

**S&P Global Carbon  
Efficient Index Series  
*Methodology***

November 2018

# Table of Contents

Introduction	3
<b>Index Objective</b>	<b>3</b>
<b>Highlights</b>	<b>3</b>
<b>Index Family</b>	<b>3</b>
<b>Supporting Documents</b>	<b>4</b>
Eligibility Criteria and Index Construction	5
<b>Eligible Universe</b>	<b>5</b>
<b>Constituent Selection</b>	<b>6</b>
<b>Carbon-to-Revenue Footprint</b>	<b>6</b>
<b>'S&amp;P Carbon Global Standard' Classification</b>	<b>6</b>
<b>Constituent Weighting</b>	<b>7</b>
<b>Capped Indices</b>	<b>8</b>
<b>Controversies Monitoring</b>	<b>8</b>
<b>Multiple Classes of Stock</b>	<b>9</b>
<b>Index Calculations</b>	<b>9</b>
Index Maintenance	10
<b>Rebalancing</b>	<b>10</b>
<b>Carbon-to-Revenue Footprint Updates</b>	<b>10</b>
<b>Additions and Deletions</b>	<b>10</b>
<b>Corporate Actions</b>	<b>10</b>
<b>Ongoing Maintenance</b>	<b>11</b>
<b>Currency, Currency Hedged, and Risk Control Indices</b>	<b>11</b>
<b>Base Date and History Availability</b>	<b>11</b>
Index Data	12
<b>Calculation Return Types</b>	<b>12</b>
Index Governance	13
<b>Index Committee</b>	<b>13</b>

Index Policy	14
<b>Announcements</b>	<b>14</b>
<b>Pro-forma Files</b>	<b>14</b>
<b>Holiday Schedule</b>	<b>14</b>
<b>Rebalancing</b>	<b>14</b>
<b>Unexpected Exchange Closures</b>	<b>14</b>
<b>Recalculation Policy</b>	<b>14</b>
<b>Contact Information</b>	<b>14</b>
Index Dissemination	15
<b>Index Data</b>	<b>15</b>
<b>Website</b>	<b>15</b>
Appendix	16
<b>Methodology Changes</b>	<b>16</b>
Disclaimer	17

# Introduction

## Index Objective

Each index in the S&P Carbon Efficient Index Series is designed to measure the performance of companies in a respective underlying index, while overweighting or underweighting those companies that have lower or higher levels of carbon emissions per unit of revenue.

The indices were designed in conjunction with Trucost, part of S&P Dow Jones Indices, environmental data specialists.

## Highlights

Constituents' weights are adjusted within each industry group to reflect each company's relative carbon-to-revenue footprint.<sup>1</sup> Each index also seeks to maintain the respective GICS® industry group weights of its underlying index, as of the rebalancing reference date.

Each company's weight adjustment is determined with respect to a unique carbon classification system, the 'S&P Carbon Global Standard', developed specifically for these indices. As of the rebalancing reference date, the classification system utilizes the carbon-to-revenue footprints of S&P Global LargeMidCap index constituents to determine decile thresholds for each industry group. Every company is then classified, independent of its index membership, into the appropriate decile and assigned a corresponding weight adjustment.

To ensure weights are adjusted efficiently across various industry groups, an 'S&P Carbon Global Standard' classification for each industry group is also determined. As of the rebalancing reference date, each industry group is identified as high, mid or low impact. This classification is based on the range of carbon-to-revenue footprints across the companies within that group in the S&P Global LargeMidCap. An industry group impact factor is then applied in order to intensify or reduce the weight adjustments of companies within industry groups identified as high or low impact.

## Index Family

The index series includes the following indices:

- S&P Global LargeMid Carbon Efficient
- S&P Global Ex-Japan LargeMid Carbon Efficient
- S&P/JPX Carbon Efficient<sup>2</sup>
- S&P Developed LargeMidCap Carbon Efficient
- S&P Emerging LargeMidCap Carbon Efficient
- S&P Europe LargeMidCap Carbon Efficient
- S&P North America LargeMidCap Carbon Efficient
- S&P Asia Pacific LargeMidCap Carbon Efficient

---

<sup>1</sup> A further weight adjustment is made to increase the weight of those companies deemed by Trucost to have sufficiently disclosed their carbon-to-revenue footprint (therefore effectively reducing the weight of non-disclosure companies).

