

**S&P Dow Jones
Indices**

A Division of **S&P Global**

S&P Paris-Aligned Transition ESG Indices *Methodology*

September 2024

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Introduction

Index Objective

The S&P Paris-Aligned Transition ESG Indices measure the performance of eligible equity securities from an underlying index selected and weighted to be collectively compatible with a 1.5°C global warming climate scenario¹ at the index level. The indices apply exclusions based on companies' involvement in specific business activities, performance against the principles of the United Nations' Global Compact (UNGC), and involvement in relevant ESG controversies, all defined in *Eligibility Criteria*. Additionally, the S&P France 40 Paris-Aligned Transition ESG and S&P Core Eurozone 50 Paris-Aligned Transition ESG Indices also ensure that at least 50% of the index weight has an SBTi near-term target aligned with a 1.5C scenario.

Highlights

The indices aim to meet the minimum standards for EU Paris-aligned Benchmarks (EU PABs) under Regulation (EU) 2019/2089 amending Regulation (EU) 2016/1011.² The law proposes the definitions of minimum standards for the methodology of any 'EU Paris-Aligned' benchmark indices that would be aligned with the objectives of the Paris Agreement³, and addresses the risk of greenwashing. The indices also incorporate factors that seek to manage transition risk and climate change opportunities in a way that aligns them with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures' (TCFD) 2017 *Final Report*⁴, covering transition risk, climate change opportunities, and stranded asset.

Should a material change to the methodology be required as a consequence of any change made by the EU to the minimum standards for EU PABs, S&P Dow Jones Indices will issue an announcement before the change is implemented (and in these circumstances, S&P Dow Jones Indices would not conduct a formal consultation). For clarity, any other methodology change will follow S&P Dow Jones Indices' standard processes, which may include a consultation.

The indices' weighting strategy aim to minimize the difference in constituent weights to the underlying parent index. In addition, the indices incorporate a variety of specified decarbonization targets and align with certain specified criteria through the use of optimization with multiple model constraints, including:

- alignment to a 1.5°C climate scenario using the S&P Trucost Limited (Trucost) Transition Pathway Model
- reduced overall greenhouse gas (GHG expressed in CO₂ equivalents) emissions intensity compared to their respective underlying parent index by at least 50%
- minimum self-decarbonization rate of GHG emissions intensity in accordance with the trajectory implied by 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
- improved Sustainalytics ESG Risk Rating (further defined below) compared to the parent index

¹ A climate scenario of 1.5°C above preindustrial levels has been deemed important by the IPCC: Masson-Delmotte, V., Zhai, P., Pörtner, H. O., Roberts, D., Skea, J., Shukla, P. R. Waterfield, T. (2018). Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C. IPCC, available at <https://www.ipcc.ch/sr15/>.

² Pursuant to Articles 19(a)(2) and 19(b)(1) of Regulation (EU) 2019/2089, Commission Delegated Regulation (EU) 2020/1818 lays down the minimum standards for EU CTBs and EU PABs <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R1818>.

³ UNFCCC. (2015). The Paris Agreement: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

⁴ Financial Stability Board's Task Force on Climate-related Financial Disclosures' (TCFD). (2017). *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, available at <https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf>.

- exposure to sectors with high impact on climate change at least equivalent to the parent index
- constituent-level weight capping to address liquidity and diversification
- improved exposure to potential climate change opportunities through substantially higher green-to-brown revenue share compared to the parent index
- reduced exposure to fossil fuel reserves compared to the parent index

The indices feature the exclusion of companies from the underlying index with:

- involvement in specific business activities
- non-compliant UNGC principle violations
- involvement in relevant ESG controversies

In addition to those listed above, the indices incorporate the exclusion of companies whose revenues from coal, oil, or natural gas exploration or processing activities exceed defined thresholds, and electricity generation companies that exceed a stated revenues threshold.

Climate-Related Data

Trucost's Transition Pathway Model

The Trucost Transition Pathway approach is based on two models: the Sectoral Decarbonization Approach (“SDA”) (Krabbe, et al., 2015)⁵, and the Greenhouse Gas Emissions per unit of Value Added Approach (“GEVA”) (Randers, 2012)⁶, which are both recommended by the Science Based Targets Initiative (Science Based Targets Initiative, 2019).⁷

The approach allows for a forward-looking perspective on likely future greenhouse gas emissions and uses a carbon budget allocation method to allocate each company a total amount of carbon emissions per year. These allocations allow companies, as a collective, to be 1.5°C aligned provided their emissions remain within the allocation budgets.

