

# **INDEX GUIDE**

MVIS® Global Future of Food ESG Index Version 1.00 | 05.2024



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# **Regulation and Disclosures**

#### Regulation

In accordance with Art. 13 No. 1 (a) of Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 (the "Benchmark Regulation"), this document provides the rules for establishing, calculating and maintaining the MarketVector<sup>™</sup> Equity Index family, which is comprised of MVIS<sup>®</sup>, MarketVector<sup>™</sup> and BlueStar<sup>®</sup> Indexes (together the "Indexes").

MarketVector Indexes GmbH (the "Index Owner") makes no warranties or representations as to the accuracy and/or completeness of the Indexes and does not guarantee the results obtained by persons using the Indexes in connection with trading funds or securities. The Index Owner makes no representations regarding the advisability of investing in any fund or security.

The Index Owner reserves the right to update the rules in this Index Guide at any time. The Index Owner also reserves the right to make, in exceptional cases or in temporary situations, exceptions to the rules in this Index Guide. The Indexes are the property of MarketVector Indexes GmbH. The Index Owner has selected an index calculator to calculate the Indexes.

MVIS<sup>®</sup> and BlueStar<sup>®</sup> are registered trademarks of Van Eck Associates Corporation and therefore protected globally against unlawful usage. The use of Indexes from the MarketVector Index family in connection with any financial products or for benchmarking purposes requires a license. Please contact MarketVector Indexes GmbH for more details.

For all indexes composed of data of BM&FBOVESPA please reference to the document "Terms and Conditions BM&FBOVESPA" available on http://www.solactive.com.

#### **Approval of Index Methodologies**

The Index Owner has established the Indexes and their individual methodology covered in this Index Guide. A detailed written "Procedure for Index Development" describes the steps and approvals required to develop, document and approve an Index and its methodology. The intention of the Procedure for Index Development is to ensure that the methodology of an Index meets the requirements of Art. 12 of the Benchmark Regulation and is approved and implemented according to a robust and reliable process. The methodology for each index and its methodology covered in this Index Guide has been analysed by the Index Owner's Index Operations department in order to ensure that it is robust and reliable, has clear rules on use of discretion, allows sustainable validation (based on reasonable back testing) and is traceable and verifiable. Furthermore, the size, liquidity and transparency of the underlying market for each methodology has been tested and particular circumstances for each relevant market have been taken into account.

Each index methodology and the related detailed analysis was presented by the Index Operations Department to the Independent Oversight Function for its approval. Based on the aforementioned approval process and its documentation each Index Methodology was presented to the Management Board (Geschäftsführer) of the Index Owner for final approval.

#### **Review of this Index Guide**

According to Art. 13 No. 1 (b) of the Benchmark Regulation, the Index Owner reviews this Index Guide on an annual basis and immediately in case of special circumstances that require a review. The review takes place in meetings attended by the Independent Oversight Function and the Management Board of the Index Owner. If changes to this Index Guide are considered necessary, the process described in Section 5.5 applies.



# 1 Index Description

The MVIS<sup>®</sup> Global Future of Food ESG Index is a thematic index tracking the performance of ESG screened companies involved in food and agricultural technology, organic foods, or food companies that display high standards in food waste, food safety or environmental impact.

## **1.1 Index Universe**

#### 1.1.1 Pure-Play/Thematic Screening

The index only includes companies with at least 50% (25% for current components) of their revenues from the following activities categorized into tiers as follows:

- A: Plant-based or cultured meat, protein, or dairy alternatives,
- B: Vertical or urban farming including: agricultural companies that grow crops vertically, in greenhouses, or specialize in localized farming,
- C: Precision agriculture including: irrigation and smart water grid equipment, greenhouse equipment, or autonomous/robotic farming and agriculture equipment. This does not include agricultural chemicals or plant seeds,
- D: Food flavors and functional ingredients,
- E: Organic or health foods including: packaged foods or agricultural products excluding meat, poultry, fish, and vitamins.

To further support the sustainability objectives, the index also includes companies that meet certain ESG standards related to food and agriculture sustainability and safety, referred to as tier F. To qualify for inclusion in tier F, a company must have at least 50% (25% for current components) of their revenues from: agricultural services or products (limited to fruits, vegetables, grains, and dairy), or packaged plant/grain-based or dairy food products. Further, companies must display a positive environmental impact by meeting the following criteria based on data provided by ISS:

- At least one score larger than 0 and the other score at least 0 in: Contribution and Achievement of Sustainable Agriculture and Forestry, and Agriculture Climate Change Contribution, and
- A score of at least 2.5 (on a scale of 1-4) in Food Waste, or
- A score of at least 2.5 (on a scale of 1-4) in Food Safety and Food Safety Certification Program.

The index supports sustainable food production and development, meeting the UN's Sustainable Development Goals on Good Health And Well-Being, Responsible Consumption and Production, and Sustainable Cities and Commodities.

#### 1.1.2 Exclusion Criteria

The index universe will include only common securities and securities with similar characteristics from financial markets that are freely investable for foreign investors and that provide real-time and historical component and currency pricing, excluding:

• Limited Partnerships (LPs).



#### 1 INDEX DESCRIPTION

#### 1.1.3 Exchange Eligibility

Due to investment restrictions securities listed on exchanges in the following countries do not qualify for the index universe: Bahrain, China (domestic market), India, Kuwait, Oman, Qatar, Russia, Saudi Arabia, United Arab Emirates, and Vietnam.

Companies from financial markets that are not freely investable for foreign investors or that do not provide real-time and historical component and currency pricing may still be eligible if they have a listing on an eligible exchange and if they meet all the size and liquidity requirements on this exchange.

