

S&P Carbon Control Index Series *Methodology*

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Introduction

Index Objective and Highlights

Each index in the S&P Carbon Control Index Series measures the performance of eligible securities from an underlying index weighted to minimize the weighted average carbon intensity, subject to index active share, industry group weight, country weight, and diversification constraints. The optimization process aims to overweight or underweight 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*.

The indices also apply exclusions based on companies' involvement in specific business activities, performance against the principles of United Nations' Global Compact, involvement in relevant ESG controversies, and companies with low ESG scores relative to global averages in each S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Industry Group.

The S&P DJI ESG Score

The S&P DJI ESG Score is built from S&P Global ESG Research's 'Corporate Sustainability Assessment' (CSA). A company's S&P DJI ESG score may either be calculated from data received directly by a company completing the comprehensive assessment (together with supporting documents), or – in the absence of this – by using publicly available information. S&P Global ESG Research uses the CSA results to then calculate the S&P DJI ESG Scores.

For the purposes of ESG assessment, companies are assigned to industries defined by S&P Global ESG Research, and the assessment is largely specific to each industry. S&P Global ESG Research uses the Global Industry Classification Standard (GICS[®]) as its starting point for determining industry classification. At the industry group and sector levels, the S&P Global CSA Industries match the standard GICS classifications, but some non-standard aggregations are done at the industry level.

For more information on S&P DJI ESG Scores, please refer to the S&P DJI ESG Score Methodology.

For more information on the CSA Process, please refer to <https://www.spglobal.com/esg/csa/>.

For more information on the S&P Global CSA Industry-GICS Sub-Industry Mapping, please refer [here](#).

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	Equity Indices Policies & Practices
S&P Dow Jones Indices' Index Mathematics Methodology	Index Mathematics Methodology
S&P Dow Jones Indices' Float Adjustment Methodology	Float Adjustment Methodology
S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Methodology	GICS Methodology
S&P DJI ESG Score Methodology	ESG Score Methodology

The methodology is 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

Index Universe

The indices are constructed from an index universe consisting of the constituents of an underlying index, as defined below.

Index	Underlying Index
S&P Emerging LargeMidCap Carbon Control Index	S&P Emerging LargeMidCap ¹
S&P Developed ex-Australia LargeMidCap Carbon Control Index	S&P Developed ex-Australia LargeMidCap

For information on an underlying index, please refer to the respective index methodology, available at www.spglobal/spdji.com.

Index Eligibility

At each rebalancing, the following exclusions and eligibility factors are applied to the index universe to determine the eligible universe for each index.

Exclusions Based on S&P DJI ESG Score

If a company does not have an S&P DJI ESG score it is excluded from the indices.

S&P Developed ex-Australia LargeMidCap Carbon Control Index. Companies with an S&P DJI ESG score that falls within the worst 25% from each global GICS Industry Group are excluded from the index. The global universe for this categorization is defined as the combined constituents of the S&P Global LargeMidCap and S&P Global 1200 as of the last business day in March.

S&P Emerging LargeMidCap Carbon Control Index. Companies with an S&P DJI ESG score that falls within the worst 25% in each underlying index GICS Industry Group as of the rebalancing reference date are excluded from the index. The exclusion of the worst 25% companies by ESG scores includes companies that do not have S&P DJI ESG scores.

Exclusions Based on Business Activities

As of each rebalancing reference date, companies with the following specific business activities, as determined by Sustainalytics are excluded from the eligible universe.

Sustainalytics Product Involvement	Sustainalytics Category of Involvement and Description	Sustainalytics Involvement Proxy	S&P DJI Level of Involvement Threshold	S&P DJI Significant Ownership Threshold
Controversial Weapons	Tailor Made and Essential: The company is involved in the core weapon system, or components/services of the core weapon system that are considered tailor-made and essential for the lethal use of the weapon.	N/A	>0%	≥10%
	Non Tailor-Made or Non-Essential: The company provides components/services for the core weapon system, which are		>0%	≥10%

¹ Including China A shares.

