

## **RAFI™ Multi-Factor Climate Transition Developed Index**

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This document contains the underlying principles and regulations regarding the structure and operation of the RAFI™ Multi-Factor Climate Transition Developed Index (the “Index”). RAFI™ Indices, LLC, (“RAFI Indices”) has engaged Solactive AG as the benchmark administrator. Solactive AG shall make every effort to implement regulations. RAFI Indices does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of any Index nor the Index value at any certain point in time nor in any other respect. The Index is calculated and published for RAFI Indices by Solactive AG and Solactive AG strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for RAFI Indices—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 RAFI Indices is no recommendation for capital investment and does not contain any assurance or opinion of RAFI Indices regarding a possible investment in a financial instrument based on an 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 1.5. The Index is calculated and published for RAFI Indices by Solactive AG.

### 1. INDEX SPECIFICATIONS

The Index is owned by RAFI Indices, a wholly owned subsidiary of Research Affiliates Global Holdings. Solactive AG is the index calculator and benchmark administrator.

The RAFI Multi-Factor Climate Transition Developed Index aims to provide diversified exposures through allocations to value, low volatility, quality, and momentum while simultaneously incorporating specific objectives related to greenhouse gas (GHG) emission reductions and the transition to a low-carbon economy. The Index is designed to meet the requirements for Climate Transition Benchmarks (CTB) as specified by the [Regulation \(EU\) 2019/2089](#) and the draft of the [EU Commission Delegated Regulation of 17.7.2020 regarding minimum standards for EU Climate Transition Benchmarks and EU Paris aligned benchmarks](#). In addition, the Index uses the Research Affiliates' Fundamental Index™ methodology, which weights companies based on fundamental measures of company size (as measured by accounting variables) rather than their market capitalization.

See Appendix 6.1 for the Index return calculations (price, total return, and net return) and published currency.

#### 1.1 Short Name and Identifier

See Appendix 6.1 for Index name and identifier.

#### 1.2 Initial Value

The index is based on an index level of 1,000 at the close of trading on the base date. Please see Appendix 6 for base date.

#### 1.3 Distribution

The Index is published via the price marketing services of Boerse Stuttgart GmbH 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 Levels and Calculation Frequency

The level of the Index is calculated on each Business Day based on the prices on the respective exchanges on which the Index Components are listed. For each update, the most recent prices of all Index Components are used. Prices of Index Components not listed in the Index Currency are converted using spot foreign exchange rates quoted by ICE. The daily index closing value is calculated using WM/Reuters closing spot rates from 4:00 pm London time. 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. The Index is calculated continuously every Business Day from 9:00 am to 10:30 pm, CET. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart GmbH the Index cannot be distributed. Any incorrect calculation is adjusted on a retrospective basis. Please note that at the time of the calculation and publication of the Index, the prices used for the calculation may already have changed.

#### 1.5 Decision-Making Bodies

A Committee composed of staff from Solactive AG is responsible for any amendments to the rules (in this document referred to as the “Committee” or the “Index Committee”), provided that the starting universe for the composition of an Index and its relevant specifications are established by RAFI Indices. The future composition of any Index is determined on the Selection Days according to the procedure outlined in Section 2 of this document. The Committee shall decide about the future composition of the Index in the event that any

Extraordinary Events should occur and the implementation of any necessary adjustments. Notwithstanding the above, Solactive AG may consult RAFI Indices for decisions regarding the composition of an index.

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

Internal quality controls are performed in constructing the model portfolios used by RAFI Indices. In the event that data issues arise and are identified in the model portfolio construction process, the Committee shall be informed to determine the appropriateness of the data treatment, alternative data source, and the materiality of the change. All changes, in this regard, shall be approved by the Committee.

#### 1.6 Publication

All specifications and information relevant for calculating the Index are made available on the <http://www.solactive.de> web page and subpages.

#### 1.7 Historical Data

Historical data prior to the index base date (outlined in Section 1.2) is based on simulated past performances derived using the index rules outlined in this manual. The backtested index levels have been calculated by reinvesting dividends paid by index components using the standard formula instead of the Laspeyres formula as stated in this index manual (the calculation formulas are explained on the Solactive website and can be found [here](#)). Simulated past performances rely on data by third-party data vendors, which may have been adjusted, restated, or corrected ex post. The backtested index levels are not adjusted for any ex post adjustments.

#### 1.8 Climate and Baseline Exclusion Data

The Index Series uses climate and baseline exclusion data provided by Vigeo Eiris, a third-party ESG data and ratings provider. Information regarding Vigeo Eiris' methodology can be found here: <http://vigeo-eiris.com/>

## 2. MULTI-FACTOR CONSTRUCTION METHODOLOGY

### 2.1 Starting Universe

The model portfolio construction process starts with a universe of equity securities. Constituents of this universe must meet and pass minimum liquidity and investability (capacity) requirements. The RAFI Global Equity universe consists of all common equity securities traded on primary exchanges and of preferred shares in countries where preferred shares are economically equivalent to common, issued by companies that are assigned to countries classified by RAFI Indices as developed and emerging markets. Given that the Index is a Developed Markets Index, equities classified as Emerging Markets in the RAFI Global Equity universe are excluded.

Developed Markets*		
Americas	EMEA	Asia
Canada	Austria	Australia
United States	Belgium	Hong Kong
	Denmark	Japan
	Finland	New Zealand
	France	Singapore
	Germany	
	Ireland	
	Israel	
	Italy	
	Netherlands	
	Norway	
	Portugal	
	Spain	
	Sweden	
	Switzerland	
	United Kingdom	

\*As of March 2020, there are 23 developed market countries eligible for inclusion.