#### 1.1.4 ESG Screening

The index considers ESG factors as detailed in section 7.2. MarketVector Indexes utilizes ESG data provided by ISS. The index does not consider companies that violate certain ESG criteria included in the following categories: Norm-based research, controversial weapons, sector exposure screening, and energy extractives. Further, companies that are not covered by ISS or for which all relevant data fields are not collected by ISS may be eligible for inclusion.



#### 1 INDEX DESCRIPTION

#### **1.2** Investable Universe

#### 1.2.1 Market Capitalization and Liquidity Criteria

Securities must meet the following size and liquidity requirements to be included in the investable universe. If composite country volume data exists, it will be used to identify the investable universe.

All of the following applies for securities that are currently not included in the index:

- free-float of at least 10%,
- full market capitalization exceeding 150.00 million USD,
- a three-month average daily trading volume of at least 1.00 million USD at the current quarter and at the previous two quarters, and
- at least 0.25 million shares traded per month over the last six months at the current quarter and at the previous two quarters.

All of the following applies for securities already in the index:

- free-float of at least 5%,
- a full market capitalization exceeding 75.00 million USD, and
- a three-month average daily trading volume of at least 0.20 million USD in at least two of the latest three quarters (current quarter and at the previous two quarters).

In addition, at least one of the following applies for securities already in the index:

- a three-month average daily trading volume of at least 0.60 million USD at the current quarter or at one of the previous two quarters, or
- at least 0.20 million shares traded per month over the last six months at the current quarter or at one of the previous two quarters.

#### 1.2.2 Initial Public Offerings, Special Purpose Acquisition Companies, and Spin-Offs

Modified investability rules are applied for recent Initial Public Offerings (IPOs), spin-offs and postmerger/acquisition Special Purpose Acquisition Companies (SPACs). Such companies qualify for fasttrack addition to the investable universe once; either at the next regularly scheduled review if it has been trading since at least the last trading day of the month two months prior to the review month or else at the following regularly scheduled review. In order to be added to the index the IPO security has to meet all of the following size and liquidity requirements:

- the IPO must have a full market capitalization exceeding 150.00 million USD,
- the IPO must have a free-float factor of at least 10%,
- the IPO must have an average daily trading volume of at least 1.00 million USD, and
- the IPO must have traded at least 0.25 million shares per month (or per 22 days).

This rule is applicable for newly spun-off companies and post-merger/acquisition SPACs (using the merger/acquisition date like an IPO date) as well.



## **1.3 Eligible Universe**

#### 1.3.1 Share Class

One share class of each company in the investable universe is included in the eligible universe. In case more than one share class fulfills the above specified market capitalization and liquidity rules, only the largest share class by free-float market capitalization qualifies for the eligible universe. In exceptional cases (e.g. significantly higher liquidity), the Index Owner can decide for a different share class.

In case the free-float market capitalization of a currently not included share class of an index component

- exceeds the free-float market capitalization of the currently selected share class by at least 25%, and
- fulfills all market capitalization and liquidity eligibility criteria for non-components

the currently selected share class will be replaced by the larger one.

In exceptional cases (e.g. significantly higher liquidity), the Index Owner can decide to keep the current share class instead.

#### **1.3.2 Pricing Source**

For each company in the investable universe one pricing source qualifies for the eligible universe. In cases where a company has multiple listings (e.g. ADRs, GDRs, or listings on markets other than in the home country), the price sources will be selected to the eligible universe in the following order:

- 1. US price source,
- 2. UK price source London Stock Exchange International Order Book (IOB) only,
- 3. Home-market price source,
- 4. Most liquid foreign-market price source.

Once a company has qualified for the investable universe, only the most liquid single exchange price source within the country qualifies for the eligible universe.

In exceptional cases, the Index Owner can assign alternative pricing sources.



# 2 Index Review

## 2.1 Review Schedule

Components of the index are reconstituted and rebalanced on a quarterly basis in March, June, September, and December according to the following schedule:

- The eligible universe and component selection is determined based on the closing data on the last business day in February, May, August, and November. If a security does not trade on the last business day in February, May, August, or November, the last available price for this security will be used.
- 2. Component weights are determined based on closing data as of the Wednesday prior to the second Friday of March, June, September, and December. If a security does not trade on the Wednesday prior to the second Friday of March, June, September, and December, the last available closing data for this security will be used.
- 3. The underlying review and rebalance data (i.e. weights, shares outstanding, free-float factors, and new weighting cap factors) is announced on the second Friday of March, June, September and December.
- 4. Changes will be implemented and based on the closing prices as of the third Friday of March, June, September, and December. If the third Friday is not a business day, the review will take place on the last business day before the third Friday. If a security does not trade on the third Friday of March, June, September, or December, then the last available price for this security will be used. Changes become effective on the next index dissemination day.

## 2.2 Selection Procedure

Upon an index reconstitution, securities included in the eligible universe are selected to the index based on the following procedure. The index targets a coverage of 90% of the free-float market capitalization of the eligible universe with a minimum of 35 components.

- 1. All securities in the eligible universe are sorted in terms of free-float market capitalization in descending order.
- 2. Securities covering the top 85% of the free-float market capitalization of the eligible universe qualify for selection.
- 3. Current components between 85% and 98% of the free-float market capitalization of the eligible universe also qualify for selection.
- 4. If the coverage is still below 90% of the free-float market capitalization of the eligible universe or the number of components in the index is still below 35, the largest remaining securities will be selected until both the target coverage and minimum number of components are reached.
- 5. In case the number of eligible securities is below the minimum of 35, additional securities are added by the Index Owner's decision until the number of securities selected to the index reaches the minimum of 35 components.