Sustainalytics Product Involvement	Sustainalytics Category of Involvement and Description	Sustainalytics Involvement Proxy	S&P DJI Level of Involvement Threshold	S&P DJI Significant Ownership Threshold
	either not considered tailor-made or not essential to the lethal use of the weapon.			
Tobacco Products	Production: The company manufactures tobacco products.	Revenue	>0%	≥10%
	Related Products/Services: The company supplies tobacco-related products/services.		≥5%	≥10%
	Retail: The company derives revenues from the distribution and/or retail sale of tobacco products.		≥5%	≥10%
Thermal Coal	Extraction: The company extracts thermal coal.	Revenue	>0%	Not Relevant
	Power Generation: The company generates electricity from thermal coal.		>0%	Not Relevant
Oil Sands	Extraction: The company extracts oil sands.	Revenue	>0%	Not Relevant
Shale Energy	Extraction: The company is involved in shale energy exploration and/or production.	Revenue	>0%	Not Relevant
Arctic Oil & Gas Exploration	Extraction: The company is involved in oil and gas exploration in Arctic regions.	Revenue	>0%	Not Relevant
Oil & Gas	Production: The company is involved in oil and gas exploration, production, refining, transportation and/or storage.	Revenue	>0%	Not Relevant
	Generation: The company generates electricity from oil and/or gas.		>0%	Not Relevant
	Supporting Products/Services: The company provides tailor-made products and services that support oil and gas exploration, production, refining, transportation and storage.		≥10%	Not Relevant
Gambling	Operations: The company owns and/or operates a gambling establishment.	Revenue	≥5%	Not Relevant
	Specialized Equipment: The company manufactures specialized equipment used exclusively for gambling.		≥10%	Not Relevant
	Supporting Products/Services: The company provides supporting products/services to gambling operations.		≥10%	Not Relevant
Adult Entertainment	Production: The company is involved in the production of adult entertainment and/or owns/operates adult entertainment establishments.	Revenue	>0%	Not Relevant
	Distribution: The company is involved in the distribution of adult entertainment materials.		≥5%	Not Relevant
Alcoholic Beverages	Production: The company manufactures alcoholic beverages.	Revenue	≥5%	Not Relevant
	Retail: The company derives revenues from the distribution and/or retail sale of alcoholic beverages.		≥10%	Not Relevant
	Related Products/Services: The company is a supplier of alcohol-related products/services to alcoholic beverage manufacturers.		≥10%	Not Relevant

S&P DJI Level of Involvement refers to the company's direct exposure to such activities, while Significant Ownership indicates where the company has indirect involvement via the specified level of ownership of a subsidiary company with involvement.

These exclusions use business involvement data sets from Sustainalytics. Companies not covered by Sustainalytics are excluded from index inclusion.

Please refer to <http://www.sustainalytics.com> for more information.

Exclusions Based on Sustainalytics' Global Standards Screening

Sustainalytics' Global Standards Screening (GSS) provides an assessment of a company's impact on stakeholders and the extent to which a company causes, contributes or is linked to violations of international norms and standards. The basis of the GSS assessments are the United Nations (UN) Global Compact Principles. Information regarding related standards is also provided in the screening, including the Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, as well as their underlying conventions. Sustainalytics classifies companies into the following three statuses:

- **Non-Compliant.** Classification given to companies that do not act in accordance with the UNGC principles and its associated standards, conventions, and treaties.
- **Watchlist.** Classification given to companies that are at risk of violating one or more principles, for which all dimensions for Non-Compliant status could not be established or confirmed.
- **Compliant.** Classification given to companies that act in accordance with the UNGC principles and its associated standards, conventions and treaties.

As of each rebalancing reference date, companies classified as Non-Compliant, according to Sustainalytics, are ineligible for index inclusion. Companies not covered by Sustainalytics are excluded from index inclusion.

Please refer to <http://www.sustainalytics.com> for more information.

Controversies: Media and Stakeholder Analysis Overlay

In addition to the above, S&P Global uses RepRisk, a leading data science company, for daily filtering, screening, and analysis of ESG risk incidents and controversial activities related to companies within the indices².

In cases where risks are presented, S&P Global releases a Media and Stakeholder Analysis (MSA), which includes 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.

