

**S&P TIP Taiwan Carbon Reduced  
ESG 50 Index  
*Methodology***

December 2024

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# Introduction

## Index Objective

The S&P TIP Taiwan Carbon Reduced ESG 50 Index measures the performance of 50 equity securities from the S&P Taiwan LargeMidCap (the underlying index) selected and weighted to be collectively compatible with the transition to a low-carbon and climate resilient economy, while seeking to achieve a target dividend yield improvement compared to the underlying index.

## Highlights

The index applies exclusions based on companies' involvement in specific business activities, violations of the principles of the United Nations' Global Compact (UNGC), involvement in relevant ESG controversies, an earnings and dividend payment screen, and a listing market screen, as defined in *Eligibility Criteria*.

The index's weighting strategy aims to minimize the difference in constituent weights to the underlying index. In addition, the index incorporates a variety of specified decarbonization targets and a dividend yield target, and aligns with certain specified criteria through the use of optimization with multiple model constraints, including:

- reduced overall greenhouse gas (GHG expressed in CO<sub>2</sub> equivalents) emissions intensity compared to the respective underlying index by at least 30%
- minimum self-decarbonization rate of GHG emissions intensity in accordance with the trajectory implied by the Intergovernmental Panel on Climate Change's (IPCC) most ambitious 1.5°C scenario, equating to at least 7% GHG intensity reduction on average per annum
- increased exposure to companies with Science Based Targets from the Science Based Target Initiative (SBTi) that are credible and consistent with the above decarbonization trajectory
- improved S&P Global ESG Score compared to the underlying index by 20%
- exposure to sectors with high impact on climate change at least equivalent to the underlying index
- improved dividend yield to the underlying index by 50%
- constituent-level weight capping to address liquidity and diversification

The index excludes companies from the underlying index with:

- involvement in specific business activities
- non-compliant United Nations Global Compact (UNGC) principle violations
- involvement in relevant ESG controversies
- no dividend payment or non-positive EPS

## Partnership

The S&P TIP Taiwan Carbon Reduced ESG 50 Index is owned jointly by S&P Dow Jones Indices (S&P DJI) and the Taiwan Index Plus Corporation (TIP). The index is calculated and maintained by S&P DJI and is distributed by TIP in Taiwan and by S&P DJI globally (excluding Taiwan).

## Climate-Related Data

**S&P Trucost Limited (Trucost) Data Used:** GHG Emissions and Sector Revenues.

For information on Trucost’s methodology, please refer [here](#).

## Science Based Target Initiative (SBTi)

The Science Based Targets Initiative champions science-based target setting as a powerful way of boosting companies’ competitive advantage in the transition to a low-carbon economy. The initiative is a collaboration between CDP, World Resources Institute (WRI), the World Wide Fund for Nature (WWF), and the United Nations Global Compact (UNGC).

Targets adopted by companies to reduce greenhouse gas (GHG) emissions are considered “science-based” if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.

For more information on the initiative, please refer [here](#).

## The S&P Global ESG Score

The index uses S&P Global ESG Scores. S&P Global Sustainable1 calculates these scores and derives them from the ‘Corporate Sustainability Assessment’ (CSA). A company’s CSA score is derived using either company-provided data, publicly available information, or a combination thereof.

For more information on the CSA Process, please refer to [www.spglobal.com/esg/csa](http://www.spglobal.com/esg/csa).

For more information on S&P Global ESG Scores, please refer [here](#).

For the purposes of ESG assessment, companies are assigned to industries defined by S&P Global, and the assessment is largely specific to each industry. S&P Global 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 information on 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	<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’ Float Adjustment Methodology	<a href="#">Float Adjustment Methodology</a>
S&P Dow Jones Indices’ Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

The methodology is created by S&P Dow Jones Indices (S&P DJI) 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

At each rebalancing, the index universe is all constituents of the underlying index.

For information on the S&P Taiwan LargeMidCap, please refer to the S&P Global BMI, S&P/IFCI Methodology, available at [www.spglobal.com/spdji](http://www.spglobal.com/spdji).

## Eligibility Factors

As of each rebalancing reference date, stocks in the index universe must satisfy the following criteria to be eligible for index inclusion:

- **Listing:** be listed on the Taiwan Stock Exchange.
- **Positive Dividends:** have positive dividends over the last 12 months
- **Positive Earnings:** have positive earnings (EPS) over the last 12 months
- **Carbon Emissions Coverage:** have Scopes 1, 2, and 3 (upstream and downstream) GHG emissions data, as provided by Trucost, within four financial years prior to the rebalancing.