## 2.3 Weighting Scheme

Upon an index rebalance, components selected to the index will be weighted according to a modified float-adjusted market cap weighting strategy:

- All components are ranked by their free-float market capitalization. The maximum weight for any single security is 8% (4.5% for securities belonging to tiers D and F). If a security exceeds the maximum weight, then the weight will be reduced to the maximum weight and the excess weight shall be redistributed proportionally across all other index constituents. This process is repeated until no securities have weights exceeding the respective maximum weight.
- 2. The 8%-cap weighting scheme will be applied to the largest securities and the excess weight after each step shall be redistributed across all other (uncapped) securities in the index on a proportional basis:
  - If the largest two securities exceed 8%, both will be capped at 8%.
  - If the 3rd largest security exceeds 7%, it will be capped at 7%.
  - If the 4th largest security exceeds 6.5%, it will be capped at 6.5%.
  - If the 5th largest security exceeds 6%, it will be capped at 6%.
  - If the 6th largest security exceeds 5.5%, it will be capped at 5.5%.
  - If the 7th largest security exceeds 5%, it will be capped at 5%.
  - If any other security exceeds 4.5%, it will be capped at 4.5%.



3 INDEX DISSEMINATION AND IDENTIFIERS

# 3 Index Dissemination and Identifiers

This index is calculated on weekdays between 01:00 and 22:40 (CET) and index values are disseminated to data vendors every 15 seconds on days when either the US equity market is open for trading or at least one of the index components is available for trading.

The index is disseminated in USD.

Real-time index values are calculated with the midpoint between the latest available real-time bid- and ask-prices. The closing values for this index are calculated at 22:40:00 CET with fixed 16:00 London time exchange rates from WM company.

The MVIS<sup>®</sup> Global Future of Food ESG Index is calculated as a price return index and a total return net index and has the following identifiers:

Index Type	ISIN	SEDOL	WKN	Bloomberg	Reuters
Price Return Index	DE000SL0D570	BNYC4M2	SL0D57	MVFOF	.MVFOF
Total Return Net Index	DE000SL0D588	BNYC4N3	SL0D58	MVFOFTR	.MVFOFTR

The index was launched on September 9, 2021 with a base index value of 1000.00 as of December 31, 2019.

Exceptions in the backtest: The index had a minimum of 20 components through the March 2021 review; ESG data were reviewed on an annual basis.



# 4 General Definition

## 4.1 Free-Float

The indexes are free-float adjusted - the number of shares outstanding is reduced to exclude closely held shares (amount larger than 5% of the company's full market capitalization) from the index calculation.

At times, other adjustments are made to the share count to reflect foreign ownership limits or sanctions. These are combined with the block-ownership adjustments into a single factor. To avoid unwanted double counting, either the block-ownership adjustment or the restricted stocks adjustment is applied, whichever produces the higher result.

Free-float factors are reviewed quarterly.

## 4.2 Index Types/Dividend Payments

The total return index includes all dividend payments (for the total return net indexes on a net-dividend basis, i.e., net dividend equals declared dividend less withholding tax, and for the total return gross indexes on a gross-dividend basis, i.e., gross dividend equals declared dividend) and the price return index only includes special dividends from non-operating income or cash dividends that are either declared as special or extraordinary, or do not coincide with the company's regular dividend distribution schedule.

Australian companies may pay dividends with or without franking credits (unfranked, partially franked or fully franked) attached. Withholding tax will only be applied on the unfranked portion of the dividend but not on the franked portion of the dividend or unfranked portion of the dividend declared to be conduit foreign income.

For the most recent list of withholding taxes, please refer to our website (www.marketvector.com/withholding-taxes).

If the dividend amount for an index component is not available on the ex-date, an amount of zero will be applied. If for the same index component the dividend amount is available after the ex-date and applied to the price of this company, there will still be no adjustment to the index on this day either.

For dividends of Japanese and South Korean companies a post ex-date dividend adjustment is in place due to fact that they do not confirm their dividends prior to the ex-date. The delta amount between the confirmed and estimated dividend amount will be applied by using the index dividend points calculated with the number of shares on the dividend ex-date. In regards to the post ex-date dividend adjustment the historical index levels are not restated.



# **5** Ongoing Maintenance

## 5.1 Changes to Free-Float Factors and Number of Shares

Changes to the number of shares or the free-float factors due to corporate actions like stock dividends, splits, rights issues, spin-offs etc. are implemented on the ex-date.

Any secondary issuance, share repurchase, buy back, tender offer, Dutch auction, exchange offer, bought deal equity offering or prospectus offering will be updated at the quarterly review if the change is smaller than 10%. Changes larger than 10% will be pre-announced (three trading days notice) and implemented on the first dissemination day of the following month (on a best effort basis). If necessary and information is available, resulting float changes will be taken into consideration.

Share changes that result from M&As will impact all indexes of the MarketVector<sup>™</sup> Equity Index family (excluding the MarketVector<sup>™</sup> Total Global Equity Index) that contain affected companies on the merger effective date with no weighting cap factor change; the 10% share change restriction is removed.

## 5.2 Changes due to Mergers & Takeovers

A merger or takeover is deemed successful if it has been declared wholly unconditional and has received approval of all regulatory agencies with jurisdiction over the transaction. The result of a merger or takeover is typically one surviving security and one or more non-surviving securities that may not necessarily be delisted from the respective trading system(s).

The following treatments are applied for mergers and takeovers containing stock terms:

• If an index component merges with or takes over another index component:

The surviving security remains in the index and the other security is deleted immediately from the index. Its shares and float are adjusted according to the terms of the merger/takeover. The index market capitalization of the merged company corresponds to the market capitalization of the two separate companies.

