

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

December 2020

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# Introduction

## Index Objective and Highlights

Each index in the S&P Carbon Efficient Index Series measures the performance of companies in a respective underlying index, excluding companies classified as high non-disclosing carbon emitters, while overweighting or underweighting those companies that have lower or higher levels of greenhouse gas (GHG) emissions per unit of revenue as defined in *Eligibility Criteria and Index Construction*. Constituents' weights are adjusted within each Global Industry Classification Standard (GICS)<sup>®</sup> Industry Group to reflect each company's relative carbon-to-revenue footprint. Each index also seeks to maintain the respective industry group weights of its underlying index, as of the rebalancing reference date.

## Index Series

The index series includes the following indices:

- S&P Global LargeMidCap Carbon Efficient
- S&P Global Ex-Japan LargeMidCap Carbon Efficient
- S&P/JPX Carbon Efficient
- 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
- S&P Latin America LargeMidCap Carbon Efficient
- 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)

*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).*

## 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

## Index Universe

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

Index	Underlying Index
S&P Global LargeMidCap Carbon Efficient <sup>1</sup>	S&P Global LargeMidCap
S&P Global Ex-Japan LargeMidCap Carbon Efficient <sup>1</sup>	S&P Global Ex-Japan LargeMidCap
S&P Developed LargeMidCap Carbon Efficient	S&P Developed LargeMidCap
S&P Emerging LargeMidCap Carbon Efficient <sup>1</sup>	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 Latin America LargeMidCap Carbon Efficient	S&P Latin America 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).

## Eligibility Screens

As of the rebalancing reference date, the index universe for each index is screened for the following:

**High Non-Disclosing Carbon Emitters.** All companies classified, by S&P Trucost Limited (“Trucost”), as a ‘High Non-Disclosing Carbon Emitter’ are ineligible for the indices inclusion Any company in an underlying index whose GHG emissions meet or exceed the threshold (the 100<sup>th</sup> highest ranked company by absolute scopes 1 and 2 GHG emissions in the S&P Global LargeMidCap), and which is not identified by Trucost as having sufficiently disclosed their GHG emissions as outlined in *Disclosure Status*, is classified as a high non-disclosing carbon emitter.

<sup>1</sup> China A-Shares are excluded.

**Liquidity.** Non-constituents must satisfy the three-month median daily value traded (3M MDVT) threshold for each index:

Index	3M MDVT
S&P Global LargeMidCap Carbon Efficient	USD \$3 million
S&P Global Ex-Japan LargeMidCap 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 Latin America 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

Companies with fewer than three months MDVT data are evaluated over the available period.

### 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 Methodology. In the S&P Global Carbon Efficient Index Series, all multiple share class lines are assigned identical carbon-to-revenue footprint. All weight assignments are conducted at the company level.

### Constituent Selection

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

### 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 GHG 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>2</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:

<sup>2</sup> If 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%.

*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:

*Constituent Weight in Carbon Efficient Industry Group =*

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

The Carbon Weight Adjustment is determined by multiplying each company's Disclosure Status-specific Decile Weight Adjustment by its Industry Group Impact Factor as detailed below:

Decile Classification <sup>3</sup>	Disclosure Status	Decile Weight Adjustment	Industry Group Impact Factor		
			Low	Mid	High
			x0.5	x1	x3
1st Decile <sup>4</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%
4 <sup>th</sup> to 7 <sup>th</sup> Decile <sup>5</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%:
- 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

<sup>3</sup> The deciles are defined using the S&P Carbon Global Standard.

<sup>4</sup> 1st decile classification represents companies with the lowest carbon-to-revenue footprint.

<sup>5</sup> Constituents without coverage by Trucost are assigned to this group ('Not-disclosed') to be treated neutrally by receiving a 0% carbon weight adjustment.



## 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 first Friday of March and second Friday of June, September and December. For the annual reconstitution in March, single constituent weights are capped at 10% based on the rebalancing weights for S&P South Africa Domestic Carbon Efficient (DSW) Index as of the reference pricing date. For June, September and December, the 10% capping is performed based on the index market capitalization for S&P South Africa Domestic Carbon Efficient (DSW) Index as of the price reference date.

## 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 GHG emissions (direct and first tier indirect), expressed as metric tons of carbon dioxide equivalent (tCO<sub>2e</sub>) emissions, divided by annual revenues for the corresponding year, expressed in millions of US dollars.

*For more information on Trucost's research process, please refer to Appendix I.*

## S&P Carbon Global Standard Classification

The S&P Carbon Global Standard is a unique classification system developed specifically for these indices and is used to define the weighting adjustments for a given constituent. The standard considers each company's carbon-to-revenue footprint relative to, and the range of carbon-to-revenue footprints within, GICS industry group peers, using the S&P Global LargeMidCap as the reference group. The standard also considers the quality of a company's GHG emissions disclosures.

The S&P Carbon Global Standard is recalculated during each annual rebalancing.

**Decile Classification.** As of the 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. These thresholds then serve as the global reference classifications for any company eligible for the indices into its S&P Carbon Global Standard decile, irrespective of its membership of the S&P Global LargeMidCap. The S&P Carbon Global Standard's decile ranges are published on the S&P DJI website following each annual rebalancing.<sup>6</sup>

**Disclosure Status.** Companies are further divided into those that have been identified by Trucost as having sufficiently disclosed their GHG emissions ("Disclosed") and those that have not ("Not Disclosed"). The "Disclosed" status is achieved when Trucost identifies companies as having full or partial disclosure in its GHG emissions scope (between scope 1 and 2) that is its largest in absolute terms. Companies identified by Trucost as having sufficiently disclosed their GHG emissions receive an additional 10% in their Decile Weight Adjustment.

