

GUIDELINE

Solactive Equal Weight Global Base Metals Index

Version 1.0 dated September 8th, 2017



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This document contains the underlying principles and regulations regarding the structure and the operating of the Solactive Equal Weight Global Base Metals Index (the “Index”). Solactive AG shall make every effort to implement 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 is no 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.

Introduction

This document is to be used as a guideline with regard to the composition, calculation and management of the 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.

1 Index specifications

The Solactive Equal Weight Global Base Metals Index (the "Index") is an Index of Solactive AG and is calculated and distributed by Solactive AG.

The Index is a Net Total Return index.

The Index is published in CAD.

1.1 Short name and ISIN

The Index is distributed under ISIN DE000SLA33R9; the WKN is SLA33R. The Index is published on Reuters under the code < .SOLGBMEW > and on Bloomberg under the code < SOLGBMEW Index >.

1.2 Initial value

The Index is based on 100 at the close of trading on the start date, September 9th, 2011.

1.3 Distribution

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

1.4 Prices and calculation frequency

The price of the Index is calculated on each Business Day based on the prices on the respective Exchanges on which the Index Components are listed. The most recent prices of all Index Components are used. Prices of Index Components not listed in the Index Currency are translated using spot foreign exchange rates quoted by Reuters. Should there be no current price available on Reuters, the most recent price or the Trading Price on Reuters 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 PRICE for the UNDERLYING index and 4pm London time WM Spot and Forward Fixings quoted by Reuters. If there is no 4pm New York time WM Fixing for the relevant CALCULATION DAY, the last available 4pm London time WM Fixing will be used for the closing level calculation.

The Index is calculated every Business Day from 9:30am to 4:30pm, EST. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart AG the Index cannot be distributed.

1.5 Weighting

On each Adjustment Day, each Index Component of the Index is equally weighted, according to the closing prices (adjusted for corporate actions that impact the number of shares outstanding) of the Index Components on the Selection Day

1.6 Decision-making bodies

A Committee composed of staff from Solactive is responsible for decisions regarding the composition of the Solactive Equal Weight Global Base Metals Index as well as any amendments to the rules (in this document referred to as the "Committee" or the "Index Committee"). The future composition of the Index is determined by the Committee on the Selection Days according to the procedure outlined in 2.1 of this document. The Committee shall also decide about the future composition of the Index in the event that any Extraordinary Events should occur and the implementation of any necessary adjustments.

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.de> web page and sub-pages.

1.8 Historical data

Historical data will be maintained from the launch of the Index on August 25th, 2017. Data before this date is backtested.

1.9 Licensing

Licences 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.

2 Composition of the Index

2.1 Selection of the Index Components

The initial composition of the Index as well as any ongoing adjustment is based on the following rules:

All components that qualify for the Index Universe described in Chapter 4.1 will be included in the index.

2.2 Ordinary adjustment

The composition of the Index is ordinarily reviewed two times a year. The composition of the Index is reviewed on the Selection Day and necessary changes are announced.

The first adjustment will be made in September, 2017 based on the Trading Prices of the Index Components on the Adjustment Day.

Solactive AG shall publish any changes made to the Index composition on the Selection Day and consequently with sufficient notice before the Adjustment Day.

2.3 Extraordinary adjustment

An extraordinary adjustment, if applicable, is triggered and applied in compliance with the rules set forth in the [Solactive Guideline for Extraordinary Corporate Actions](#).

3 Calculation of the Index

3.1 Index formula

The Index Value on a Business Day at the relevant time is calculated in accordance with the following formula:

$$Index_t = \sum_{i=1}^n \frac{(x_{i,t} * p_{i,t} * f_{i,t})}{D_t}$$

With:

$x_{i,t}$ = Number of Index Shares of the Index Component i on Trading Day t

$p_{i,t}$ = Price of Index Component i on Trading Day t

$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component i on Trading Day t into the Index Currency

D_t = Divisor on Trading Day t

The initial Divisor on the Start Date is calculated according to the following formula:

$$D_t = \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}{100}$$

After the close of trading on each Adjustment Day t the new Divisor is calculated as follows:

$$D_{t+1} = \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t+1})}{Index_t}$$

This Divisor is valid starting the immediately following Business Day.