<sup>2</sup> For information on the S&P/JPX Carbon Efficient, please refer to *S&P Dow Jones Indices' S&P/JPX Carbon Efficient Methodology* document available at [www.spdji.com](http://www.spdji.com).

- S&P Global 1200 Carbon Efficient
- S&P 500 Carbon Efficient
- S&P 400 Carbon Efficient
- S&P 600 Carbon Efficient
- S&P Europe 350 Carbon Efficient
- S&P China A Carbon Efficient
- S&P South Africa Domestic Carbon Efficient (DSW)
- S&P South Africa Domestic Carbon Efficient Capped (DSW)

### Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices' Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

# Eligibility Criteria and Index Construction

## Eligible Universe

At each annual rebalancing, each index is constructed from the constituents of an underlying index as detailed below.

Index	Underlying Index
S&P Global LargeMid Carbon Efficient	S&P Global LargeMidCap
S&P Global Ex-Japan LargeMid Carbon Efficient <sup>3</sup>	S&P Global Ex-Japan LargeMidCap
S&P Developed LargeMidCap Carbon Efficient	S&P Developed LargeMidCap
S&P Emerging LargeMidCap Carbon Efficient	S&P Emerging LargeMidCap
S&P Europe LargeMidCap Carbon Efficient	S&P Europe LargeMidCap
S&P North America LargeMidCap Carbon Efficient	S&P North America LargeMidCap
S&P Asia Pacific LargeMidCap Carbon Efficient	S&P Asia Pacific LargeMidCap
S&P Global 1200 Carbon Efficient	S&P Global 1200
S&P 500 Carbon Efficient	S&P 500
S&P 400 Carbon Efficient	S&P MidCap 400
S&P 600 Carbon Efficient	S&P SmallCap 600
S&P Europe 350 Carbon Efficient	S&P Europe 350
S&P China A Carbon Efficient	S&P China A BMI Domestic
S&P South Africa Domestic Carbon Efficient (DSW)	S&P South Africa Domestic Shareholder Weighted (DSW)
S&P South Africa Domestic Carbon Efficient Capped (DSW)	S&P South Africa Domestic Shareholder Weighted (DSW)

For more information on an underlying index, please refer to its respective methodology document available at [www.spdji.com](http://www.spdji.com).

The eligible universe of constituents is selected from each underlying index by performing the following two screens:

- All companies certified as a 'High Non-Disclosing Carbon Emitter' are excluded. As of the rebalancing reference date, a single threshold is determined based on the 100<sup>th</sup> ranked company, by carbon emissions, in the S&P Global LargeMidCap. Any company, independent of its index membership, with a carbon-to-revenue footprint greater than or equal to this threshold and which is not identified by Trucost as having sufficiently disclosed their carbon emissions is certified as a 'High Non-Disclosing Carbon Emitter'.
- Non-existing constituents of each corresponding carbon efficient index as of the rebalancing reference date are subject to a liquidity screen, as detailed below:

<sup>3</sup> Also available for the S&P Global Ex-Japan LargeMid Carbon Efficient are indices based on country classification, GICS Sectors, and GICS Industry Groups. Please contact [index\\_services@spglobal.com](mailto:index_services@spglobal.com) for a complete listing of available indices.

Index	Three-Month Median Daily Value Traded
S&P Global LargeMid Carbon Efficient	USD \$3 million
S&P Global Ex-Japan LargeMid Carbon Efficient	USD \$3 million
S&P Developed LargeMidCap Carbon Efficient	USD \$3 million
S&P Emerging LargeMidCap Carbon Efficient	USD \$3 million
S&P Europe LargeMidCap Carbon Efficient	USD \$3 million
S&P North America LargeMidCap Carbon Efficient	USD \$3 million
S&P Asia Pacific LargeMidCap Carbon Efficient	USD \$3 million
S&P Global 1200 Carbon Efficient	USD \$3 million
S&P 500 Carbon Efficient	USD \$3 million
S&P 400 Carbon Efficient	USD \$3 million
S&P 600 Carbon Efficient	USD \$3 million
S&P Europe 350 Carbon Efficient	EUR €3 million
S&P China A Carbon Efficient	CNY ¥20 million
S&P South Africa Domestic Carbon Efficient (DSW)	ZAR R3 million
S&P South Africa Domestic Carbon Efficient Capped (DSW)	ZAR R3 million

### Constituent Selection

All stocks in the eligible universe, as of the rebalancing reference date, are selected and form each index.