The Index Committee reviews constituents flagged by S&P Global's MSA to evaluate the potential impact of controversial company activities on the composition of the indices. If the Index Committee decides to remove a company in question, that company is ineligible for re-entry into the index for one full calendar year, beginning with the subsequent rebalancing.

For more information on RepRisk, please refer to www.reprisk.com. This service is not considered a direct contribution to the index construction process.

² RepRisk, an ESG data science company, leverages the combination of AI and machine learning with human intelligence to systematically analyze public information in 23 languages and identify material ESG risks. With daily data updates across 100+ ESG risk factors, RepRisk provides consistent, timely, and actionable data for risk management and ESG integration across a company's operations, business relationships, and investments.

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.

Index Construction

Constituent Selection

At each rebalancing, the eligible companies for each index are selected according to the following process:

The Optimization Objective Function

At each rebalancing reference date, the objective of the optimizer is to minimize the weighted-average carbon intensity³ weights as described below (subject to other constraints):

$$\text{minimize } \sum_i \text{Optimized Weight}_i \times \text{Carbon Intensity}_i$$

Carbon Intensity

For all indices, constituents within the S&P Trucost Limited (Trucost) coverage universe are assigned an annual carbon intensity, prior to the annual rebalancing reference date. The carbon intensity 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_{2e}) 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.

Optimization Constraints

As of each rebalancing reference date, the optimizer will seek to minimize the above objective function for each index in the series while satisfying the applicable combination of the below constraints:

Constraint	S&P Carbon Control Indices
Country Weight Lower Bound	max (Underlying Country Weight – 5%, Underlying Country Weight * 0.75)
Country Weight Upper Bound	min (Underlying Country Weight + 5%, Underlying Country Weight * 1.25)
Industry Group (I.G.) Lower Bound	min ((sum of weights of eligible stocks in the Underlying * stock weight multiplier, max (Underlying I.G. Weight - 5%, Underlying I.G. Weight * 0.75))
Industry Group (I.G.) Upper Bound	min (Underlying I.G. Weight + 5%, Underlying I.G. Weight * 1.25)
Stock weight Upper Bound	Min (stock cap, Underlying Stock Weight ** stock weight multiplier, Underlying Stock Weight + excess stock weight)
Stock weight Lower Bound	max (0, Underlying Stock Weight – excess stock weight)
Minimum Stock Weight Lower Threshold⁴	0.01%

where:

stock cap = 8%

excess stock weight = 2%

stock weight multiplier = 10

³ Companies with missing carbon intensities are assigned a median carbon intensity value from the companies within its GICS Industry Group at each rebalancing.

⁴ The minimum stock weight lower threshold is achieved by excluding stocks with optimized weight <1bps and redistributing the weight to constituents with weights >1bps after the constraints have been met.

Diversification Constraint: This constraint aims to achieve maximum diversification on active weights. The proportional squared active weights of the index must be less than the value for a theoretical index with uniform distribution of active weights.

$$\sum_{eligible} \frac{(W'_i - w_i)^2}{W'_i} \leq \sum_{eligible} \frac{\left(\frac{2T + \sum_{ineligible} W_i}{N_{eligible}}\right)^2}{W'_i}$$

where:

T = max (5%, 25% - sum of weights of ineligible stocks in the underlying)

W_i = stock weight of the i^{th} stock in the underlying

w_i = optimized stock weight of the i^{th} stock in the S&P Carbon Control Index

$$W'_i = W_i + \frac{\sum_{ineligible} W_i}{N_{eligible}}$$

$N_{eligible}$ = Stock count in the eligible universe

Constraint on Absolute Weight Deviation from Underlying Index. The constraint aims to limit half of the sum of the absolute differences of optimized weight and underlying index weight for each constituent i at 25%, or at (5% + sum of weights of ineligible stocks) when the ineligible weight exceeds 20%.

$$\sum_{underlying} \frac{|W_i - w_i|}{2} \leq (T + \text{sum of weights of ineligible stocks in the underlying})$$

Constraint Relaxation Hierarchy

In case the optimization does not solve for a certain period, each constraint in the hierarchy will be partially relaxed in the order listed below and repeated, if necessary, until a solution is found.

