

Tel.: +49 (0) 69 719 160 00

Fax: +49 (0) 69 719 160 25

Email: info@solactive.com

5.2 CHANGES IN CALCULATION METHOD

The application by the Index Calculator of the method described in this document is final and binding. The Index Calculator 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, financial or tax reasons may require changes to be made to this method. The Index Calculator 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 Calculator is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the Index Calculator will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.