The SDA approach is sector specific and is used for high emitting sectors.⁸ The SDA uses carbon intensity based on sector specific measures of output. For example, the unit of output for iron and steel companies is “tCO₂ per ton crude steel”. This allows an understanding of how carbon efficient companies are per unit of output. The SDA approach also sets carbon budgets for specific sectors as a whole, which allows some sectors to decarbonize more slowly where the opportunities for decarbonization are far lower. This is allowed by setting more aggressive targets for sectors with greater scope for decarbonization.

GEVA is applied to lower emitting or heterogeneous business activities. For GEVA, the unit of output used is gross profit. Companies have diverse business activities, most of which do not have distinct transition pathways defined in climate scenarios. For these companies, the methodology applies a contraction in carbon intensity principle under which a company should make emissions reductions. This is consistent with rates required for the overall economy, but from each company’s unique base year emissions intensity.

Other Trucost Data Used: GHG Emissions, Green-to-Brown Share, Fossil Fuel Reserves, and Sector Revenues.

⁵ Krabbe, O., Linthorst, G., Blok, K., Crijns-Graus, W., van Vuuren, D., Höhne, N., Pineda, A. C. (2015). Aligning Corporate Greenhouse-Gas Emissions Targets with Climate Goals. *Nature Climate Change*.

⁶ Randers, J. (2012). Greenhouse gas emissions per unit of value added (“GEVA”) – A corporate guide to voluntary climate action. *Journal Energy Policy*.

⁷ Science Based Targets Initiative. (2019, April). Science-Based Target Setting Manual, available [here](#).

⁸ As referenced in section 5.7.2. of The EU Technical Expert Group on Sustainable Finance. (2019). *TEG Final Report on Climate Benchmarks and Benchmarks’ ESG Disclosures*, available [here](#).

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

Science Base 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 to <https://sciencebasedtargets.org/>.

Sustainalytics ESG Risk Ratings

Sustainalytics, a Morningstar Company, produces ESG and corporate governance research, ratings, and analytics. Sustainalytics' ESG Risk Ratings are designed to measure the degree to which a company's unmanaged ESG risks may impact their enterprise value. The ESG Risk Rating measures an absolute measure of risk.

For more information, please refer to <https://www.sustainalytics.com/esg-ratings>.

Sustainalytics Controversies Research

Sustainalytics assesses companies' involvement in incidents with negative environmental, social and governance (ESG) implications. The Controversy Rating reflects a company's level of involvement in issues and how it manages these issues. A controversy is defined as an event or aggregation of events relating to an ESG topic.

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

S&P Global ESG Scores

The indices use 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 S&P Global ESG Scores, 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

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.

The Benchmark Administrator for the indices under this methodology is S&P DJI Netherlands B.V.

Eligibility Criteria

Index Universe

At each rebalancing reference date, the index universe for each index is all constituents of the underlying index, as defined below:

Index	Underlying Index
S&P France 40 Paris-Aligned Transition ESG Index	S&P France BMI
S&P Core Eurozone 50 Paris-Aligned Transition ESG Index	S&P Core Eurozone BMI
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index	S&P Europe LargeMidCap and S&P Poland LargeMidCap
S&P 500 Paris-Aligned Transition ESG 100 Index	S&P 500
S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index	S&P Japan LargeMidCap

Eligibility Factors

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

- **Dataset Coverage:** be covered by all relevant Sustainalytics and Trucost datasets.
- **Listing:**
 - **S&P France 40 Paris-Aligned Transition ESG Index:** be listed in France.
 - **S&P Core Eurozone 50 Paris-Aligned Transition ESG Index:** be listed in France, Germany, Belgium, the Netherlands, or Luxembourg.
 - **S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index:** be listed in Austria, Switzerland, Belgium, Netherlands, Germany, Denmark, Spain, Portugal, Finland, Norway, France, Ireland, Italy, Poland, Sweden, Luxembourg, or the UK.
 - **S&P 500 Paris-Aligned Transition ESG 100 Index:** be listed in the U.S.
 - **S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index:** be listed in Japan.
- **Market Capitalization:**
 - **S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index:** have a float-adjusted market capitalization (FMC) of at least EUR €2 billion.
- **Liquidity:**
 - **S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index:** have a three-month average daily value traded (ADVT) of at least EUR €5 million.