- Stock Weight Lower Bound and Upper Bound⁵
- T in the Diversification Constraint and Constraint on Absolute Weight Deviation from Underlying Index
- Industry Group Lower Bound and Upper Bound
- Country Lower Bound and Upper Bound

The following constraints are considered hard constraints and will not be relaxed:

- Stock cap (8%)
- Minimum Stock Weight Lower Threshold

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.

⁵ Excess stock weight is relaxed to a maximum of 4% and the Stock Weight Multiplier is relaxed to a maximum of twenty times.

Index Maintenance

Rebalancing

The indices rebalance semi-annually, effective after the close of the last business day of April and October. The rebalancing reference date for each rebalance is the last trading day of March & September. As part of the rebalancing process, constituent stock weights are updated. Weights calculated as a result of the reference date data are implemented in the indices using closing prices seven business days prior to the rebalancing effective date.

Additions and Deletions

Additions. Except for spin-offs, no stocks are added to the indices between rebalancings. Spinoffs are added to all indices where the parent security is a constituent at a zero price at the market close of the day before the ex-date (with no divisor adjustment) and are removed after at least one day of regular way trading (with a divisor adjustment).

Deletions. If a stock is dropped from an underlying index, it is also removed from the respective S&P Carbon Control index simultaneously. Between rebalancings, a stock can be deleted from an index due to corporate events such as mergers, takeovers, delistings, suspensions, spin-offs/demergers, or bankruptcies.

In addition, at the discretion of the Index Committee, a deletion may occur if an MSA is raised.

Ongoing Maintenance

Index constituents are drawn from the underlying index or component indices. 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 Methodology and S&P Dow Jones Indices' Float Adjustment Methodology.

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 prior to the implementation date.

Corporate Actions

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

Currency of Calculation and Additional Index Return Series

The indices calculate in euros and U.S. dollars.

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 the [S&P DJI Methodology & Regulatory Status Database](#).

For information on various index calculations, 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.spglobal/spdji.com.

Base Dates 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 Emerging LargeMidCap Carbon Control Index	08/30/2021	04/30/2010	04/30/2010	1000
S&P Developed ex-Australia LargeMidCap Carbon Control Index	08/30/2021	04/30/2010	04/30/2010	1000

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

An S&P Dow Jones Indices Index Committee maintains the indices. The Index 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.

Press releases are posted on our Web site, www.spglobal/spdji.com, and are released to major news services.

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.spglobal/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/Refinitiv exchange rates services are not published.

A complete holiday schedule for the year is available at www.spglobal/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.

Index Dissemination

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

Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to the [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index	Return Type	Bloomberg	RIC
S&P Emerging LargeMidCap Carbon Control Index (USD)	Price Return	SPEMXCUP	.SPEMXCUP
	Total Return	SPEMXCUT	.SPEMXCUT
	Net Total Return	SPEMXCUN	.SPEMXCUN
S&P Developed ex-Australia LargeMidCap Carbon Control Index (USD)	Price Return	SPDXACUP	.SPDXACUP
	Total Return	SPDXACUT	.SPDXACUT
	Net Total Return	SPDXACUN	.SPDXACUN

Index Data

Daily constituent and index level data are available via subscription.

For product information, please contact S&P Dow Jones Indices, www.spglobal/spdji.com/contact-us.

S&P DJI ESG Scores Data

Company-level S&P DJI ESG Scores data are available via subscription.

For product information, please contact S&P Dow Jones Indices, www.spglobal/spdji.com/contact-us.

Website

For further information, please refer to S&P Dow Jones Indices' Web site at www.spglobal/spdji.com.

Appendix I

Trucost Methodology

Trucost has analyzed the environmental performance of over 16,000 companies worldwide. Trucost's standardized greenhouse gas ("GHG") emissions data provides a proxy for carbon performance. To calculate the carbon intensity of any company included in the indices, Trucost reviews company annual reports and accounts, environmental/sustainability reports, public disclosures and corporate Web sites.