## Exclusions Based on Business Activities

As of each rebalancing reference date, as relevant for each index family, exclude the following:

- companies without coverage
- companies with the following specific business activities, using revenue as a proxy for all categories.

S&P Global Business Involvement	S&P Global Category of Involvement and Description	S&P DJI Level of Involvement Threshold	S&P DJI Significant Ownership Threshold
Controversial Weapons	<b>Customized Weapons:</b> This screen includes companies involved in the manufacturing of the components of a weapon. These components are intended solely for use in the production and are essential for the functioning of Anti-Personnel Mines, Biological and Chemical Weapons, Blinding Laser Weapons, Cluster Munitions, Depleted Uranium, Incendiary Weapons, and Nuclear Weapons.	>0%	≥25%
Tobacco	<b>Production:</b> The screen covers companies that are involved in the manufacturing of tobacco.	>0%	≥25%
	<b>Related Products and Services:</b> The screen covers companies that supply essential products/services for the tobacco industry.	≥10%	N/A
	<b>Retail and Distribution:</b> The screen covers companies involved in the retail and/or distribution of tobacco as part of their offerings.	≥10%	N/A

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

For more information on the S&P Global Business Involvement Screens data set, please refer [here](#).

## 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 is the UNGC 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 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, exclude the following:

- companies without coverage
- companies classified as Non-Compliant

Please refer to [www.sustainalytics.com](http://www.sustainalytics.com) for more information.

## Controversies Monitoring: Media and Stakeholder Analysis Overlay

In addition to the above, S&P Global uses RepRisk for daily filtering, screening, and analysis of ESG risk incidents and controversial activities related to companies within the indices.<sup>1</sup> 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, the company is ineligible for re-entry into the index for at least one full calendar year, beginning with the subsequent rebalancing.

*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 S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology. All publicly listed multiple share class lines of a company are assigned and assessed using the same S&P Global ESG score.

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<sup>1</sup> 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.

# Index Construction

## Constituent Selection

At each rebalancing, select 50 eligible companies from the index universe and form the index, subject to the optimization constraints below.

## Constituent Weighting

At each rebalancing reference date, weights are determined to minimize the sum of the squared difference between the parent weight for each constituent ( $i$ ) and its optimized weight, divided by its parent weight, subject to constraints. The objective function is as follows:

$$\text{Minimize } \left( \frac{1}{n} \sum \left[ \frac{(\text{Optimized Weight}_i - \text{Parent Weight}_i)^2}{\text{Parent Weight}_i} \right] \right)$$

## Optimization Constraints

At each rebalancing, the optimizer seeks to minimize the above objective function for the index while satisfying the target constituent count of 50, and all applicable combinations of the below carbon intensity target, ESG score improvement, dividend yield improvement, and index construction constraints.

After the first iteration of the optimization process, select the top 50 stocks by optimized weight for inclusion in the final basket. If there are fewer than 50 eligible stocks, select the remaining stocks by FMC until the target count of 50 is reached. Then, a second optimization process determines the final constituent weights based on the underlying index weights.

**Table 1. Transition Risk Constraints**

Constraint*	S&P TIP Taiwan Carbon Reduced ESG 50 Index	Data Source
Weighted-average Carbon Intensity (WACI) Target	$\leq$ underlying WACI $\times$ 70% $\times$ Buffer**	Trucost
7% Decarbonization Trajectory WACI Target	$\leq$ AnchorWACI*** $\times \frac{(1-7\%)^{(n/2)}}{1+Inf}$ $\times$ Buffer where: $n$ = number of rebalances since index launch date $Inf$ = Enterprise Value Including Cash (EVIC) growth of the parent index since the index Anchor Date <sup>2</sup>	Trucost
Weight of Eligible Science Based Targets Companies	$\geq$ 120% $\times$ weight of group in underlying index	Trucost / Science Based Targets Initiative
Weighted-average S&P Global ESG Score (waESG) <sup>3****</sup>	$\geq$ 120% $\times$ underlying index waESG	S&P Global
Weighted-average LTM dividend yield	$\geq$ 150% $\times$ underlying index weighted-average LTM dividend yield	
High Climate Impact Sectors Revenue Proportion (HCISRP)	$\geq$ HCISRP of underlying index	Trucost

\* Constraints are defined in *Constraint-Related Definitions* below.

\*\* Where Buffer = 95% to represent a 5% margin to allow for drift between targeted and realized WACI.

\*\*\* WACI on the index's Anchor Date. Prior to the index's anchor date, the 7% decarbonization Trajectory WACI Target calculated based on the index Inception Date.

\*\*\*\* For details about treatment of companies without a S&P Global ESG Score, please see *Appendix A*.