- If a non-index component merges with or takes over an index component:
  - If the surviving security meets the eligible index universe requirements, it will be added to the index. Its shares and float will be adjusted according to the terms of the merger/takeover and will replace the current index component.
  - If the surviving security does not meet the eligible index universe requirements, it will not be added to the index and the current index component will be deleted immediately from the index.

The following treatments are applied for mergers and takeovers with cash terms only:

- If a non-index component merges with or takes over an index component:
  - The index component will be deleted.

#### 5.3 Changes due to Spin-Offs

The spun-off company will be added to the index where the parent company is an index constituent according to the transaction terms, with a price of zero, on the ex-date. If the spun-off does not start trading on the ex-date a fixed indicative price will be used until the first trading day. If an indicative price



#### 5 ONGOING MAINTENANCE

is not possible to be calculated the spun-off company will be added with a price of zero to the index. If the spun-off does not qualify for the index it will be deleted after two trading days based on its respective closing price.

## 5.4 Additions due to Replacements

On an ongoing basis, for all corporate events that result in a security deletion from the index, the deleted security will be replaced with the highest ranked non-component on the most recent selection list immediately only if the number of components in the index would drop below 20. The replacement security will be added at the same weight as the deleted security. Only in case the number of components drops below its minimum due to a merger of two or more index components, the replacement security will be added with its uncapped free-float market capitalization weight.

In all other cases, i.e. there is no replacement. The additional weight resulting from the deletion will be redistributed proportionally across all other index constituents.

In case the number of index components drops below the minimum component number and no noncomponent security is eligible as a replacement, the determination of the addition is subject to the Index Owner's decision.

## 5.5 Changes to the Index Guide

Any changes to the Index Guide will be reviewed and approved by the Legal and Compliance Department. Legal and Compliance may also request a conclusive description and further information on any change and may consult the operations department on such changes. The key elements to be analyzed in this phase of the change process are robustness, transparency, reliability and integrity. The result of the review will be communicated to the operations department. The email will be archived by the operations department.

In case of changes that might immediately change the composition of an index or must be considered material for any other reason also need to be approved by the Independent Oversight Function ("IOF") prior to their publication and implementation.

In case of material changes an advance notice will be published and provided to users. MarketVector Indexes will generally disseminate a notification related to an Index Guide change 30 days prior to the change. A shorter period of time may be applied at MarketVector Indexes' discretion if the relevant index has not been licensed for a financial product to a third party. The notice will describe a clear time frame that gives the opportunity to analyze and comment upon the impact of such proposed material change. Any material comments received in relation to the Index Guide change and MarketVector Indexes' response to those comments will be made publicly accessible after any consultation, except where confidentiality has been requested by the originator of the comments.

## 5.6 Discretion regarding the Use of Input Data

Pursuant to Art. 12 No.1. (b), MarketVector Indexes has established the following rules identifying how and when discretion may be exercised in the administration of an index.

In case input data are or appear to be qualitatively inferior or different sources provide different data, an extraordinary event, or a situation is not covered by the index rules, MarketVector Indexes may use or change data/index composition at its own discretion according to the following discretion policy after a plausibility check. Regarding input data, this may include:



- Liquidity and size data,
- Ownership structures,
- Revenue and asset breakdowns,
- Corporate action information,
- Dividends, volatility and other secondary data.

Regarding extraordinary events, this may include:

- Trading stops,
- Regulatory actions,
- Detection of fraud,
- Tradability,
- Etc.

Any changes must subject to reasonable discretion. The decision on any change must be required, appropriate, commensurable and in line with the respective index scope and objective and must reasonably consider in a balance weight the interest of Users, investors in related products and the integrity of the market.

Index operations ensures consistency in the use of discretion in its judgement and decision. Employees involved in the operations team must have shown the respective experience and skills. Significant decisions are subject to sign-off by a supervisor. In case of material changes to data the relevant situation will be analyzed in detail, described and presented to the IOF and discussed and reviewed with the IOF.

The broad range of possible data quality problems does not allow to define specific steps for each possible instance. MarketVector Indexes will always weight the different interest of the index users, the integrity of the market and other involved parties and determine the least disadvantageous measure that equally considers the relevant interests best.

In order to avoid individual decisions on the use of data in similar cases for the future an update of the index rules can be taken into consideration if applicable. Other possible mitigation measures are the change of input data sources or providers and/or own data research where possible and reasonable.

Records are kept about material judgement or discretion by MarketVector Indexes and will include the reasoning for said judgement or discretion.

# 5.7 Input Data and Contributor Selection

According to the input data requirements under Art. 11 of the Benchmark Regulation, the following shall apply with regard to the input data used for the management and provision of an index and the relevant input data providers ("Contributors"):

• the input data shall be sufficient to represent accurately and reliably the market or economic reality that the benchmark is intended to measure;



#### 5 ONGOING MAINTENANCE

- the input data shall be transaction data, if available and appropriate. If transaction data is not sufficient or is not appropriate to represent accurately and reliably the market or economic reality that the index is intended to measure, input data which is not transaction data may be used, including estimated prices, quotes and committed quotes, or other values;
- the input data shall be verifiable;
- clear guidelines regarding the types of input data, the priority of use of the different types of input data and the exercise of expert judgement, to ensure compliance with the Index Guide and index methodology and the aforementioned requirements are defined in the Code of Conduct for Contributors; and
- where an index is based on input data from Contributors, MarketVector Indexes will obtain, where appropriate, the input data from a reliable and representative panel or sample of Contributors so as to ensure that the resulting index is reliable and representative of the market or economic reality that the index is intended to measure.