## 2.2 Country Assignment

RAFI Indices assigns companies to countries and promulgates that assignment to securities. The starting rules for country assignment are based on country of primary listing, domicile, and incorporation. If a company's primary listing is on a stock exchange in the same country as the company is domiciled and incorporated, then the company is assigned to that country. If the country of domicile is different from the country of incorporation and the primary listing is in the country of domicile, then the company is assigned to the country of primary listing and domicile. If the country of primary listing is different from the country of domicile and the country of primary listing is in the country of incorporation, then the company is assigned to the country of primary listing and incorporation. If the country of domicile is the same as the country of incorporation, but is different from the country of primary listing, then the company is assigned to the country of domicile and incorporation. If the country of primary listing, domicile, and incorporation all differ, and for exceptions to these rules, the country assignment is equal to the country of primary exchange.

## 2.3 Eligible Securities

The eligible securities are determined by sorting companies in descending order by fundamental weight defined in Section 2.4, and then selecting companies by cumulative free-float-adjusted fundamental weight defined in Section 2.4.1, from the region and size groups in 2.3.1.

Companies ranked in the top 86% of cumulative adjusted fundamental weight within each region, as specified in 2.3.2, constitute the large/mid company universe. All retained companies form the RAFI Developed Universe as specified in 2.3.1, which are used to construct the single factor indices for value, low volatility, quality, and momentum.

### 2.3.1 Regions, Size Groups, and Weights

The five region/size groups are defined in Table 1. The region weight is determined by renormalizing the fundamental weight adjusted for free float, defined in Section 2.4.1, of the eligible securities.

<b>RAFI Developed Universe</b>	<b>RAFI Single Factor Construction</b>
US Large/Mid	RAFI Factor Developed for Value, Low Volatility, Quality, and Momentum
Japan Large/Mid	RAFI Factor Developed for Value, Low Volatility, Quality, and Momentum
UK Large/Mid	RAFI Factor Developed for Value, Low Volatility, Quality, and Momentum
Developed Europe, excluding UK Large/Mid	RAFI Factor Developed for Value, Low Volatility, Quality, and Momentum
Other Developed Markets Large/Mid	RAFI Factor Developed for Value, Low Volatility, Quality, and Momentum

### 2.3.2 Country Groups

Country groups consist of major nations or small-country groups within each of the six regions. This definition does not determine universe selection, but is utilized in the construction of the RAFI Low Volatility Factor and RA Momentum Factor described in Sections 2.7 and 2.9, respectively.

United States	Japan	United Kingdom	Developed Europe, ex UK	Other Developed Markets
US	Japan	UK	Austria	Australia
			Belgium	Canada
			Denmark	Israel
			Finland	<b>Asia Pacific</b>
			France	Hong Kong
			Germany	New Zealand
			Ireland	Singapore
			Italy	
			Netherlands	
			Norway	
			Portugal	
			Spain	
			Sweden	
			Switzerland	

## 2.4 Fundamental Weights

Fundamental weights are calculated using four accounting measures from company financial statements:

1. *Adjusted sales* is calculated as company sales averaged over the past five years multiplied by the ratio of average equity to average assets.
2. *Cash flow* is the company operating cash flow averaged over the past five years.
3. *Dividend plus buybacks* is calculated using the average dividends paid and share buybacks over the past five years.
4. *Book value* is the most recent company book value.

Each of the four accounting measures is normalized with respect to its region and size groups as specified in Table 1. An aggregate fundamental weight is calculated for each company by averaging the normalized accounting measures for each of the four accounting measures. This is the fundamental weight of the company. Similarly, company market-capitalization weight is calculated by renormalizing the full market capitalization of companies.

### 2.4.1 Free-Float Adjustment

The entire stock in any given company is not always available to equity investors. Therefore, a company free-float factor is calculated. The company free-float factor is defined as the ratio of the total market capitalization of the shares of the company in free float to the total market capitalization of the company. This measure of free float is equivalent to the aggregation of the security-level free-float factors across all the security lines of the company's stock. The company-level free-float factor is applied as an adjustment to the company's fundamental weight. Adjusted fundamental weight is calculated by renormalizing the free-float-adjusted fundamental weight. Adjusted market-capitalization weight is calculated by renormalizing the free-float-adjusted market capitalization of companies.

## 2.5 RAFI Multi-Factor Large/Mid Developed Construction

RAFI Multi-Factor Large/Mid Developed takes an equally weighted allocation to value, low volatility, quality, and momentum for all Developed regions. Individual factor construction methodology is defined in Sections 2.6 through 2.9. The Index is the aggregation of the respective single-factor sleeves from each region (defined in Table 1), determined by multiplying the single-factor equal weight to its region weight determined in Section 2.3.1. After the aggregation, liquidity limit rules in Section 2.12 are applied to the stock weights. The minimum stock weight is 0.002%. Stocks below the minimum weight are removed and the excess weights are distributed across the remaining stocks.

At each quarterly rebalance, the factor allocation is rebalanced back to 25% for all regions. RAFI Multi-Factor Large/Mid Developed follows the same rebalance timeline as that of its underlying factor indices described in Section 2.13.