**Industry Group Classification.** 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 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 (tCO<sub>2e</sub> / revenue)

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<sup>6</sup> <https://www.spglobal.com/spdji/en/landing/investment-themes/carbon-efficient/>

- Low impact = range  $\leq 150$  (tCO<sub>2</sub>e / revenue)
- Mid impact = all remaining industry groups

The three components listed above are used to derive the Carbon Weight Adjustments used for constituent weighting in the indices through multiplying the Decile Weight Adjustment by the Industry Group Impact Factor.

### **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 rebalance annually, effective after the close of the third Friday of March. The rebalancing reference date, and the reference universe for constituent selection, is the second Friday of February.<sup>7</sup>

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 first 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.

*For more information on Trucost's research process, please refer to Appendix I.*

## 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>8</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.

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 business days' notice on a best efforts basis from when S&P Dow Jones Indices is notified of the violation. 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.*

## Additions and Deletions

**Additions.** Except for spin-offs, index additions are generally made only during rebalancings. A spin-off 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 underlying index, it remains in the corresponding Carbon Efficient index. If the spun-off company is removed from the underlying index after at least one day of regular way trading (with a divisor adjustment), the corresponding Carbon Efficient index will follow the same treatment.

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<sup>7</sup> In 2020, due to market volatility, the rebalancing was delayed, and became effective after the close of the third Friday of June. The reference date was the third Friday of May.

<sup>8</sup> The controversies monitoring process began March 2017.

**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. An index constituent removed from an underlying index is also removed from the respective Carbon Efficient Index and not replaced.

## Corporate Actions

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

**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.

## Currency of Calculation and Additional Index Return Series

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

WM/Refinitiv 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 Refinitiv data and appear on Refinitiv pages WMRA.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to [S&P DJI's All Indices by Methodology Report](#).

*For information on the calculation of different types of indices, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

*For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at [www.spdji.com](http://www.spdji.com).*

## 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 LargeMidCap Carbon Efficient	07/17/2018	03/20/2009	03/20/2009	100
S&P Global Ex-Japan LargeMidCap 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 Latin America LargeMidCap Carbon Efficient	01/28/2019	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 Methodology.*

*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' ESG Indices 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 Methodology.*

# 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 Methodology.

## Recalculation Policy

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

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

## 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 I - Trucost

## Trucost Environmental Register Research Process

1. **Map company business segments.** Trucost maps company business segments to more than 450 business activities in the Trucost model. The model is based on the North American Industry Classification System (NAICS), but goes into greater granularity in some areas, such as power generating utilities.
2. **Estimate data-modelled profile.** Once company business segments have been mapped to Trucost sectors and their share of revenue apportioned to each, Trucost is able to efficiently generate a data-modelled profile for the company. Trucost uses its environmentally extended input-output (EEIO) model to estimate data for over 800 environmental and operational metrics across the entire operations of companies; from the raw materials they depend on in their supply chains to the electricity they purchase to power their operations.
3. **Collect public disclosure.** Trucost searches for environmental performance information in annual reports, sustainability reports, websites, and other publicly disclosed sources. Third party datasets, like disclosures to the CDP<sup>9</sup>, are also reviewed. Trucost then standardizes reported environmental performance data to best practice guidelines so that it can be compared across companies, regions, and business activities. To correct errors in company reporting, data control procedures are applied, including sector specialist data reviews, automated outlier identifications and year-on-year comparisons. Wherever a material metric is not disclosed, Trucost uses the modelled value, to estimate the missing data fields.
4. **Engage with company.** Trucost then conducts an annual engagement with each company, providing the opportunity to verify environmental performance and provide additional information. Companies are further welcomed to contact Trucost analysts at any point in their environmental reporting cycle to provide their most recently available data. This supports Trucost's efforts to utilize the most up-to-date company information and to maximize data quality.

**Greenhouse Gas Emissions Data.** The indices use Trucost's greenhouse gas emissions data set. Quantities of greenhouse gas emissions are normalized by sales to calculate the company's carbon intensity, or "carbon-to-revenue footprint". The indices use direct and first-tier indirect emissions in the determination of the carbon-to-revenue footprints. For more information on these emissions scopes, and more, please refer to the [Trucost FAQ](#).

*For more information on Trucost, please refer to [www.trucost.com](http://www.trucost.com).*

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<sup>9</sup> CDP is a not-for-profit charity that surveys companies on Climate, Water, and Forestry issues and aggregates the collected disclosures. For more information see: <https://www.cdp.net/>.

## Appendix II – Methodology Changes

Methodology changes since July 17, 2018 are as follows:

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Rebalancing Reference Date, Price Reference Date, and Pro-forma Schedule	03/04/2021	The rebalancing reference date, and the reference universe for constituent selection, is the third Friday of February.  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.	The rebalancing reference date, and the reference universe for constituent selection, is the second Friday of February.  Index share amounts are calculated using closing prices on the Wednesday prior to the first Friday of the rebalancing month (reference prices) and are assigned to each stock to arrive at the weights determined on the rebalancing reference date.
Liquidity Screen for Non-Constituents Domiciled in India	03/20/2020	Non-constituents domiciled in India that trade on the BSE are, as of the rebalancing reference date, subject to a liquidity screen based on their three-month median daily value traded from the BSE.	Non-constituents domiciled in India that trade on the BSE are, as of the rebalancing reference date, subject to a liquidity screen based on their aggregate three-month median daily value traded from both the BSE and NSE.
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.

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