<sup>2</sup> The index 'Anchor Date' is the date of the reference index composition and base carbon intensity calculation used to determine the index's decarbonization trajectory. Please see *Appendix B* for more details.

**Table 2. Index Construction Constraints**

Constraint	Index
Target Stock Count	50
Diversification Absolute Max Company Weight	≤ 30%. Weight sum of the top five constituents ≤ 65%.
Liquidity Max Stock Weight	$\leq \frac{\text{Hypothetical Days to Buy/Sell} \times \text{Daily Participation} \times \text{Liquidity}_i}{\text{Notional Portfolio Size}}$ where: Hypothetical Days to Buy/Sell = 5 Daily Participation = 10% Liquidity = 3-month Median Daily Value Traded For Liquidity Currency and Notional Portfolio Size for each index, see Table 3.
Minimum Stock Weight	≥ 0.1%

**Table 3. Index Specific Liquidity Currency and Notional Portfolio Size Values**

Index	Liquidity Currency	Notional Portfolio Size
S&P TIP Taiwan Carbon Reduced ESG 50 Index	USD	300 million

**Constraint Relaxation Hierarchy**

If the optimization fails to find a solution, the optimizer partially relaxes each constraint in the order listed below, and repeats, if necessary, until a solution is found. In each attempt at optimization, the constraints are further relaxed in the stated order; however, the Index Committee may revise the order of relaxation hierarchy if a particular constraint prevents the optimizer from finding a solution.

- Weighted-average S&P Global ESG Score
- Weighted-average LTM dividend yield

The following constraints are considered hard constraints and do not relax:

- Weighted-average Carbon Intensity (WACI) Target
- 7% Decarbonization Trajectory WACI Target
- High Climate Impact Sectors Revenue Proportion
- Diversification Max Stock Weight
- Liquidity Max Stock Weight
- Weight of Eligible Science Based Targets Companies

**Constraint-Related Definitions****Weighted-Average Carbon Intensity (WACI)**

$$\sum w_i \times \frac{GHG1_i + GHG2_i + GHG3_i}{EVIC_i}$$

where:

$w_i$  = weight of index company  $i$

$GHG1_i$  = Scope 1 GHG emissions in tCO<sub>2</sub>e for company  $i$

$GHG2_i$  = Scope 2 GHG emissions in tCO<sub>2</sub>e for company  $i$

$GHG3_i$  = Scope 3 (upstream and downstream) GHG emissions in tCO<sub>2</sub>e for company  $i$

$EVIC_i$  = enterprise value including cash of the company  $i$

This metric calculates using the GHG emissions dataset provided by Trucost.

**Eligible Science Based Targets.** Eligible Science Based Targets Companies are those companies with publicly disclosed near-term targets from the Science Based Targets Initiative (SBTi), subject to the following conditions:

1. The target is publicly disclosed and is 1.5°C aligned
2. The targets set include all Scope 1, Scope 2 and Scope 3 (upstream and downstream) emissions
3. The company discloses their Scope 1, Scope 2 and Scope 3 emissions sufficiently
4. Companies must show a 7% decarbonization year-on-year, for the past three years
5. Companies' targets must represent an annualized decarbonization rate of 7% when accounting for Scopes 1, 2 and 3 (upstream and downstream) targets assuming the companies' current composition of emissions.

This metric calculates using the GHG emissions dataset and the 1.5°C Climate Transition Pathway Model Scenario dataset provided by Trucost and the register of approved science-based company targets from the SBTi.

### High Climate Impact Sectors Revenue Proportion (HCISRP)

$$\frac{\sum w_i \times \frac{HCISR_i}{EVIC_i}}{\sum w_i \times \frac{TR_i}{EVIC_i}}$$

where:

$w_i$  = weight of the company  $i$  in the index

$HCISR_i$  = revenue of the company  $i$  derived from High Climate Impact Sectors

$TR_i$  = total revenue of the company  $i$

$EVIC_i$  = enterprise value including cash of the company  $i$

High Climate Impact Sectors are defined by the follow NACE sections:

- Agriculture, Forestry and Fishing
- Mining and Quarrying
- Manufacturing
- Electricity, Gas, Steam and Air Conditioning Supply
- Water Supply; Sewerage, Waste Management and Remediation Activities
- Construction
- Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles
- Transportation and Storage
- Real Estate Activities

NACE sections have been mapped to Trucost Sectors. This metric calculates using the sector revenues dataset provided by Trucost.