In order to control the quality of contributors, MarketVector Indexes will conduct the following controls:

- Evaluate market share, reputation, quality and cost of possible input data sources and providers before selecting them on the basis of the gathered information and data;
- Compare the input data of one Contributor with the input data from one or more other Contributors in order to ensure the integrity and accuracy of the input data and in case of bad quality replace a Contributor with another Contributor.

MarketVector Indexes will not use input data from a contributor if it has any indication that the Contributor does not adhere to its Code of Conduct for Contributors and in such a case shall obtain representative publicly available data.



# 6 Calculation

## 6.1 Index Formula

The index is calculated using the Laspeyres' formula:

Index Value = 
$$\frac{\sum_{i=1}^{n} p_i * q_i * ff_i * cf_i * fx_i}{D} = \frac{M}{D}$$

Where (for all securities (i) in the index):

- $p_i$  = security price,
- $q_i$  = number of shares,
- $ff_i$  = free-float factor,
- $fx_i$  = exchange rate (local currency to index currency),
- $cf_i$  = weighting cap factor (if applicable, otherwise set to 1),
- M = free-float market capitalization of the index,
- D = divisor.

#### 6.2 Input Data

The following rounding procedures are used for the index calculation:

- Rounding to 2 decimal places:
  - index values,
  - free-float factors  $(ff_i)$ ,
- Rounding to 4 decimal places:
  - security prices  $(p_i)$ ,
- Rounding to 6 decimal places:
  - divisors (D),
- Rounding to 12 decimal places:
  - exchange rates  $(fx_i)$ ,
- Rounding to 16 decimal places:
  - company-weighting cap factors  $(cf_i)$ .

#### 6.3 Divisor Adjustments

Index maintenance - reflecting changes in shares outstanding, capital actions, addition or deletion of securities to the index - should not change the level of the index. This is accomplished with an adjustment to the divisor. Any change to the securities in the index that alters the total market value of the index while holding security prices constant will require a divisor adjustment.

$$Divisor_{new} = Divisor_{old} * \frac{\sum_{i=1}^{n} p_i * q_i * ff_i * cf_i * fx_i \pm \Delta MC}{\sum_{i=1}^{n} p_i * q_i * ff_i * cf_i * fx_i}.$$

 $\Delta MC$  = Difference between closing and adjusted closing market capitalization of the index.



# 6.4 Corporate Action Related Adjustments

Corporate actions range widely from routine share issuances or buy backs to unusual events like spin-offs or mergers. These are listed on the table below with notes about the necessary changes and whether the divisor will be adjusted.

 $p_i$  = security price,

 $q_i$  = number of shares.

• Cash dividend (for total return indexes only) $p_{(i,adjusted)} = p_i - (Dividend * (1 - Withholding Tax))$ (In total return gross indexes the withholding tax is 0.)	Divisor change: Yes
• Special cash dividend (for price and total return indexes) $p_{(i,adjusted)} = p_i - (Dividend * (1 - Withholding Tax))$ (In total return gross indexes the withholding tax is 0.)	Divisor change: Yes
• Split	Divisor change: No
Shareholders receive 'B' new shares for every 'A' share held.	
$p_{(i,adjusted)} = p_i * A/B$	
$q_{(i,adjusted)} = q_i * B/A$	
Rights Offering	Divisor change: Yes
Shareholders receive 'B' new shares for every 'A' share held. If the subscript available or not smaller than the closing price, no adjustment will be made.	ion-price is either not
$p_{(i,adjusted)} = ((p_i * A) + (Subscription \ Price * B))/(A + B)$	
$q_{(i,adjusted)} = q_i * (A+B)/A$	
<ul> <li>Stock dividend (withholding taxes are applied, if applicable)</li> </ul>	Divisor change: No
Shareholders receive 'B' new shares for every 'A' share held.	
$p_{(i,adjusted)} = p_i * A/(A+B)$	
$q_{(i,adjusted)} = q_i * (A+B)/A$	
<ul> <li>Stock dividend from treasury (withholding taxes are applied, if applicable)</li> </ul>	Divisor change: Yes
Stock dividends from treasury are adjusted as ordinary (adjustments for pric dexes) or special (adjustments for total return indexes only) cash dividends. 'B' new shares for every 'A' share held.	
$p_{(i,adjusted)} = p_i - (p_i * B)/(A + B)$	
<ul> <li>Stock dividend of a different company security (withholding taxes are applied, if applicable)</li> </ul>	Divisor change: No
The shares of the different company will be added according to the terms.	
Addition/Deletion of a company	Divisor change: Yes
Net change in free-float market value determines the divisor adjustment.	



#### 6 CALCULATION

Changes due to a merger/takeover Divisor change: Yes Net change in free-float market value determines the divisor adjustment. In case of no change, the divisor change is 0.
 Spin-offs Divisor change: No

Shareholders receive 'B' new shares for every 'A' share held.

• Changes in shares outstanding Divisor change: Yes Net change in free-float market value determines the divisor adjustment. In case of no change, the divisor change is 0.

With corporate actions where cash dividends or other corporate assets are distributed to shareholders, the price of the security will drop on the ex-dividend day (the first day when a new shareholder is eligible to receive the distribution.) The effect of the divisor adjustment is to prevent this price drop from causing a corresponding drop in the Index.

Corporate actions are announced at least four days prior to implementation.

# 6.5 Data Correction and Disruptions

MarketVector Indexes will usually receive information about errors or disruption from calculation agent, client, internal systems (IT) or by monitoring the respective output. Incorrect or missing input data will be corrected immediately:

- The error is immediately communicated to the calculation agent, if applicable.
- Calculation agent will be asked to investigate the reason for the error.
- An email will be sent to all affected clients to inform them about the error; this includes the reason for the issue and an estimate on when the issue will be solved.
- MarketVector Indexes recalculates missing EOD data points and disseminates to vendors and clients.