## 2.6 RAFI Value Factor Construction

The RAFI Value Factor consists of companies with a high ratio of a company's fundamental weight to its market-capitalization weight. For each of the five region and size groups in Table 1, the ratio of fundamental weight to market-capitalization weight for each stock is calculated as defined in Section 2.4. Stocks are then ranked in

descending order by the ratio; the top 25% by cumulative adjusted fundamental weight as defined in Section 2.4.1 are selected for inclusion, subject to a minimum of 15 stocks. Selected companies are then reweighted by their adjusted fundamental weight subject to the application of liquidity limit Rule 2.12 and maximum stock weight of 5% for all regions, except for the UK region at 15%. The minimum stock weight is 0.05%. Stocks below the minimum weight are removed and the excess weights are distributed across the remaining stocks in the index.

The RAFI Value Factor is rebalanced quarterly using a quarterly staggered approach described in Section 2.13.1. At each staggered quarterly rebalance, the processes as defined in Sections 2.10 and 2.11 are applied to limit turnover.

## 2.7 RAFI Low Volatility Factor Construction

The RAFI Low Volatility Factor consists of companies with a low risk measure calculated as the variance of a company's daily excess return over five years explained by global, local country groups, and global industry excess returns. For each of the five region and size groups in Table 1, a risk measure for each stock is calculated as defined in Section 2.7.1. Stocks are then ranked in ascending order of risk measure; the top 25% by cumulative adjusted fundamental weight as defined in Section 2.4.1 are selected for inclusion, subject to a minimum of 15 stocks. Selected companies are then reweighted by their adjusted fundamental weight subject to the application of liquidity limit Rule 2.12 and maximum stock weight of 5%, except for the UK region at 15%. The minimum stock weight is 0.05%. Stocks below the minimum weight are removed and the excess weights are distributed across the remaining stocks.

The RAFI Low Volatility Factor is rebalanced quarterly using a quarterly staggered approach described in Section 2.13.1. At each staggered quarterly rebalance, the processes as defined in Sections 2.10 and 2.11 are applied to limit turnover.

### 2.7.1 Risk Measure Calculation

The Risk measure is calculated as the variance (Var) of a stock's excess return that is explained by a three-factor regression model using three market indices: Global Cap-Weighted Index, Country Group Cap-Weighted Index, and Global Industry Cap-Weighted Index. Country group is defined in Section 2.3.3.

$$er_{i,t} = \hat{\alpha}_i + \hat{\beta}_{i,Global}(er_t^{Global}) + \hat{\beta}_{i,Country\_group}(er_{i,t}^{Country\_group}) + \hat{\beta}_{i,Industry}(er_{i,t}^{Industry}) + \varepsilon_{i,t}$$

$$Risk\ Measure_i = \frac{R^2 \times Var_{er_{i,t}}}{Var_{er_t^{Global}}}$$

The three-factor model is a linear regression model of the company's stock excess return  $er_{i,t} = (r_{i,t} - cr_{i,t})$ . The excess return is the daily local currency return (including dividends) minus the return investing in local currency (which is either the short-term Treasury bill rate or the short-term interbank rate) for the business days that are common to each component of regression. The three factors are the currency-hedged excess return of a cap-weighted global market index ( $er_t^{Global}$ ), currency-hedged excess return of a cap-weighted local country group index ( $er_{i,t}^{Country\_group}$ ), and currency-hedged excess return of a cap-weighted industry index ( $r_{i,t}^{Industry}$ ).  $R^2$  is the coefficient of determination from the linear regression specified above.

The linear regression is calculated over the five-year estimation period. A minimum of 510 daily return observations are required for the calculation of the company-level risk metric and therefore for the company to be eligible for inclusion.

## 2.8 RAFI Quality Factor Construction

The RAFI Quality Factor consists of companies that are high in Profitability and low in Investment Spending. For each of the five region and size groups in Table 1, a quality measure for each stock is calculated as defined in Section 2.8.1. Stocks are then ranked in descending order by quality measure; the top 25% by cumulative adjusted fundamental weight as defined in Section 2.4.1 are selected for inclusion, subject to a minimum of 15 stocks. Selected companies are then reweighted by their adjusted fundamental weight subject to the application of liquidity limit Rule 2.12 and maximum stock weight of 5% for all regions, except for the UK region at 15%. The minimum stock weight is 0.05%. Stocks below the minimum weight are removed and the excess weights are distributed across the remaining stocks.

The RAFI Quality Factor is rebalanced quarterly using a quarterly staggered approach described in Section 2.13.1. At each staggered quarterly rebalance, the processes as defined in Sections 2.10 and 2.11 are applied to limit turnover.

### 2.8.1 Quality Measure Calculation

The Quality measure is the average of Profitability minus the average of Investment. Profitability is the average of the z-scores of ROA, ROE, and operating profitability. Investment is the average of the z-scores of asset growth and book growth. The outliers of the variables are winsorized prior to the z-score calculation described in Appendix 6.2. To avoid a foreign exchange impact during the security selection process, the five variables, defined as follows, are calculated using the fundamental data in the company's reporting currency:

1. *ROA* is calculated as the ratio of net income before extraordinary items to assets.
2. *ROE* is calculated as the ratio of net income before extraordinary items to equity book value.
3. *Operating profitability* is the ratio of operating income minus interest to equity book value.
4. *Asset growth* is the ratio of current year assets minus previous year assets to previous year assets.
5. *Book growth* is the ratio of current book value minus previous year book value to previous year book value.

### 2.9 RA Momentum Factor Construction

The RA Momentum Factor consists of companies with high momentum. For each of the five region and size groups in Table 1, a momentum measure for each stock is calculated as defined in Section 2.9.1. Stocks are then ranked in descending order by momentum measure; the top 50% by cumulative adjusted capitalization weights as defined in Section 2.4.1 are selected for inclusion, subject to a minimum of 15 stocks. Selected companies are then reweighted by their adjusted capitalization weight subject to the application of liquidity limit Rule 2.12 and maximum stock weight of 5% for all regions, except for the UK region at 15%. The minimum stock weight is 0.05%. Stocks below the minimum weight are removed and the excess weights are distributed across the remaining stocks.