### Carbon-to-Revenue Footprint

For all indices, constituents within Trucost's coverage universe are assigned an annual carbon-to-revenue footprint, prior to the annual rebalancing reference date. The carbon-to-revenue footprint metric is calculated by Trucost, and is defined as a company's annual greenhouse gas (GHG) emissions (direct and first tier indirect), expressed as tons of carbon dioxide equivalent (CO<sub>2</sub>e), divided by annual revenues. Trucost evaluates the environmental performance of a given company and produces an annual carbon emissions figure. All companies within Trucost's coverage universe that do not have a recent disclosed annual carbon-to-revenue footprint are assigned one based on an estimate using their proprietary Input-Output model.

### 'S&P Carbon Global Standard' Classification

**Decile Classification.** As of rebalancing reference date, decile thresholds are determined for each GICS® industry group based on the carbon-to-revenue footprints of companies in the S&P Global LargeMidCap. Using these thresholds, every company is then classified, independently of its index membership, into its 'S&P Carbon Global Standard' decile.

**Disclosure Status.** Companies are further divided into those that have been identified by Trucost as having sufficiently disclosed their carbon emissions and those that have not. Disclosure status is achieved when Trucost identifies companies as having full or partial disclosure in its largest carbon emissions category (between scope 1 and 2).

**Industry Group Classification.** As of rebalancing reference date, each industry group is identified as high, mid or low impact. This classification is based on the range of carbon-to-revenue footprints across the companies within that industry group in the S&P Global LargeMidCap. The range for each industry group is calculated as the spread between its first and last decile threshold.

Industry groups are classified as follows:

- High impact = range > 500 (CO<sub>2</sub>e / revenue)
- Low impact = range <= 150 (CO<sub>2</sub>e / revenue)
- Mid impact = all remaining industry groups

### Constituent Weighting

For each index, as of the rebalancing reference date, constituent weight adjustments are made within each industry group to reduce the portfolio's overall exposure to carbon emissions per unit of revenue versus that of its underlying index. Each index seeks to maintain the respective GICS® industry group weights of its underlying index as of the rebalancing reference date.<sup>4</sup>

*Constituent Weight in Carbon Efficient Index =*

$$\begin{aligned} & \text{Constituent Weight in Carbon Efficient Industry Group} \\ & \times \text{Underlying Index Industry Group Weight} \end{aligned}$$

To calculate each constituent's Carbon Efficient weight with respect to its industry group, the following steps are performed for each industry group:

1. First, the constituents' weights are calculated with respect to the eligible universe's industry group, as follows:

*Constituent Weight in Carbon Efficient Industry Group without Adjustment =*

$$\frac{\text{Constituent Float Market Cap.}}{\text{Eligible Universe Industry Group Float Market Cap.}}$$

2. Next, each of the weights calculated in step 1 are adjusted according to their Carbon Weight Adjustment, as follows:

*Constituent Weight in Carbon Efficient Industry Group =*

$$\begin{aligned} & \text{Constituent Weight in Carbon Efficient Industry Group without Adjustment} \\ & \times (1 + \text{Carbon Weight Adjustment}) \end{aligned}$$

The Carbon Weight Adjustment is determined by multiplying each company's Decile Weight Adjustment by its Industry Group Impact Factor as detailed below in the table below:

---

<sup>4</sup> In the event that the eligible universe contains fewer industry groups than the underlying index, then the weight of each underlying index's industry groups with eligible constituents are increased proportionally until the sum equals 100%.