In case of a material error,

- Legal and Compliance to check the relevant agreements for liability of the calculation agent.
- If MarketVector Indexes identifies any conduct that may involve manipulation or attempted manipulation of an index by calculation agent it will report this to the regulator.
- Where possible and economically reasonable MarketVector Indexes will try use another calculation agent.

Investigations and communication regarding disruptions with calculation agents will be handled by Compliance and Senior Management. They are either caused by disruptions in calculation or dissemination, which might affect different servicers.

- The disruption is immediately communicated to the calculation/dissemination agent, if applicable.
- Calculation/dissemination agent will be asked to investigate the reason for the disruption.
- An email will be sent to all affected clients to inform them about the disruption; this includes the reason for the issue and an estimate on when the issue will be solved.



- MarketVector Indexes prompts calculation agent to make all efforts to restart index calculation.
- MarketVector Indexes prompts Dissemination agent to make all efforts to restart index dissemination.
- MarketVector Indexes recalculates missing EOD data points and disseminates to vendors and clients.
- Legal and Compliance to check the relevant agreements for liability of the calculation/dissemination agent.
- If MarketVector Indexes identifies any conduct that may involve manipulation or attempted manipulation of an index by calculation/dissemination agent it will report this to BaFin.
- Where possible and economically reasonable MarketVector Indexes will try use another calculation and/or dissemination agent.



# 7 Appendix

# 7.1 Changes to the Index Guide

This table contains all changes to the index guide after January 1, 2018 when the European Benchmark Regulation became effective.

IG Version	Change
-	Name/rule change to ESG
-	ESG objectives changes
-	Share changes implemented on a monthly basis
-	Discretion in case of extraordinary events
-	Removal of 10% share change restriction for M&As for
	surviving companies
-	Russia is added to the list of standard country exclusion
1.00	Initial publication of the individual index guide and dis-
	continuation of the MarketVector Global Equity Index Guide
	- - - - -



## 7.2 ESG Filters

Key Elements of the benchmark methodology for the indexes in this table reflect environmental, social and governance (ESG) factors.

Data standards used:

- Data Input: MarketVector Indexes sources ESG data externally from ISS, where data is not available, best efforts is made to model required data.
- Verification and quality of data: The provider of ESG-related data input is selected by the Administrator based on an assessment of its existing processes in order to ensure the reliability and representativeness of the ESG-related data. The data provider has established processes in accordance with accepted and established market standards that ensure the permanent quality and reliability of the ESG-data provided.
- Reference standards: ISS Norm-Based Research framework consists of the Principles of the UN Global Compact, the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles for Business and Human Rights, and is embedded in the Sustainable Development Goals.

Category	Field name	Description	Filter
Norm- Based Research	NBSOverallScore	NBR Overall Score: This factor assigns a 1-10 score to an issuer based on the issuer's link with any violations of international standards. Score 10 aligns with a Red flag; scores from 6 to 9 align with the Amber flag; scores from 2 to 5 reflect an 'active' Green flag; and a score of 1 communicates a Green 'No allegation' signal.	IS <=8
Norm- Based Research	NBRUnionRightsSeverityIndicator	NBR Union Rights Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Union Rights. The Case Severity Indicator is a measure of the reported risk or impact on so- ciety or the environment, and takes into account the degree of corporate involvement. The 'Very Severe' value identifies instances where the com- pany is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly caus- ing/contributing significant adverse impact. The 'Moderate' value identi- fies instances where the company is causing/contributing to adverse im- pact, or linked to significant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate involvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBRWorkDiscrimSeverityIndicator	NBR Workplace Discrimination Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Workplace Discrimination. The Case Severity Indicator is a measure of the reported risk or impact on society or the environment, and takes into account the de- gree of corporate involvement. The 'Very Severe' value identifies instances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is re- portedly causing/contributing significant adverse impact. The 'Moderate' value identifies instances where the company is causing/contributing to adverse impact, or linked to significant/critical adverse impact. The 'Po- tential' value identifies instances where the impact and/or corporate in- volvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBROverallSeverityIndicator	NBR Overall Severity Indicator: This factor is based on the worst Case Severity Indicator, which is a measure of the reported risk or impact on society or the environment, and takes into account the degree of corpo- rate involvement. The 'Very Severe' value identifies instances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly caus- ing/contributing significant adverse impact. The 'Moderate' value identi- fies instances where the company is causing/contributing to adverse im- pact, or linked to significant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate involvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'