The RA Momentum Factor is rebalanced fully each quarter as defined in Section 2.13.2. At each quarterly rebalance, the process as defined in Section 2.10 is applied to limit turnover.

#### 2.9.1 Momentum Measure Calculation

Momentum measure is the average of the z-scores for standard momentum, idiosyncratic momentum, and fresh momentum. A company's stock excess return  $er_{i,t} = (r_{i,t} - cr_{i,t})$  is used in calculating momentum. The excess return is the company's daily local currency return minus the return investing in cash for the day. The outliers of the calculated momentums are winsorized prior to the z-score calculation described in Appendix 6.2.

1. Standard momentum is momentum investing based on a stock's recent excess return, which is the past 12-month excess return excluding the most recent month return. The time period for excess return is from trading day  $-365$  calendar days to trading  $-30$  calendar days,

$$Mom_i = er_{t-365D,t-30D}$$

2. Idiosyncratic momentum accounts for a stock's market exposure by comparing its standard momentum to the beta-forecasted value. Note that market returns are hedged market returns on the cap-weighted market index, defined in Section 2.3.3, for the given company, and  $\beta_i$  is the corresponding factor sensitivity on that market. The time period for local excess return and the regression calculation for  $\beta_i$  is from trading day  $-365$  calendar days to trading  $-30$  calendar days. Country group is defined in Section 2.3.3,

$$iMom_i = \frac{1 + Mom_i}{1 + \beta_{i,Country\_group}(er_{i,t}^{Country\_group})} - 1$$



3. Fresh momentum is the reversal-adjusted measure that indicates if the momentum of a stock is building or diminishing by comparing standard momentum to the previous year's momentum,

$$fMom_i = \frac{\text{Momentum}}{\text{Previous Year's Performance}} = \frac{1 + Mom_i}{1 + er_{t-2Y,t-1Y}} - 1$$

### 2.10 Turnover Control Mechanism

The turnover control mechanism is applied to the RAFI Value Factor, RAFI Low Volatility Factor, RAFI Quality Factor, and RA Momentum Factor.

For the RAFI Value, Low Volatility, and Quality actors, at each quarterly staggered rebalance described in Section 2.13.1, calculate each signal (value, low volatility, and quality) using the construction methodology described in Sections 2.6, 2.7, and 2.8, respectively. Within each region and size group, categorize the eligible securities by a preferred set and nonpreferred set of companies. The preferred set of companies is identified by taking the drifted tranche, which is being rebalanced, sorting those companies by their respective signal (value, low volatility, and quality) and taking the cumulative 90% of the tranche's weight. The nonpreferred set of companies consists of all other securities within each region and size group sorted by their respective signal (value, low volatility, and quality). Using their adjusted fundamental weight as determined in Section 2.4.1, first select the eligible securities in the preferred set and then select from the nonpreferred set until 25% of adjusted fundamental weight has been selected from each region and size group. The selected companies are then weighted by the adjusted fundamental weight.

For the RA Momentum Factor, at each quarterly rebalance described in Section 2.13.2, calculate the momentum signal using the construction methodology described in Section 2.9. Within each region and size group, categorize the eligible securities by a preferred set and nonpreferred set of companies. The preferred set of companies is identified by taking the drifted portfolio, which is being rebalanced, sorting those companies by their momentum signal, and taking the cumulative the 80% weight. The nonpreferred set of companies consists of all other securities within each region and size group sorted by their momentum signal. Using their adjusted market-capitalization weight as determined in Section 2.4.1, first select the eligible securities in the preferred set and then select from the nonpreferred set until 50% of adjusted market-capitalization weight has been selected from each region and size group. The selected companies are then weighted by the adjusted market-capitalization weight.

### 2.11 Momentum Trade Filtering

Momentum trade filtering reduces turnover by not trading against stocks' momentum.

Momentum trade filtering is applied only to RAFI Value, Low Volatility, and Quality factors. During each quarterly staggered rebalance defined in Section 2.13.1, securities constituting the new and current tranches of each factor portfolio are ranked by standard momentum calculated in Section 2.9.1. Stocks in the top 25% by adjusted fundamental weight as defined in Section 2.4.1 will keep the higher of either their price-drifted weights or the new target weights (no selling of high-momentum stocks). Similarly, the bottom 25% by adjusted fundamental weight are assigned the lower of either their price-drifted weights or the new target weights (no buying of low-momentum stocks). All other securities are rebalanced back to their adjusted fundamental weight as determined in Section 2.4.1.

### 2.12 Application of Liquidity Limit

The following liquidity limits are applied after the climate transition methodology in Section 3 is applied:

Let  $FV_i$  be the RAFI fundamental value of the  $i^{\text{th}}$  company. The free-float-adjusted fundamental weight, as defined in Section 2.4.1,  $FW_i$  for company  $i$  is

$$FW_i = (FV_i * \text{Free\_Float}_i) / \sum_{i=1}^N (FV_i * \text{Free\_Float}_i)$$

Let  $ADTV_i$  be the maximum of the 30-day and 90-day median daily traded value in USD at each quarterly rebalance. The liquidity weight  $LW_i$  for company  $i$  is

$$LW_i = ADTV_i / \sum_{i=1}^N ADTV_i$$

The 30-day median traded value will be used when there are less than 90 days of historical data. When there are less than 30 days of historical data, the stock will have a RAFI fundamental value of zero. When there are multiple lines of equity capital in a company, the traded value will be the aggregation of all lines in the aforementioned company.