Exclusions Based on Business Activities

At each rebalancing, exclude the following:

- companies without coverage
- companies with the following specific business activities:

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%	≥25%
	Non-Tailor made or Non-Essential: The company provides components/services for the core weapon system, which are either not considered tailor made or not essential to the lethal use of the weapon	N/A	>0%	≥25%
Tobacco	Production: The company manufactures tobacco products.	Revenue	>0%	≥25%
	Retail: The company derives revenues from the distribution and/or retail sale of tobacco products.		≥5%	N/A
Small Arms	Civilian Customers (Assault Weapons): The company manufactures and sells assault weapons to civilian customers.	Revenue	>0%	≥25%
	Civilian Customers (Non-Assault weapons): The company manufactures and sells small arms (non-assault weapons) to civilian customers	Revenue	>0%	≥25%
	Key Components: The company manufactures and sells key components of small arms.	Revenue	>0%	≥25%
	Retail/distribution (Assault weapons): The company is involved in the retail and/or distribution of assault weapons.	Revenue	>0%	≥25%
	Retail/distribution (Non-Assault weapons): The company is involved in the retail and/or distribution of small arms (Non-assault weapons).	Revenue	>0%	≥25%
	Military/Law Enforcement Customers: The company manufactures and sells small arms to military/law enforcement.	Revenue	>0%	≥25%
Military Contracting	Weapons: The company manufactures military weapon systems and/or integral, tailor-made components of these weapons.	Revenue	>0%	≥25%
	Weapon Related Products and/or Services: The company provides tailormade products and/or services that support military weapons.	Revenue	≥5%	N/A

Additional Index-Specific Exclusions Based on Business Activity

S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index. At each rebalancing, in addition to the above, exclude the following:

- companies without coverage
- companies with the following specific business activities:

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
Shale Energy	Extraction: The company is involved in shale energy exploration and/or production.	Revenue	≥5%	N/A
Oil Sands	Extraction: The company extracts oil sands.	Revenue	≥5%	N/A
Arctic Oil & Gas Exploration	Extraction: The company is involved in oil and gas exploration in Arctic regions.	Revenue	≥5%	N/A

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. At each rebalancing, in addition to the above, exclude the following:

- companies without coverage
- companies with the following specific business activities:

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
Oil & Gas	Production: The company is involved in oil and gas exploration, production, refining, transportation and/or storage.	Revenue	>0%	≥10%
	Generation: The company generates electricity from oil and/or gas.	Revenue	>0%	≥10%

S&P DJI 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.

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 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 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, exclude the following:

- companies without coverage
- companies classified as Non-Compliant

Exclusions Based on Sustainalytics' Controversy Rating

As of each rebalancing reference date, exclude the following:

- companies without coverage
- companies with a Controversy Rating greater than or equal to four

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

Exclusions Based on Revenue Thresholds in Fossil Fuel Operations and Power Generation

As of each rebalancing reference date, exclude the following:

- companies without coverage
- companies whose sum of revenues derived from the relevant sectors breach the below revenue thresholds:

Exclusion Type	Trucost Revenue Sectors	Revenue Threshold	Indices
Coal Exploration or Processing	Bituminous Coal and Lignite Surface Mining Bituminous Coal Underground Mining All Other Petroleum and Coal Products Manufacturing Pipeline Transportation	> 0%	All
Oil Exploration or Processing	All Other Petroleum and Coal Products Manufacturing Crude Petroleum and Natural Gas Extraction Drilling Oil and Gas Wells Support Activities for Oil and Gas Operations Petroleum Lubricating Oil and Grease Manufacturing Mining and Oil and Gas Field Machinery Manufacturing Tar Sands Extraction Petroleum Refineries Petrochemical Manufacturing Pipeline Transportation	≥ 10%	<ul style="list-style-type: none"> • S&P France 40 Paris-Aligned Transition ESG Index • S&P Core Eurozone 50 Paris-Aligned Transition ESG Index
		>0%	<ul style="list-style-type: none"> • S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index • S&P 500 Paris-Aligned Transition ESG 100 Index • S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index
Natural Gas Exploration or Processing	Crude Petroleum and Natural Gas Extraction Drilling Oil and Gas Wells Support Activities for Oil and Gas Operations Mining and Oil and Gas Field Machinery Manufacturing Natural Gas Liquid Extraction Natural Gas Distribution Industrial Gas Manufacturing Pipeline Transportation	≥ 50%	<ul style="list-style-type: none"> • S&P France 40 Paris-Aligned Transition ESG Index • S&P Core Eurozone 50 Paris-Aligned Transition ESG Index
		>0%	<ul style="list-style-type: none"> • S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index • S&P 500 Paris-Aligned Transition ESG 100 Index • S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index
Coal Power Generation	Coal Power Generation	≥ 5%	All
Power Generation	Coal Power Generation Petroleum Power Generation Natural Gas Power Generation Biomass Power Generation	≥ 50%	All