*For more information on High Climate Impact Sectors, including the classification of Trucost revenue sectors as either 'high' or 'low' climate impact sectors, please refer to the [Trucost Climate Impact Sectors Classification](#).*

*Please refer to [www.trucost.com](http://www.trucost.com) for more information.*

## **Index Calculations**

The index calculates 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 S&P Dow Jones Indices' Index Mathematics Methodology.*

# Index Maintenance

## Rebalancing

The index rebalances semi-annually, effective after the close of the third Friday of June and December. The rebalancing reference date is the third Friday of the prior month. Weights calculated as a result of the reference date data are implemented in the index using closing prices seven business days prior to the rebalancing effective date.

**UNGC Compliance.** S&P DJI monitors UNGC compliance on a best-efforts basis until the initial announcement of the rebalancing results. If a company's UNGC compliance status changes any time prior to the rebalancing results announcement and no longer qualifies for the index, S&P Dow Jones Indices may, at its discretion, exclude the company in conjunction with the rebalancing.

## Ongoing Maintenance

The index is 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.

## Additions and Deletions

**Additions.** Except for spin-offs, no stocks are added to the index between rebalancings. Spin-offs are added to the index 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 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.

## Corporate Actions

For more information on Corporate Actions, please refer to the Non-Market Capitalization Indices section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

## Currency of Calculation and Additional Index Return Series

The index calculates in New Taiwan dollars and U.S. dollars.

WMR foreign exchange rates are Asia spot hedged and used in the calculation of the index. These mid-market fixings are calculated by WMR based on LSEG data and appear on LSEG pages.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to the following: 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.com/spdji](http://www.spglobal.com/spdji).

### 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 TIP Taiwan Carbon Reduced ESG 50 Index	10/28/2024	12/19/2016	12/19/2016	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

An 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.

## Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the index rebalances. 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.com/spdji](http://www.spglobal.com/spdji) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

The index calculates 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 WMR's exchange rates services are not published.

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

## 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.spglobal.com/spdji](http://www.spglobal.com/spdji), 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	BBG
S&P TIP Taiwan Carbon Reduced ESG 50 Index (TWD)	Price Return	SPTGTP
	Total Return	SPTGTT
	Net Total Return	SPTGTN
S&P TIP Taiwan Carbon Reduced ESG 50 Index (USD)	Price Return	SPTGUP
	Total Return	SPTGUT
	Net Total Return	SPTGUN

## Index Data

Daily constituent and index level data are available via subscription.

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

## Website

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

# Appendix A

## Data Coverage Treatment

For companies without coverage for the data points described below, values are assigned according to the following table:

Data	Value Assigned
Sector Revenues	0
S&P Global ESG Score	The underlying index's waESG after excluding companies without an S&P Global ESG Score from the calculation

# Appendix B

## Index Anchor Date of Decarbonization Trajectory

The index 'Anchor Date' is the date of the reference index composition and base carbon intensity calculation used to determine the index's decarbonization trajectory. It is the rebalancing reference date for the most recent index rebalancing prior to the index's launch date. Prior to the index 'Anchor Date', the index 'First Value Date' is used to determine the index's decarbonization trajectory.

Index	First Value Date	Anchor Date	Launch Date
S&P TIP Taiwan Carbon Reduced ESG 50 Index	12/19/2016	05/15/2020	10/28/2024

# Appendix C

## Indices in this Methodology Employing Backward Data Assumption

### S&P TIP Taiwan Carbon Reduced ESG 50 Index

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 index 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
Trucost	Scope 3 Emissions	05/15/2020	06/19/2020

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.

### Historical Coverage Assessment per Designated Dataset

**Trucost Scope 3 Emissions Coverage** (with respect to underlying index universe):

#### S&P TIP Taiwan Carbon Reduced ESG 50 Index

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2016	178	0	0	n/a	n/a
2017	178	0	0	n/a	n/a
2018	177	0	0	n/a	n/a
2019	184	0	0	n/a	n/a
2020	178	178	100.0%	n/a	n/a
2021	168	167	100.0%	n/a	n/a
2022	162	161	99.9%	n/a	n/a
2023	154	152	99.9%	n/a	n/a
2024	158	157	100.0%	n/a	n/a

# Disclaimer

## Performance Disclosure/Back-Tested Data

Where applicable, S&P Dow Jones Indices and its index-related affiliates (“S&P DJI”) defines various dates to assist our clients by 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 DJI 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. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Also, the treatment of corporate actions in back-tested performance may differ from treatment for live indices due to limitations in replicating index management decisions. Back-tested 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.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate certain ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using “Backward Data Assumption” (or pulling back) of ESG data for the calculation of back-tested historical performance. “Backward Data Assumption” is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as “product involvement”) were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on “Backward Data Assumption” please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history

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