Norm- Based Research	NBRBriberySeverityIndicator	NBR Bribery Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Bribery. The Case Severity Indicator is a measure of the reported risk or impact on society or the envi- ronment, and takes into account the degree of corporate involvement. The 'Very Severe' value identifies instances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identi- fies instances where the company is reportedly causing/contributing sig- nificant adverse impact. The 'Moderate' value identifies instances where the company is causing/contributing to adverse impact, or linked to sig- nificant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate involvement have not been clearly de- termined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBRChildLabourSeverityIndicator	NBR Child Labour Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Child Labour. The Case Severity Indicator is a measure of the reported risk or impact on so- ciety or the environment, and takes into account the degree of corporate involvement. The 'Very Severe' value identifies instances where the com- pany is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly caus- ing/contributing significant adverse impact. The 'Moderate' value identi- fies instances where the company is causing/contributing to adverse im- pact, or linked to significant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate involvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBREnvironProtSeverityIndicator	NBR Environmental Protection Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Environ- mental Protection. The Case Severity Indicator is a measure of the reported risk or impact on society or the environment, and takes into account the de- gree of corporate involvement. The 'Very Severe' value identifies instances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is re- portedly causing/contributing significant adverse impact. The 'Moderate' value identifies instances where the company is causing/contributing to adverse impact, or linked to significant/critical adverse impact. The 'Po- tential' value identifies instances where the impact and/or corporate in- volvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBRFHumanRightsSeverityIndicator	NBR Fundamental Human Rights Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Funda- mental Human Rights. The Case Severity Indicator is a measure of the re- ported risk or impact on society or the environment, and takes into account the degree of corporate involvement. The 'Very Severe' value identifies in- stances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly causing/contributing significant adverse impact. The 'Moder- ate' value identifies instances where the company is causing/contributing to adverse impact, or linked to significant/critical adverse impact. The 'Po- tential' value identifies instances where the impact and/or corporate in- volvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBRForcedLabourSeverityIndicator	NBR Forced Labour Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Forced Labour. The Case Severity Indicator is a measure of the reported risk or impact on so- ciety or the environment, and takes into account the degree of corporate involvement. The 'Very Severe' value identifies instances where the com- pany is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly caus- ing/contributing significant adverse impact. The 'Moderate' value identi- fies instances where the company is causing/contributing to adverse im- pact, or linked to significant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate involvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBRLabourStandSeverityIndicator	NBR Labour Standards Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Labour Standards. The Case Severity Indicator is a measure of the reported risk or impact on society or the environment, and takes into account the degree of cor- porate involvement. The 'Very Severe' value identifies instances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly caus- ing/contributing significant adverse impact. The 'Moderate' value identi- fies instances where the company is causing/contributing to adverse im- pact, or linked to significant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate involvement have not been clearly determined.	NOT 'Very Severe' and NOT 'Severe'



Norm- Based Research	NBRMoneyLaunderSeverityIndicator	NBR Money Laundering Severity Indicator: This factor is based on the worst Case Severity Indicator within the Key Thematic Area Money Laundering. The Case Severity Indicator is a measure of the reported risk or impact on society or the environment, and takes into account the degree of corporate involvement. The 'Very Severe' value identifies instances where the company is reportedly causing/contributing to critical adverse impact. The 'Severe' value identifies instances where the company is reportedly causing/contributing significant adverse impact. The 'Moderate' value identifies instances where the company is causing/contributing to adverse impact, or linked to significant/critical adverse impact. The 'Potential' value identifies instances where the impact and/or corporate in-	NOT 'Very Severe' and NOT 'Severe'
Norm- Based Research	NBSIsLabourDiscriminationGender	volvement have not been clearly determined. NBR Assessment - Gender Discrimination: This factor identifies companies involved in one or more workplace gender discrimination controversies where there is verification by an authoritative body but the issue remains unaddressed; where the issuer has entered contract(s) that would, when actualised, lead to a failure to respect established norms; where there are credible allegations; where the failure to respect established norms has been verified, yet the issuer is implementing remedial measures; or where there are credeible allegations but there is fragmentary information about the issuer's ongiong involvement.	NOT 'T'
Norm- Based Research	NBSIsLabourDiscriminationRacial	NBR Assessment - Racial Discrimination: This factor identifies compa- nies involved in one or more workplace racial discrimination controversies where there is verification by an authoritative body but the issue remains unaddressed; where the issuer has entered contract(s) that would, when actualised, lead to a failure to respect established norms; where there are credible allegations; where the failure to respect established norms has been verified, yet the issuer is implementing remedial measures; or where there are credeible allegations but there is fragmentary information about the issuer's ongiong involvement.	NOT 'T'
Norm- Based	AFLCIOBoycottList	This factor identifies issuers that have been listed on the AFL-CIO Boycott List	NOT 'T'
Research Controversial Weapons	APMinesOverallFlag	Anti-personnel Mines - Overall Flag: This factor assigns an overall Red, Amber, or Green flag to an issuer based on the issuer's involvement in any anti-personnel mines programme. The Overall Flag is determined by the lowest individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different	NOT 'RED'
Controversial Weapons	BiologicalWeaponsOverallFlag	assessments in this issue area, the issuer's Overall Flag will be Red. Biological Weapons - Overall Flag: This factor assigns an overall Red, Am- ber, or Green flag to an issuer based on the issuer's involvement in any biological weapons programme. The Overall Flag is determined by the lowest individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different	NOT 'RED'
Controversial Weapons	ChemicalWeaponsOverallFlag	assessments in this issue area, the issuer's Overall Flag will be Red. Chemical Weapons - Overall Flag: This factor assigns an overall Red, Am- ber, or Green flag to an issuer based on the issuer's involvement in any chemical weapons programme. The Overall Flag is determined by the low- est individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different as-	NOT 'RED'
Controversial Weapons	ClusterMunitionsOverallFlag	sessments in this issue area, the issuer's Overall Flag will be Red. Cluster Munitions - Overall Flag: This factor assigns an overall Red, Amber, or Green flag to an issuer based on the issuer's involvement in any cluster munitions programme. The Overall Flag is determined by the lowest indi- vidual assessment signal within the issue area. For example, if the issuer is assigned both a Pod signal and an Amber signal for different assessments	NOT 'RED'
Controversial Weapons	DepletedUraniumOverallFlag	assigned both a Red signal and an Amber signal for different assessments in this issue area, the issuer's Overall Flag will be Red. Depleted Uranium - Overall Flag: This factor assigns an overall Red, Am- ber, or Green flag to an issuer based on the issuer's involvement in any depleted uranium programme. The Overall Flag is determined by the low- est individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different as-	NOT 'RED'
Controversial Weapons	IncendiaryWeaponsOverallFlag	sessments in this issue area, the issuer's Overall Flag will be Red. Incendiary Weapons - Overall Flag: This factor assigns an overall Red, Am- ber, or Green flag to an issuer based on the issuer's involvement in any incendiary weapons programme. The Overall Flag is determined by the lowest individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different assessments in this issue area, the issuer's Overall Flag will be Red.	NOT 'RED'