			Industry Group Impact Factor		
			Low	Mid	High
			x0.5	x1	x3
Decile Classification	Disclosure Status	Decile Weight Adjustment	Carbon Weight Adjustment		
1st Decile <sup>5</sup>	Disclosed	40%	20%	40%	120%
	Non-disclosed	30%	15%	30%	90%
2nd Decile	Disclosed	30%	15%	30%	90%
	Non-disclosed	20%	10%	20%	60%
3rd Decile	Disclosed	20%	10%	20%	60%
	Non-disclosed	10%	5%	10%	30%
Other <sup>6</sup>	Disclosed	10%	5%	10%	30%
	Non-disclosed	0%	0%	0%	0%
8th Decile	Disclosed	0%	0%	0%	0%
	Non-disclosed	-10%	-5%	-10%	-30%
9th Decile	Disclosed	-10%	-5%	-10%	-30%
	Non-disclosed	-20%	-10%	-20%	-60%
10th Decile	Disclosed	-20%	-10%	-20%	-60%
	Non-disclosed	-30%	-15%	-30%	-90%

3. Finally, the weights calculated in step 2 are adjusted to ensure each industry group's weights sum to 100%, as follows:

- If the sum of the weights after step 2 is greater than 100% then the first of the following steps capable of reducing the sum of the weights to 100% is performed:
  - Proportionally reduce the weights of stocks only in deciles 8 to 10
  - Proportionally reduce the weights of stocks only in deciles 7 to 10
  - Proportionally reduce the weights of stocks only in deciles 6 to 10
  - Proportionally reduce the weights of all stocks
- If the sum of the weights after step 2 is less than 100% then the first of the following steps capable of increasing the sum of the weights to 100% is performed:
  - Proportionally increase the weights of stocks only in deciles 1 to 3
  - Proportionally increase the weights of stocks only in the 4<sup>th</sup> decile
  - Proportionally increase the weights of stocks only in the 5<sup>th</sup> decile
  - Proportionally increase the weights of all stocks

## Capped Indices

The S&P South Africa Domestic Carbon Efficient Capped (DSW) Index is a variation of the S&P South Africa Domestic Carbon Efficient (DSW) Index, where no single stock weighs more than 10% of the index at each rebalancing. The index is re-weighted quarterly effective at the open of the Monday following the third Friday in March, June, September and December. The price reference date used for weighting is the Wednesday before the second Friday of the re-weighting month.

## Controversies Monitoring

Companies within the indices are monitored on a daily basis by RepRisk, a leading provider of business intelligence on environmental, social, and governance risks.<sup>7</sup> RepRisk analyzes companies for related controversies, including a range of issues such as economic crime and corruption, fraud, illegal commercial practices, human rights issues, labor disputes, workplace safety, catastrophic accidents, and environmental disasters. Using this data, each company is assigned a daily RepRisk Index (RRI) indicator. A company is defined as a risk if their RRI indicator is equal to or above 75.

<sup>5</sup> 1st decile classification represents companies with the lowest carbon-to-revenue footprint.

<sup>6</sup> 'Other' refers to those companies in the index classified in deciles 4 to 7 and/or those without coverage by Trucost.

<sup>7</sup> The controversies monitoring process began March 2017.

If a company is reported by RepRisk to have violated the RRI indicator threshold of 75, the impacted company will be removed with a minimum of two days advance notice. A company removed as a risk will only be considered for addition to the index on any future rebalancing date when it satisfies all the eligibility criteria and its RRI score has remained below 75 on all days since the previous year's rebalancing date.

*For more information on RepRisk, please refer to [www.reprisk.com](http://www.reprisk.com). This service is not considered a direct contribution to the index construction process.*

### **Multiple Classes of Stock**

All publicly listed multiple share class lines are eligible for index inclusion, subject to meeting the eligibility criteria. For more information regarding the treatment of multiple share classes, please refer to Approach A within the Multiple Share Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices document. In the S&P Carbon Efficient Index Series, all multiple share class lines are assigned identical Carbon-to-Revenue Footprint Scores. All weight assignments are conducted at the company level.

### **Index Calculations**

The indices are calculated by means of the divisor methodology used in all S&P Dow Jones Indices' equity indices.

*For more information on the index calculation methodology, please refer to the Non-Market Capitalization Weighted Indices section of S&P Dow Jones Indices' Index Mathematics Methodology.*

# Index Maintenance

## Rebalancing

The indices are rebalanced annually, effective after the close of the third Friday of March. The rebalancing reference date, and the reference universe for constituent selection, is the third Friday of February.

Constituents' weights are calculated using closing prices on the rebalancing reference date. Index share amounts are calculated using closing prices on the Wednesday prior to the second Friday of the rebalancing month (reference prices) and are assigned to each stock to arrive at the weights determined on the rebalancing reference date. Since index shares are assigned based on the reference prices, the actual weight of each stock at the rebalancing differs from these weights due to market movements.