Exclusions Based on New Thermal Coal Exploration, Extraction, or Transportation Projects

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. As of each rebalancing reference date, exclude the following:

- companies without coverage
- companies with the following characteristics:

S&P Global Business Involvement	S&P Global Category of Involvement and Description	Involvement Proxy	S&P DJI Level of Involvement Threshold
Coal Expansion	Mining: Companies that are involved in the expansion of coal mining.	In-situ reserves value	>0%
	Power Plants: Companies that are involved in the expansion of coal power plants.	Power generation capacity	>0%
	Transport/Infrastructure: Companies that are involved in the expansion of coal transportation. This involvement type is limited to the transportation of coal from the mine to the power plant.	Capex	>0%

S&P DJI Level of Involvement refers to the company's direct exposure.

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

Exclusions Based on Fossil Fuel Reserves

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. As of each rebalancing reference date, exclude the following:

- companies without coverage
- companies in an underlying index with fossil fuel reserves:

Trucost Category of Involvement	Trucost Category of Involvement Description	Trucost Involvement Proxy	S&P DJI Level of Involvement Threshold
Thermal Coal	The company has proven and probable (2P) thermal coal reserves (coal used to generate power – also known as 'steam coal').	2P Fossil Fuel Reserves ⁹ (millions of tonnes (Mt)/billions of barrels (mmbbl)/billion cubic feet (bcf)/million barrels of oil equivalents (mmboe))	>0
Other (non-Metallurgical) Coal	The company has both proven and probable (2P) coal reserves used for all other non-metallurgical or thermal coal uses, such as chemical byproducts, coal briquettes, residential use, liquid fuel, cement production, paper manufacturing, pharmaceutical, alumina refineries, ferrochrome, anthracite. This also includes all coal reserves reported where reserves are not disclosed transparently as for either thermal or metallurgical uses.		
Conventional and Unconventional Oil	The company has proven and probable (2P) conventional (crude) or unconventional oil reserves. Unconventional oils include natural gas liquids (NGL), oil sands, condensates and liquid petroleum gas (LPG).		
Natural Gas	The company has proven and probable (2P) natural gas reserves – a naturally occurring hydrocarbon gas mixture consisting primarily of methane.		
Shale Gas	The company has proven and probable (2P) shale gas – gas trapped in rock, commonly shale or tight siltstone limestone or dolomite, below the earth's surface.		
Other Oil and Gas	The company has proven and probable (2P) oil and/or gas reserves, but these are not disclosed transparently as specific types of oil or gas or are disclosed as one aggregate quantity of oil and gas reserves combined.		

Exclusions Based on Power Generating Companies' GHG Emissions Intensity

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. At each rebalancing reference date, exclude the following:

- companies without coverage
- constituents classified as 'Majority Power Generating Companies', whose electricity production carbon intensity exceeds a threshold of 207 gCO₂e/kWh¹⁰

Index Classification	Trucost Sector Revenue Dataset Sectors	Involvement Proxy	S&P DJI Classification Threshold
Majority Power Generating Companies	Coal Power Generation; Natural Gas Power Generation; Petroleum Power Generation; Biomass Power Generation; Nuclear Electric Power Generation; Landfill Gas Power Generation; Geothermal Power Generation; Wind Power Generation; Solar Power Generation; Hydroelectric Power Generation; Wave & Tidal Power Generation; Other Electric Power Generation.	Combined sum of all relevant sector revenues	≥50%

$$\frac{GHG1_i}{Total\ Power\ Generation_i} > 207\ gCO_2e/kWh$$

where:

$$GHG1_{i,y} = \text{Scope 1 GHG emissions in tCO}_2\text{e for the company } i$$

⁹ 2P, or 'proven and probable' reserves, are those with more than a 50% probability level of being recovered.