The liquidity ratio ( $LR$ ) is defined as the ratio of adjusted fundamental weight to liquidity weight. The liquidity ratio for company  $i$  is

$$LR_i = FW_i/LW_i$$

When the liquidity ratio is more than four, the new fundamental value is calculated as

$$\widehat{FV}_i = 4 \times LW_i \times \sum_{i=1}^N FV_i$$

After the fundamental values are updated for all companies using the above formula, new adjusted fundamental weights and liquidity ratios are calculated. The process is repeated until all liquidity ratios attain a value not exceeding four. Note that this process will only modify the fundamental values of stocks that exceed the liquidity limit.

## 2.13 Rebalance

Within RAFI Multi-Factor Large/Mid Developed, value, low volatility, and quality are reconstituted annually and rebalanced on a quarterly staggered basis. Momentum is reconstituted and fully rebalanced quarterly. Rebalance effective date is subject to change due to holidays, natural disaster, etc., in which a notice will be distributed to subscribers.

### 2.13.1 Quarterly Staggered Rebalance

For all factors except for the RA Momentum Factor, the model portfolio is split into four equal parts (tranches) and each tranche has equal weight at the March rebalance. Each tranche is a full-fledged model portfolio and is rebalanced once a year to target weights determined for that quarter. Per the schedule below, a single tranche is rebalanced at the end of the last trading day of March, June, September, and the third Friday of December, and effective on the next corresponding trading day. Tranche weights are set to equal (25% each) in the March rebalance.

For example, for the RAFI Value Factor portfolio, in the initial launch, the four tranches (A, B, C, and D tranches) are identical portfolios. The headline portfolio will consist of 25% of each of the four tranches and, as such, the headline portfolio is the same as the underlying tranches in the initial launch. At the first-quarter rebalance, tranche A is replaced, but tranches B, C, and D are not rebalanced and are drifted until the next rebalance. The headline portfolio will change reflecting the update to the rebalanced tranche A. Then, at the next-quarter rebalance, tranche B is replaced and the other three tranches are not and are drifted until the next rebalance.

Through this method of staggered rebalance, the quarterly rebalance diversifies risk and decreases market impact. Instead of concentrating contra-trading into one single market event, staggered rebalance diversifies rebalance points and increases investment capacity in a meaningful way.

Index	Rebalance Announcement	Distribution of Preliminary Files	Rebalance Schedule	Effective Date
RAFI March Tranche	Provide to subscribers	Five trading days prior to effective date	End of March quarterly rebalance	FTD <sup>†</sup> April
RAFI June Tranche			End of June quarterly rebalance	FTD <sup>†</sup> July
RAFI September Tranche			End of September quarterly rebalance	FTD <sup>†</sup> October
RAFI December Tranche			3rd Friday of December quarterly rebalance	FTD <sup>†</sup> after 3rd Friday of December

<sup>†</sup>FTD=First Trading Day.

### 2.13.2 Quarterly Rebalance

For the RA Momentum Factor, the model portfolio is fully rebalanced at the end of the last trading day of March, June, September, and third Friday of December, and effective on the next corresponding trading day. The strategy is not available for license as a stand-alone index, but is used in the construction of the RAFI Dynamic Multi-Factor and RAFI Multi-Factor indices.

### 2.14 Extraordinary Adjustment

An extraordinary adjustment, if applicable, is triggered and applied in compliance with the rules set forth in the Solactive Equity Index Methodology, (except for rules outlined in Sections 4.4 and 4.5), which can be found here: [https://www.solactive.com/wp-content/uploads/2020/10/Equity-Index-Calculation-Methodology-v.1.4\\_26\\_10\\_2020.pdf](https://www.solactive.com/wp-content/uploads/2020/10/Equity-Index-Calculation-Methodology-v.1.4_26_10_2020.pdf)

## 3. CLIMATE TRANSITION METHODOLOGY

### 3.1 RAFI Multi-Factor Climate Transition Index Construction

The climate transition methodology is applied to RAFI Multi-Factor Large/Mid Developed as described in Section 2 to create the final RAFI Multi-Factor Climate Transition Developed Index. The Index is designed to meet the requirements for Climate Transition Benchmarks (CTB) as specified by the [Regulation \(EU\) 2019/2089](#) and the draft of the [EU Commission Delegated Regulation of 17.7.2020 regarding minimum standards for EU Climate Transition Benchmarks and EU Paris aligned benchmarks](#). The key requirements are:

- Inclusion of Scope 1 and 2 emissions (Scope 3 to be phased in over a four-year timeframe) in measuring carbon footprint.
- 30% reduction in carbon intensity compared to the investable universe.
- Sufficient exposure to high climate impact sectors: at least equal to that of the investable universe.
- At least 7% reduction per year in carbon intensity.
- Baseline exclusions of companies involved in controversial weapons and violation of social norms.

#### 3.1.1 Carbon Intensity

For the purpose of index construction, company level carbon intensity is calculated as follows:

Carbon Intensity (CI):

$$\text{Carbon Intensity}_i = \frac{GHG_i}{EVIC_i}$$

with

$GHG_i$  = Green House Gas Emissions Scope 1 and Scope 2

If a company's GHG emissions data are estimated by the provider rather than reported, that company is assigned a 5% penalty such that

$$GHG_{Estimated_i} = GHG_i \times 1.05$$

If a company's carbon intensity is missing, that company is assigned the corresponding region/sector maximum value,

$EVIC_i$  = Enterprise Value Including Cash, defined as the sum of company-level market capitalization (including common and preferred shares) and book value of total debt and minorities' interest.