## Carbon-to-Revenue Footprint Updates

Each company's Carbon-to-Revenue Footprint is researched annually, approximately eight months following the company's fiscal year end. Carbon-to-revenue footprints are updated on an as-needed basis following corporate events (mergers and acquisitions, spin-offs, etc.) and underlying data point revisions. Any update to a company's Carbon-to-Revenue Footprint is applied at the subsequent annual rebalancing.

## Additions and Deletions

**Additions.** Index additions are generally made only during the annual rebalancing. Spin-offs, however, may necessitate the addition of the spun-off company to the index. The spun-off company is added to all the indices of which the parent is a constituent at a zero price at the market close of the day before the ex-date (with no divisor adjustment). If the spun-off company is to remain in the parent universe index, it will subsequently remain in the corresponding Carbon Efficient Index. If the spun-off company is removed from the parent universe index after at least one day of regular way trading (with a divisor adjustment), the corresponding Carbon Efficient Index will follow the same treatment.

**Deletions.** Index constituents may be removed from the index following a takeover, merger, delisting, bankruptcy, indefinite suspension or if dropped from the respective underlying index.

In the event that an index constituent is removed from an underlying index, it is also removed from the respective Carbon Efficient Index and not replaced.

A constituent flagged by the controversies overlay process may also be removed if the Index Committee determines that the company in question is no longer eligible for index inclusion.

## Corporate Actions

The indices are reviewed on an ongoing basis to account for corporate events such as mergers, takeovers, delistings, suspensions, spin-offs/demergers or bankruptcies. Changes to index composition and related weight adjustments are made as soon as they are effective. These changes are typically announced one to five business days prior to the implementation date.

*For more information on Corporate Actions, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.*

**Mergers and Acquisitions.** In cases of mergers involving two index constituents, the merged company deemed to be the acquirer in the transaction remains in the index, provided it meets all eligibility requirements. If the acquisition payment type is stock-based, the acquirer's index shares increase proportionately to the terms of the transaction. If the acquisition payment type is not stock-based, the acquirer's index shares remain at pre-merger levels.

### Ongoing Maintenance

Specific changes to index constituents, such as share changes, Investable Weight Factor (IWF) changes, dividend distributions, and price adjustments, follow the policies of the underlying index.

*For more information on Share Updates, Float Adjustment and IWFs, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices and Float Adjustment Methodology documents.*

### Currency, Currency Hedged, and Risk Control Indices

The indices are calculated in U.S. dollars, Japanese yen, and the respective local currency for the regional indices.

WM/Reuters foreign exchange rates are taken daily at 04:00 PM London Time and used in the end-of-day calculation of the indices. These mid-market fixings are calculated by The WM Company based on Reuters data and appear on Reuters pages WMRA.

Additional currency, currency hedged, and risk control versions of the indices may be available. For a list of available currency, currency hedged, and risk control indices, please contact Client Services at [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

*For more information on currency, currency hedged, and risk control indices, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

### Base Date and History Availability

Index history availability, base dates and base values are shown in the table below.

Index	Launch Date	First Value Date	Base Date	Base Value
S&P Global LargeMid Carbon Efficient	07/17/2018	03/20/2009	03/20/2009	100
S&P Global Ex-Japan LargeMid Carbon Efficient	07/17/2018	03/20/2009	03/20/2009	100
S&P Developed LargeMidCap Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P Emerging LargeMidCap Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P Europe LargeMidCap Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P North America LargeMidCap Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P Asia Pacific LargeMidCap Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P Global 1200 Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P 500 Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P 400 Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P 600 Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P Europe 350 Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P China A Carbon Efficient	10/22/2018	03/20/2009	03/20/2009	100
S&P South Africa Domestic Carbon Efficient (DSW)	10/22/2018	03/20/2009	03/20/2009	100
S&P South Africa Domestic Carbon Efficient Capped (DSW)	10/22/2018	03/20/2009	03/20/2009	100

# Index Data

## Calculation Return Types

S&P Dow Jones Indices calculates multiple return types which vary based on the treatment of regular cash dividends. The classification of regular cash dividends is determined by S&P Dow Jones Indices.