3.2 Accuracy

The value of the Index will be rounded to two decimal places.

Trading Prices and foreign exchange rates will be rounded to six decimal places.

Divisors will be rounded to six decimal places

3.3 Adjustments

Indices need to be adjusted for systematic changes in prices once these become effective. This requires the new Number of Index Shares of the affected Index Component and the Divisor to be calculated on an ex-ante basis.

Following the Committee's decision the Index is adjusted for distributions, capital increases and stock splits.

This procedure ensures that the first ex quote can be properly reflected in the calculation of the Index. This ex-ante procedure assumes the general acceptance of the Index calculation formula as well as open access to the parameter values used. The calculation parameters are provided by the Index Calculator.

3.4 Dividends and other distributions

Dividend payments and other distributions are included in the Index. They cause an adjustment of the Divisor. The new Divisor is calculated as follows:

$$D_{t+1} = D_t * \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t}) - (x_{i,t} * y_{i,t} * g_{i,t})}{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}$$

With:

- $p_{i,t}$ = Price of Index Component i on Trading Day t
- $f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component i on Trading Day t into the Index Currency
- $x_{i,t}$ = Number of Index Shares of the Index Component i on Trading Day t
- $y_{i,t}$ = Distribution of Index Component i with ex date t+1 multiplied by the Dividend Correction Factor
- $g_{i,t}$ = Foreign exchange rate to convert the amount of the distribution of Index Component i on Trading Day t into the Index Currency
- D_t = Divisor on Trading Day t
- D_{t+1} = Divisor on Trading Day t+1

3.5 Corporate actions

3.5.1 Principles

Following the announcement by an issuer of Index Components of the terms and conditions of a corporate action the Index Calculator determines whether such corporate action has a dilutive, concentrative or similar effect on the price of the respective Index Component.

If this should be the case the Index Calculator shall make the necessary adjustments that are deemed appropriate in order to take into account the dilutive, concentrative or similar effect and shall determine the date on which this adjustment shall come into effect.

Amongst other things the Index Calculator can take into account the adjustment made by an Affiliated Exchange as a result of the corporate action with regard to option and futures contracts on the respective share traded on this Affiliated Exchange.

3.5.2 Capital increases

In the case of capital increases with ex date t+1 the Index is adjusted as follows:

$$x_{i,t+1} = x_{i,t} * \frac{1 + B}{1}$$

With:

$x_{i,t+1}$ = Number of Index Shares of Index Component i on Trading Day t+1

$x_{i,t}$ = Number of Index Shares of Index Component i on Trading Day t

B = Shares received for every share held

$$p_{i,t+1} = \frac{p_{i,t} + s * B}{1 + B}$$

With:

$p_{i,t+1}$ = Hypothetical Price of Index Component i on Trading Day t+1

$p_{i,t}$ = Price of Index Component i on Trading Day t

s = Subscription Price in the Index Component currency

B = Shares received for every share held

$$D_{t+1} = D_t * \frac{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t}) + \sum_{i=1}^n [(x_{i,t+1} * p_{i,t+1} * f_{i,t}) - (x_{i,t} * p_{i,t} * f_{i,t})]}{\sum_{i=1}^n (p_{i,t} * f_{i,t} * x_{i,t})}$$

With:

$D_{i,t+1}$ = Divisor on Trading Day t+1

$D_{i,t}$ = Divisor on Trading Day t

$p_{i,t}$ = Price of Index Component i on Trading Day t

$f_{i,t}$ = Foreign exchange rate to convert the Price of Index Component i on Trading Day t into the Index Currency

$x_{i,t}$	= Number of Index Shares of the Index Component i on Trading Day t
$p_{i,t+1}$	= Hypothetical price of Index Component i on Trading Day t+1
$x_{i,t+1}$	= Number of Index Shares of the Index Component i on Trading Day t+1

3.5.3 Share splits

In the case of share splits with ex date on Trading Day t+1 it is assumed that the prices change in ratio of the terms of the split. The new Number of Index Shares is calculated as follows:

$$x_{i,t+1} = x_{i,t} * B$$

With:

$x_{i,t+1}$	= Number of Index Shares of the affected Index Component on Trading Day t+1
$x_{i,t}$	= Number of Index Shares of the affected Index Component on Trading Day t
B	= Shares after the share split for every share held before the split

3.5.4 Stock distributions

In the case of stock distributions with ex date on Trading Day t+1 it is assumed that the prices change according to the terms of the distribution. The new Number of Index Shares is calculated as follows:

$$x_{i,t+1} = x_{i,t} * (1 + B)$$

With:

$x_{i,t+1}$	= Number of Index Shares of the affected Index Component on Trading Day t+1
$x_{i,t}$	= Number of Index Shares of the affected Index Component on Trading Day t
B	= Shares received for every share held

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](#).