#### 3.1.2 Baseline Exclusions

Companies classified by Vigeo Eiris as having major involvement in the following industries are excluded:

1. Tobacco
2. Controversial Weapons
3. Coal

In addition, companies determined by Vigeo Eiris to be violators of the UN Global Compact are excluded.

### 3.2 Target Carbon Intensity

At Index launch, carbon intensity is reduced by 30% relative to the investable universe, which is defined as the starting universe outlined in Section 2.3, weighted by float-adjusted market capitalization rather than float-adjusted fundamental weight. At each rebalance after Index launch, carbon intensity is further reduced according to the reduction rate outlined below, (roughly equivalent to 7% per year, adjusted for inflation) with respect to the target carbon intensity of the previous quarter. If the reduced target carbon intensity is higher than the 70% of the investable universe, the target carbon intensity is reset to the 70% of the investable universe.

$$Reduction\ Rate_t = 1 - \frac{(1 - 0.018)}{(1 + Inflation_t)}$$

Inflation is the quarterly growth in average EVIC of the universe weighted by market capitalization,

$$Inflation_t = \frac{Universe\ EVIC_t}{Universe\ EVIC_{t-1}} - 1$$

$$Universe\ EVIC = \sum_{i=1}^{N_{universe}} EVIC_i \times w_i^{Mcap}$$

#### 3.2.1 Universe and Index Carbon Intensity

The carbon intensity of the investible universe is the average carbon intensity of the investable universe constituents weighted by market capitalization, such as

$$Universe\ CI = \sum_{i=1}^{N_{universe}} CI_i \times w_i^{Mcap}$$

The carbon intensity of the Index is the average carbon intensity of the Index constituents weighted by their corresponding portfolio weight, such as

$$Index\ CI = \sum_{i=1}^{N_{Portfolio}} CI_i \times w_i^{Index}$$

### 3.3 Index Tilt Methodology

If the Index carbon intensity is higher than the target carbon intensity as defined in Section 3.2, a tilt toward lower carbon intensity companies is applied as follows:

$$w_i^{Index} = \begin{cases} w_i^{Index} \times (1 + mZ_i)^\lambda & \text{if } mZ_i \geq 0 \\ w_i^{Index} \times \frac{1}{(1 - mZ_i)^\lambda} & \text{if } mZ_i < 0 \end{cases}$$

where

$mZ_i$  = modified z-score, which is the standardized log of carbon intensity after taking into account its distribution,

$w_t^{Index}$  = weight in the index of component  $i$ , and

$\lambda$  = tilting parameter.

### 3.4 Sector Allocation Constraints

The Index targets a weight to high climate impact sectors as defined in Section 3.4.1, which is at least equivalent to that of the starting investable universe defined in 3.2. If the exposure to high climate impact sectors is less than that of the investable universe, companies within those sectors are scaled to match the level of the investable universe.

#### 3.4.1 Definition of High Climate Impact Sectors

High climate impact sectors are defined using NACE industry classifications. The following industries are considered high climate impact:

NACE Industry Code	Industry Name
A	Agriculture, Forestry, and Fishing
B	Mining and Quarrying
C	Manufacturing
D	Electricity, Gas, Steam, and Air Conditioning Supply
E	Water Supply, Sewerage, Waste Management, and Remediation Activities
F	Construction
G	Wholesale Retail Trade, Repair of Motor Vehicles and Motorcycles
H	Transportation and Storage
L	Real Estate Activities

### 3.5 Maximum Weight and Liquidity Constraints

After applying the Index tilt methodology (defined in 3.3) and sector allocation constraints (defined in 3.4), a 5% security-level maximum weight constraint and liquidity limit rule as defined in Section 2.12 is applied to the Index.

### 3.6 Iteration Process

After applying the processes described in 3.3, 3.4, and 3.5, the carbon intensity of the Index is determined. If the Index carbon intensity exceeds the target carbon intensity (30% reduction at launch or 1.8% reduction, adjusted for inflation, each quarter), we repeat the processes described in 3.3, 3.4, and 3.5 until the target carbon intensity target is met or 20 iterations have occurred. Once the iterative process is completed, a 0.01% minimum weight constraint is applied to the Index. Stocks below the minimum weight are removed and the excess weights are distributed across the remaining stocks in the Index.

## 4. CALCULATION OF THE INDEX

### 4.1 Index Formula

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

$$\text{Index}_t = \sum_{i=1}^n \frac{(x_{i,t} \times p_{i,t} \times f_{i,t})}{D_t}$$

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, and

$D_t$  = Divisor on Trading Day  $t$ .

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

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

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

$$D_{t+1} = \frac{\sum_{i=1}^n (p_{i,t} \times f_{i,t} \times x_{i,t+1})}{\text{Index}_t}$$

This Divisor is valid starting the immediately following Business Day.

#### 4.2 Accuracy

The value of the Index will be rounded to 12 decimal places.

Trading Prices and foreign exchange rates will be rounded to 6 decimal places.

Divisors will be rounded to 6 decimal places.

#### 4.3 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.

#### 4.4 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:

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

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  $t$ , and

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

## 4.5 Corporate Actions

### 4.5.1 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.

Among other things the Index Calculator can take into account is 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.

### 4.5.2 Capital Increases

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

$$x_{i,t+1} = x_{i,t} \times \frac{p_{i,t}}{p_{i,t+1}}$$

with

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

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

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

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, and

$B$  = Shares received for every share held.