- Price Return (PR) versions are calculated without adjustments for regular cash dividends.
- Gross Total Return (TR) versions reinvest regular cash dividends at the close on the ex-date without consideration for withholding taxes.
- Net Total Return (NTR) versions, if available, reinvest regular cash dividends at the close on the ex-date after the deduction of applicable withholding taxes.

In the event there are no regular cash dividends on the ex-date, the daily performance of all three indices will be identical.

For a complete list of indices available, please refer to the daily index levels file (“.SDL”).

*For more information on the classification of regular versus special cash dividends as well as the tax rates used in the calculation of net return, please refer to S&P Dow Jones Indices’ Equity Indices Policies & Practices document.*

*For more information on the calculation of return types, please refer to S&P Dow Jones Indices’ Index Mathematics Methodology.*

# Index Governance

## Index Committee

Except for the S&P/JPX Carbon Efficient, the S&P Carbon Efficient Indices are managed by S&P Dow Jones Indices' Strategy Index Committee. The committee meets regularly. At each meeting, the Index Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the index to the market, companies that are being considered as candidates for addition to the index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

*For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.*

# Index Policy

## Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically announced in advance via the Index Corporate Events report (.SDE), delivered daily to all clients. Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

## Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the indices rebalance. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights and index shares effective for the upcoming rebalancing.

*Please visit [www.spdji.com](http://www.spdji.com) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

The indices are calculated daily, throughout the calendar year. The only days an index is not calculated are on days when all exchanges where an index's constituents are listed are officially closed or if WM/Reuters' exchange rates services are not published.

A complete holiday schedule for the year is available at [www.spdji.com](http://www.spdji.com).

## Rebalancing

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

## Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.

## Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.

*For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.*

## Contact Information

For any questions regarding an index, please contact [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

# Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com), major quote vendors, numerous investment-oriented Web sites, and various print and electronic media.

## **Index Data**

Daily constituent and index level data are available via subscription.

*For product information, please contact S&P Dow Jones Indices, [www.spdji.com/contact-us](http://www.spdji.com/contact-us).*

## **Website**

*For further information, please refer to S&P Dow Jones Indices' Web site at [www.spdji.com](http://www.spdji.com).*

# Appendix

## Methodology Changes

Methodology changes since July 17, 2018 are as follows:

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Mergers and Acquisitions	10/23/2018	In cases of mergers involving two index constituents, the merged company deemed to be the acquirer in the transaction remains in the index, provided it meets all eligibility requirements. The acquirer's index shares remain at pre-merger levels.	In cases of mergers involving two index constituents, the merged company deemed to be the acquirer in the transaction remains in the index, provided it meets all eligibility requirements. If the acquisition payment type is stock-based, the acquirer's index shares increase proportionately to the terms of the transaction. If the acquisition payment type is not stock-based, the acquirer's index shares remain at pre-merger levels.

# Disclaimer

Copyright © 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. STANDARD & POOR'S, S&P, SPDR, S&P 500, S&P EUROPE 350, S&P 100, S&P 1000, S&P COMPOSITE 1500, S&P MIDCAP 400, S&P SMALLCAP 600, GIVI, GLOBAL TITANS, S&P RISK CONTROL INDICES, S&P GLOBAL THEMATIC INDICES, S&P TARGET DATE INDICES, S&P TARGET RISK INDICES, DIVIDEND ARISTOCRATS, STARS, GICS, HOUSINGVIEWS, INDEX ALERT, INDEXOLOGY, MARKET ATTRIBUTES, PRACTICE ESSENTIALS, S&P HEALTHCARE MONITOR, SPICE, and SPIVA are registered trademarks of Standard & Poor's Financial Services LLC, a division of S&P Global ("S&P"). DOW JONES, DJ, DJIA and DOW JONES INDUSTRIAL AVERAGE are registered trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, Dow Jones, S&P or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. All information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties. Past performance of an index is not a guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other investment product or vehicle. S&P Dow Jones Indices LLC is not a tax advisor. A tax advisor should be consulted to evaluate the impact of any tax-exempt securities on portfolios and the tax consequences of making any particular investment decision. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S

FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION.

In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

The Global Industry Classification Standard (GICS®) was developed by and is the exclusive property and a trademark of S&P and MSCI. Neither MSCI, S&P nor any other party involved in making or compiling any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

JPX is a trademark of Japan Exchange Group, Inc. and has been licensed for use by S&P Dow Jones Indices.