However, many companies do not disclose their environmental or carbon impacts. Where there is no public disclosure, Trucost employs its environmental profiling system. This proprietary Input-Output model maps the GHG impacts of business activities in 464 sectors. Trucost's broad coverage seeks to ensure that all non-disclosing companies are considered for index eligibility, not just those that disclose environmental information.

Six greenhouse gases (GHGs) are included in the analysis; these are all the GHGs regulated under the Kyoto protocol. Each gas has a different capacity to cause global warming. Although carbon dioxide ("CO₂") is the least potent of the GHGs, it is one of the most prevalent in terms of man-made emissions. The GHGs are calculated for each company and converted into tons of carbon dioxide equivalents based on the appropriate Global Warming Potential factors. The Global Warming Potential ("GWP") index, published by the Intergovernmental Panel on Climate Change ("IPCC"), assesses the effect of the emissions of different gases over a 100-year time period, relative to the emission of an equal mass of CO₂. GWP enables all the GHGs to be expressed in terms of CO₂ equivalents, or CO₂e, and is used as the basis for the analysis and for index calculation. Quantities of greenhouse gas emissions are, then, normalized by sales to calculate the company's carbon footprint, or "carbon intensity". The smaller the carbon footprint, the less investments contribute to climate change and the lower an index's exposure to the rising costs of emitting carbon dioxide.

Trucost, a part of S&P Global, is a leader in carbon and environmental data and risk analysis and assesses risks relating to climate change, natural resource constraints, and broader environmental, social and governance factors.

For more information, please refer to <http://www.trucost.com/>.

Appendix II

Indices in this Methodology Employing Backward Data Assumption

S&P Emerging LargeMidCap Carbon Control Index
S&P Developed ex-Australia LargeMidCap Carbon Control Index

Backward Data Assumption

The index employs a “Backward Data Assumption” method for some datapoints used in the derivation of historical index membership prior to the Live Data Effective Date (defined below). The “Backward Data Assumption” method involves applying the earliest available actual live data point for an index constituent to all prior, historical instances of that constituent in the index universe.

Backward Data Assumption affects only the historical, hypothetical constituents of any index back-test. Only actual live data is ever used in live index rebalancings and in the historical rebalancing calculation of an index after its Live Data Effective Date.

For more information on S&P DJI’s principles and processes for using Backward Data Assumption, please refer to the [FAQ](#).

Designated Datasets Subject to Backward Data Assumption

The Backward Data Assumption within the historical back-test, with respect to the indices identified above, applies only to designated datasets and associated time horizons as defined below. For each designated dataset, all historical rebalancing events prior to the Live Data Reference Date listed below are subject to use of the Backward Data Assumption.

Data Provider	Designated Dataset	Live Data Reference Date	Live Data Effective Date
Sustainalytics	Business Activity Exclusions	03/31/2020	05/01/2020
Sustainalytics	Global Standards Screening	03/31/2020	05/01/2020
S&P DJI	S&P DJI ESG Score	03/31/2020	05/01/2020

The Live Data Reference Date refers to the first rebalancing reference date from which only actual live data is used.

The Live Data Effective Date refers to the first date from which index constituents are determined solely on actual live data for each respective dataset.

Exclusions Based on Missing Coverage

This index excludes companies based on missing coverage with respect to the designated datasets above. However, for rebalancing dates prior to each respective Live Data Reference Date, the eligibility of companies is determined based on the coverage after applying the Backward Data Assumption and is not dictated by actual live data coverage.

Historical Coverage Assessment per Designated Dataset

S&P DJI ESG Score Coverage (with respect to underlying index universe):

S&P Emerging LargeMidCap Carbon Control Index

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2010	763	112	37.4%	695	97.9%
2011	839	156	62.3%	774	98.2%
2012	895	280	73.3%	845	98.8%
2013	883	403	80.9%	846	99.3%
2014	938	531	85.2%	908	99.5%
2015	1044	587	86.4%	1019	99.7%
2016	1024	1018	99.8%	1024	100.0%
2017	1021	1016	99.7%	1021	100.0%
2018	1037	1028	99.7%	1037	100.0%
2019	1047	1036	99.8%	1046	100.0%
2020	1463	1459	100.0%	n/a	n/a