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

with

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

$D_t$  = 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  $t+1$ , and

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

#### 4.5.3 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:

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

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.

#### 4.5.4 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:

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

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  $t$ , and

$B$  = Shares received for every share held.

#### 4.5.5 Spin-Off

A spun-off company is eligible for inclusion if its security line is traded on an exchange of any country that is currently in the Index (for example, in a Developed Index, a spin-off of a UK company that is traded on a US exchange would be eligible for the Index). The spun-off company is added; the market will adjust the price of the parent company such that the sum of the parent and spun-off company's weight is approximately equal to the weight of the parent prior to spin-off. Based on the transaction terms on the ex-date, the shares of the spun-off company are calculated as follows:

$$\text{Shares of Spun-off Company} = \text{Shares of Parent Company} \times \text{Transaction Terms}$$

The parent company and spun-off company will remain in the Index with unchanged calculation parameters.

The spun-off company will be added to the Index file with a price of zero prior to the ex-date. If the spun-off company does not start to trade on the ex-date, a theoretical price for the spun-off company will be implemented as a fixed price until it commences trading, from which time official prices will be used. The price of the spun-off company is calculated as follows:

$$\text{Price of Spun-off Company} = [(\text{Close Price Parent Company Prior to Ex-Date}) - (\text{Open Price Parent Company on Ex-Date})] \times \text{Transaction Terms}$$

If the first trading day of the spun-off company is unknown on the ordinary rebalancing date, the spun-off company will be removed from the Index with a price of zero.

In the case that the spun-off company is already an index constituent, the additional shares demerged from the parent company will be added to the spun-off company (share increase of the index member) on the ex-date.

If a spun-off company is not eligible (for example, the spun-off company is traded OTC or on an ineligible country's exchange), that company's shares are not added to the Index, but instead the weight of the spun-off company is redistributed as a special cash distribution on the ex-date.



#### 4.5.6 Mergers and Acquisitions

In the case of an Index Component subject to mergers and acquisitions, the acquired entity will be removed from the Index on the ex-date. The Index is subject to further adjustments in accordance with the following cases:

1. Merger or Acquisition of an Index Component with/by another Index Component.
  - Cash Terms: The weight of the target company based on its last close price will be distributed pro-rata across the remaining Index Components.
  - Stock Terms: The shares of the acquiring/surviving company will be increased according to the stock terms.
  - Cash and Stock Terms: The cash portion will be reinvested pro-rata across the remaining Index Components. The shares of the acquiring/surviving company will be increased according to the stock terms.
2. Merger or Acquisition of an Index Component with/by a non-Index Component.
  - Cash Terms: The weight of the target company based on its last close price will be distributed pro-rata across the remaining Index Components.
  - Stock Terms: The weight of the target company based on its last close price will be distributed pro-rata across the remaining Index Components.
  - Cash and Stock Terms: The weight of the target company based on its last close price will be distributed pro-rata across the remaining Index Components.

#### 4.6 Calculation of the Index in the Event of a Market Disruption

##### 4.6.1 Recalculation

Solactive AG makes the greatest possible efforts to accurately calculate and maintain the 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](#).

##### 4.6.2 Market Disruption

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

## 5. DEFINITIONS

**“Index Universe”** in respect of a Selection Day are companies that fulfill the criteria in Section 2, Construction Methodology.

**“Index Component”** is each share currently included in an Index.

**“Number of 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.

**“Dividend Correction Factor”** is calculated as 1 minus the applicable withholding tax rate and/or other applicable tax rate currently prevalent in the respective country.

In particular an **“Extraordinary Event”** is

- a merger
- a takeover bid
- a delisting
- the nationalization of a company
- insolvency

The Trading Price for this Index Component on the day the event came into effect is the last available market price for this Index Component quoted on the Exchange on the day the event came into effect (or, if a market price is not available for the day the event came into effect, the last available market price quoted on the Exchange on a day specified as appropriate by the Index Calculator), as determined by the Index Calculator, and this price is used as the Trading Price of the particular Index Component until the end of the day on which the composition of the Index is next set.

In the event of the insolvency of an issuer of an Index Component the Index Component shall remain in the Index until the next Rebalancing Day. As long as a market price for the affected Index Component is available on a Business Day, this shall be applied as the Trading Price for this Index Component on the relevant Business Day, as determined in each case by the Index Calculator. If a market price is not available on a Business Day the Trading Price for this Index Component is set to zero. The Committee may also decide to eliminate the respective Index Component at an earlier point in time prior to the next Rebalancing Day. The procedure in this case is identical to an elimination due to and Extraordinary Event.

An Index Component is “**delisted**” if the Exchange announces pursuant to the Exchange regulations that the listing of, the trading in or the issuing of public quotes on the Index Component at the Exchange has ceased immediately or will cease at a later date, for whatever reason (provided delisting is not because of a Merger or a Takeover bid), and the Index Component is not immediately listed, traded or quoted again on an exchange, trading, or listing system, acceptable to the Index Calculator.

“**Insolvency**” occurs with regard to an Index Component if (A) all shares of the respective issuer must be transferred to a trustee, liquidator, insolvency administrator, or a similar public officer as result of a voluntary or compulsory liquidation, insolvency or winding-up proceedings, or comparable proceedings affecting the issuer of the Index Components, or (B) the holders of the shares of this issuer are legally enjoined from transferring the shares.