Controversia Weapons	al NuclearWeaponsNonNPTOverallFlag	Nuclear Weapons Outside NPT - Overall Flag: This factor assigns an overall Red, Amber, or Green flag to an issuer based on the issuer's involvement in any nuclear weapons programme outside of the Non-Proliferation Treaty (NPT). The Overall Flag is determined by the lowest individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different assessments in this issue area, the issuer's Overall Flag will be Red.	NOT 'RED'
Controversia Weapons	al NuclearWeaponsOverallFlag	Nuclear Weapons Inside NPT - Overall Flag: This factor assigns an overall Red, Amber, or Green flag to an issuer based on the issuer's involvement in any nuclear weapons programme inside of the Non-Proliferation Treaty (NPT). The Overall Flag is determined by the lowest individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different assessments in this issue area, the issuer's Overall Flag will be Red.	NOT 'RED'
Controversia Weapons	al WhitePhosphorusOverallFlag	White Phosphorus Weapons - Overall Flag: This factor assigns an overall Red, Amber, or Green flag to an issuer based on the issuer's involvement in any white phosphorus weapons programme. The Overall Flag is determined by the lowest individual assessment signal within the issue area. For example, if the issuer is assigned both a Red signal and an Amber signal for different assessments in this issue area, the issuer's Overall Flag will be Red.	NOT 'RED'
Sector Screening	CivFAAmmunitionInvolvement	Civilian Firearms - Ammunition: This factor identifies issuers engaged in the production, distribution, or provision of services related to ammunition for civilian firearms. This factor covers any type of ammunition sold to the civilian market, including ammunition originally designed for military and law enforcement firearms.	IS 'BLANK' or IS 'Not Collected'
Sector Screening	CivFAAssaultWeaponsInvolvement	Civilian Firearms - Assault Weapons: This factor identifies issuers engaged in the production, distribution, or provision of services related to assault weapons, which includes semi-automatic firearms that possess certain technical features as defined under the 1994 US Public Safety and Recre- ational Firearms Use Protection Act	IS 'BLANK' or IS 'Not Collected'
Sector Screening	CivFAAutomaticInvolvement	Civilian Firearms - Automatic Firearms: This factor identifies issuers en- gaged in the production, distribution, or provision of services related to automatic firearms, which includes firearms that allow the user to fire more than one round of ammunition for every pull of the trigger	IS 'BLANK' or IS 'Not Collected'
Sector Screening	CivFAHighCapMagazinesInvolvement	Civilian Firearms - High-Capacity Magazines: This factor identifies issuers engaged in the production, distribution, or provision of services related to high-capacity magazines, defined as magazines and other ammunition feeding devices such as ammunition belts or clips which have the capacity to hold more than ten rounds of ammunition	IS 'BLANK' or IS 'Not Collected'
Sector Screening	CivFAInvolvement	Civilian Firearms - Any Tie: This factor identifies issuers engaged in the production, distribution, or provision of services related to civilian firearms. The 'Production' value identifies issuers engaged in manufacturing and producing civilian firearms, 'Distribution' includes issuers engaged in the reselling of civilian firearms, and 'Services' refers to issuers engaged in providing services for civilian firearms such as maintenance, repair, testing, transport, and similar activities.	IS 'BLANK' or IS 'Not Collected'
Sector Screening	CivFARepeatingInvolvement	Civilian Firearms - Repeating Firearms: This factor identifies issuers en- gaged in the production, distribution, or provision of services related to re- peating firearms, which includes firearms that fire only a single shot when the trigger is pulled and require manipulation of a manual reloading mech- anism prior to repeated firing	IS 'BLANK' or IS 'Not Collected'
Sector Screening	TobaccoRevShareMax	Tobacco - Revenue Share: This factor identifies the max percentage value of revenue derived from involvement in tobacco.	IS <= 5%
Energy Extrac- tives	CoalMiningRevShareMaxThermal	Thermal Coal Mining - Total Maximum Percentage of Revenues: This fac- tor provides the maximum percentage of recent-year revenues for the is- suer's total involvement in thermal coal mining, including any exposure in Production or Services. The maximum percentage of revenues values are based on the best available data, which may include reported revenues, re- ported percentage of revenues, or estimated revenues based on available information.	IS <= 5%
Sector Screening	GamblingRevShareMax	Gambling - Revenue Share: This factor identifies the max percentage value of revenue derived from involvement in gambling.	IS <= 5%
Energy Extrac- tives	FossilFuelRevShareMax	Fossil Fuel - Total Maximum Percentage of Revenues: This factor provides the maximum percentage of recent-year revenues for the issuer's total in- volvement in fossil fuel, including any exposure in Production, Exploration, Distribution, and Services. The maximum percentage of revenues values are based on the best available data, which may include reported revenues, reported percentage of revenues, or estimated revenues based on avail- able information.	IS <= 5%
Energy Extrac- tives	OilSandsRevShareMax	Oil Sands - Total Maximum Percentage of Revenues: This factor identifies the issuer's max percentage value of revenue derived from oil sands	IS <= 5%



Sector Screening	MilitaryEqmtRevShareMax	Military Equipment and Services - Revenue Share: This factor identifies the max percentage value of revenue derived from involvement in military equipment and services.	IS <= 5%
Energy Extrac- tives	NuclearPowerUraniumRevShareMax	Nuclear Power - Uranium Mining Max Percentage of Revenues (%): This factor provides the maximum percentage of recent-year revenues for the company's involvement in uranium exploration, extraction, and processing.	IS <= 5%



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