S&P Developed ex-Australia LargeMidCap Carbon Control Index

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2010	1617	1454	98.6%	1591	99.9%
2011	1684	1489	96.9%	1657	99.9%
2012	1712	1455	97.6%	1690	99.9%
2013	1628	1464	97.7%	1618	100.0%
2014	1721	1493	98.0%	1706	100.0%
2015	1789	1577	98.8%	1776	100.0%
2016	1855	1840	99.6%	1853	99.9%
2017	1861	1851	99.9%	1861	100.0%
2018	1828	1819	99.9%	1828	100.0%
2019	1861	1853	99.9%	1861	100.0%
2020	1772	1762	99.8%	n/a	n/a

Sustainalytics Business Activity Exclusions & Global Standards Screening Coverage (with respect to underlying index universe):

S&P Emerging LargeMidCap Carbon Control Index

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2010	763	0	0.0%	691	97.3%
2011	839	0	0.0%	775	98.3%
2012	895	0	0.0%	834	98.5%
2013	883	722	95.4%	835	98.8%
2014	938	784	96.1%	899	99.2%
2015	1044	876	96.2%	1008	99.2%
2016	1024	913	98.0%	998	99.5%
2017	1021	984	99.3%	999	99.6%
2018	1037	1006	99.5%	1010	99.6%
2019	1047	1024	99.6%	1028	99.7%
2020	1463	1421	99.4%	n/a	n/a

S&P Developed ex-Australia LargeMidCap Carbon Control Index

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2010	1617	0	0.0%	1565	99.1%
2011	1684	0	0.0%	1636	99.0%
2012	1712	0	0.0%	1676	99.2%
2013	1628	1531	97.8%	1602	99.2%
2014	1721	1572	97.6%	1695	99.4%
2015	1789	1656	97.6%	1769	99.5%

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2016	1855	1756	99.2%	1844	99.7%
2017	1861	1795	99.7%	1854	100.0%
2018	1828	1809	99.8%	1824	100.0%
2019	1861	1840	99.8%	1855	100.0%
2020	1772	1755	99.9%	n/a	n/a

Coverage for each Sustainalytics Category of Involvement may differ due to the initiation of coverage for each sub-dataset. Actual live data coverage for each sub-dataset is therefore zero before its respective Coverage Initiation Date provided below:

Sustainalytics Category of Involvement	Coverage Initiation Date
Controversial Weapons: Tailor-made and Essential	12/31/2012
Controversial Weapons: Non Tailor-made or Non-Essential	12/31/2012
Controversial Weapons: Significant ownership (Tailor-made and Essential)	12/31/2018
Controversial Weapons: Significant ownership (Non Tailor-made and Non-Essential)	12/31/2018
Thermal Coal: Extraction	12/31/2015
Thermal Coal: Power Generation	12/31/2015
Tobacco Products: Production	12/31/2012
Tobacco Products: Related Products/Services	12/31/2012
Tobacco Products: Retail	12/31/2012
Tobacco Products: Significant ownership (production)	12/31/2018
Tobacco Products: Significant ownership (related products/services)	12/31/2018
Tobacco Products: Significant ownership (retail)	12/31/2018
Oil Sands: Extraction	12/31/2016
Shale Energy: Extraction	12/31/2016
Arctic Oil & Gas Exploration: Extraction	12/31/2016
Oil & Gas: Production	12/31/2017
Oil & Gas: Generation	12/31/2017
Oil & Gas: Supporting Products/Services	12/31/2017
Adult Entertainment: Production	12/31/2012
Adult Entertainment: Distribution	12/31/2012
Alcoholic Beverages: Production	12/31/2012
Alcoholic Beverages: Retail	12/31/2012
Alcoholic Beverages: Related Products/Services	12/31/2012
Gambling: Operations	12/31/2012
Gambling: Specialized Equipment	12/31/2012
Gambling: Supporting Products/Services	12/31/2012

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Performance Disclosure/Back-Tested Data

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Information presented prior to an index's launch date is hypothetical back-tested performance, not actual performance, and is based on the index methodology in effect on the launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Backtested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

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