A “**Takeover Bid**” is a bid to acquire, an exchange offer or any other offer or act of a legal person that results in the related legal person acquiring as part of an exchange or otherwise more than 10% and less than 100% of the voting shares in circulation from the issuer of the Index Component or the right to acquire these shares, as determined by the Index Calculator based on notices submitted to public or self-regulatory authorities or other information considered by the Index Calculator to be relevant.

With regard to an Index Component a “**Merger**” is

1. a change in the security class or a conversion of this share class that results in a transfer or an ultimate definite obligation to transfer all the shares in circulation to another legal person;
2. a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer to exchange shares with another legal person (except in a merger or share exchange under which the issuer of this Index Component is the acquiring or remaining company and which does not involve a change in security class or a conversion of all the shares in circulation);
3. a takeover offer, exchange offer, other offer or another act of a legal person for the purposes of acquiring or otherwise obtaining from the issuer 100% of the shares issued that entails a transfer or the irrevocable obligation to transfer all shares (with the exception of shares which are held and controlled by the legal person); or
4. a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer of the share or its subsidiaries to exchange shares with another legal person, whereby the issuer of the share is the acquiring or remaining company and it does not involve a change in the class or a conversion of the all shares issued, but the shares in circulation directly prior to such an event (except for shares held and controlled by the legal person) represent in total less than 50% of the shares in circulation directly subsequent to such an event.

The “**Merger Date**” is the date on which a Merger is concluded or the date specified by the Index Calculator if such a date cannot be determined under the law applicable to the Merger.

“**Nationalization**” is a process whereby all shares or the majority of the assets of the issuer of the shares are nationalized or are expropriated or otherwise must be transferred to public bodies, authorities, or institutions.

“**Exchange**” is, in respect of Index and every Index Component, the respective primary exchange where the Index Component has its primary listing. The Committee may decide to declare a different stock exchange the “Exchange” for trading reasons, even if the company is only listed there via a Stock Substitute.

**“Stock Substitute”** includes in particular American Depository Receipts (ADR) and Global Depository Receipts (GDR).

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 the US market or UK market is open for trading (see Appendix 6.1 for relevant indices).

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

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

The **“Index Currency”** is USD.

**“Market Capitalization”** is with regard to each of the shares in the Index Universe on a Selection Day or Rebalancing 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 shares outstanding of the company by its share price.

**“Rebalancing Day”** is provided by the Index Sponsor (see Section 2, Construction Methodology).

**“Selection Day”** is the last business day of February, May, August, and November where the Index Sponsor provides the new constituents and weights of the Index (see Section 2, Construction Methodology).

**“Index Sponsor”** is RAFI Indices, LLC.

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.

A **“Market Disruption Event”** occurs if

1. one of the following events occurs or exists on a Trading Day prior to the opening quotation time for an Index Component:
  - a. Trading is suspended or restricted (due to price movements that exceed the limits allowed by the Exchange or an Affiliated Exchange, or for other reasons):
    - i. across the whole Exchange; or
    - ii. in options or futures contracts on or with regard to an Index Component or an Index Component that is quoted on an Affiliated Exchange; or
    - iii. on an Exchange or in a trading or quotation system (as determined by the Index Calculator) in which an Index Component is listed or quoted; or
  - b. An event that (in the assessment of the Index Calculator) generally disrupts and affects the opportunities of market participants to execute on the Exchange transactions in respect of a share included in the Index or to determine market values for a share included in the Index or to execute on an Affiliated Exchange transaction with regard to options and futures contracts on these shares or to determine market values for such options or futures contracts; or

2. trading on the Exchange or an Affiliated Exchange is ceased prior to the usual closing time (as defined below), unless the early cessation of trading is announced by the Exchange or Affiliated Exchange on this Trading Day at least one hour before

a. the actual closing time for normal trading on the Exchange or Affiliated Exchange on the Trading Day in question or, if earlier.

b. the closing time (if given) of the Exchange or Affiliated Exchange for the execution of orders at the time the quote is given.

**“Normal exchange closing time”** is the time at which the Exchange or an Affiliated Exchange is normally closed on working days without taking into account after-hours trading or other trading activities carried out outside the normal trading hours; or

3. a general moratorium is imposed on banking transactions in the country in which the Exchange is resident if the above-mentioned events are material in the assessment of the Index Calculator, whereby the Index Calculator makes his decision based on those circumstances that he considers reasonable and appropriate.

## 6. APPENDIX

### 6.1 RAFI Multi-Factor Climate Transition Developed Index Information

Index Name	Total Return	Price Return	Net Return	Market Hours	Currency	Base Date	Launch Date
	Ticker	Ticker	Ticker				
RAFI Multi-Factor Climate Transition Developed Index	RAMFCTDT	RAMFCTDP	RAMFCTDN	Global	GBP	9/30/2020	10/31/2020

### 6.2 Calculation of Z-score

Z-score is a commonly used method for normalizing data in order to combine it with other data. The calculation of the Z-score is shown below, where  $X_i$  is the variable,  $\mu_i$  is the mean of the variable, and  $\sigma_i$  is the standard deviation of the variable,

$$Z_i = \frac{X_i - \mu_i}{\sigma_i}$$

The variable calculated z-score is set to a maximum of 3 and minimum of -3.

### 6.3 Contact Data

For all questions relating to methodology and licensing and access, please contact RAFI Indices at [info@rafi.com](mailto:info@rafi.com) or call 1-866-695-9900 or 949-325-8700.

### 6.4 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.

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620 Newport Center Drive,  
Suite 900  
Newport Beach, CA 92660  
Main: +1 949.325.8700  
[www.rafi.com](http://www.rafi.com)