4. Definitions

“Index Universe” in respect of a Selection Day are companies that fulfill the following criteria:

1. Primarily listed on the TSX, NYSE or NASDAQ, listed in the form of common stock or American Depositary Receipt (ADR);
2. Classified under the following Factset Revere Business Industry Classification System sectors:

RBICS Level 6	Alumina and Aluminum Products Manufacturing Copper Ore Mining Lead Ore Mining Nickel Ore Mining Other Non-Ferrous Metals Ore Mining Mixed Non-Ferrous and Ferrous Metals Ore Mining Diversified Metal Ore Mining Multi-Product Mining Other Non-Ferrous Metal Products Manufacturing Multi-Type Non-Ferrous Metal Products Makers Copper-Derived Structural Shape Manufacturing Titanium Sponges and Structural Shape Manufacturing Zinc Metal Products Manufacturing Zinc Ore Mining Other Nonmetallic Minerals Mining
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3. New index members must have a minimum Free Float Market Capitalization of USD 300 million; current index members must have a minimum Free Float Market Capitalization of USD 200 million.
4. Index members must have a minimum Average Daily Trading Value (ADV) of USD 1.5 million; current index members must have a minimum ADV of USD 1 million. ADV is measured as the minimum of the 1-month and 6-month value. For stocks traded in Canada, ADV is calculated using Canada composite trading data.

“Index Component” is each share currently included in the Index.

“Total Shares” is in respect of an Index Component and any given Business Day the number or fraction of shares included in the Index. It is calculated for any Index Component as the ratio of (A) the Percentage Weight of an Index Component multiplied by the Index value and the Divisor and (B) its Trading Price (converted into the index currency according to the principles laid out in Section 1.4 of this document).

“Percentage Weight” of an Index Component is the ratio of its Trading Price multiplied by its Number of Shares divided by the Index value and the Divisor.

“Dividend Correction Factor” is equal to 1 for companies incorporated in Canada, and 0.85 for every other company.

With regard to an Index component (subject to the provisions given above under “Extraordinary Events”) the “Trading Price” in respect of a Trading Day is the closing price on this Trading Day determined in accordance with the Exchange regulations. If the Exchange has no closing price for an Index Component, the Index Calculator shall determine the Trading Price and the time of the quote for the share in question in a manner that appears reasonable to him.

A **“Trading Day”** is in relation to the Index or an Index Component a Trading Day on the Exchange (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 normal Exchange closing time. The Index Calculator is ultimately responsible as to whether a certain day is a Trading Day with regard to the Index or an Index Component or in any other connection relating to this document.

A **“Business Day”** is a day on which Toronto Stock Exchange is open for trading.

The **“Index Calculator”** is Solactive AG or any other appropriately appointed successor in this function.

The **“Index Currency”** is CAD.

“Free Float Market Capitalization” is with regard to each of the shares in the Index Universe on a Selection Day or Adjustment Day the value published as the Market Capitalization for this day. As at the date of this document Market Capitalization is defined as the value of a company calculated by multiplying the number of free float shares outstanding of the company by its share price.

“Adjustment Day” is the Business Day 5 Business Days after the Selection Day.

“Selection Day” is the second Friday in March and September. If this day is not a Business Day due to a holiday, the immediate following Business Day is the Selection Day.

An **“Affiliated Exchange”** is with regard to an Index Component an exchange, a trading or quotation system on which options and futures contracts on the Index Component in question are traded, as specified by the Index Calculator.

5 Appendix

5.1 Contact data

Information regarding the Index concept

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5.2 Calculation of the Index – change 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, which he 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.