¹⁰ Label ISR soutenu par les pouvoirs publics (2023). Appendix 7: Exclusions. FR: <https://www.lelabelisr.fr/wp-content/uploads/Referentiel-Label-ISR-dec23.pdf>, EN: https://www.lelabelisr.fr/wp-content/uploads/EN_Referentiel-Label-ISR-mars24.pdf.

$Total\ Power\ Generation_{i,y}$ = total power generated (GWh) by constituent i . This is the sum of the data points in the below table.

Total Power Generation Data Points	Coal Power Generation (GWh); Natura Gas Power Generation (GWh); LPG Power Generation (GWh); Petroleum Power Generation (GWh); LNG Power Generation (GWh); Wind Power Generation (GWh); Solar Power Generation (GWh); Biomass Power Generation (GWh); Geothermal Power Generation (GWh); Wave & Tidal Power Generation (GWh); Hydropower Power Generation (GWh); Nuclear Power Generation (GWh); Landfill Gas Power Generation (GWh); Other Power Generation (GWh).
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Exclusions Based on Science Based Target Companies

S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index. As of each rebalancing reference date, exclude the following:

- companies classified as part of the below GICS Industries/Subindustries without coverage
- companies classified as part of the below GICS Industries/Subindustries without a target set at “well-below 2°C or 1.5°C”, or an SBTi ‘Business Ambition for 1.5°C’ commitment^{11,12}:

GICS Code	Industry/Subindustry Name
101010	Energy Equipment & Services
101020	Oil, Gas & Consumable Fuels
551010	Electric Utilities
551020	Gas Utilities
551030	Multi-Utilities
55105010	Independent Power Producers & Energy Traders

For more information, please refer to <https://sciencebasedtargets.org/companies-taking-action>.

Exclusions Based on Sustainalytics ESG Risk Rating

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. As of each rebalancing reference date, exclude the following:

- companies without coverage
- companies with a Sustainalytics ESG Risk Rating > 30

Exclusions Based on S&P Global ESG Score

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. As of each rebalancing reference date, exclude the following:

- companies without coverage

Additionally, at each rebalancing reference date, the index verifies that at least 30% of the total index weight is excluded by application of the ESG-related exclusions relative to the underlying index after the non-ESG listing criteria are applied. If the 30% exclusion threshold is not met, the index identifies the sector with the least exclusions by weight and applies a single exclusion to remove the constituent with the worst S&P Global ESG Score from that sector. The process continues iteratively until the 30% target exclusion target is reached.

¹¹ For history prior to the index “Anchor Date” the SBTi rule was not applied. The SBTi exclusion rule is applied beginning from the index “Anchor Date”. 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. For more information on Anchor Dates, please see *Appendix A*.

¹² Only the company that actually submits targets to SBTi is considered. A subsidiary of a company with set targets, but that has not separately submitted targets for itself, is ineligible.

The index also verifies if at least 10% of the total index weight is excluded by ESG Risk Rating or S&P Global ESG Score. If the 10% exclusion threshold is not met, the index identifies the sector with the least exclusions by weight and applies a single exclusion to remove the constituent with the worst S&P Global ESG Score. The process continues iteratively until the 10% target exclusion target is reached.

Multiple Classes of Stock

Each company is represented once by the most liquid share class, as determined by three-month ADVT as of the rebalancing reference date.

Index Construction

Constituent Selection

At each rebalancing, the eligible constituents of each underlying index are selected and subjected to the optimization constraints below.

Constituent Weightings

At each rebalancing reference date, constituents' weights are determined to minimize the below objective function for each index. Parent Weights are considered at the company level.

S&P France 40 Paris-Aligned Transition ESG Index

Objective Function

$$\begin{aligned} &= \frac{1}{N} \sum_{i=1}^N \left(\frac{(\text{Parent Weight}_i - \text{Optimized Weight}_i)^2}{\text{Parent Weight}_i} \right) \\ &+ \frac{1}{K} \sum_{k=1}^K \left(\frac{(\text{Parent Sector Weight}_k - \text{Optimized Sector Weight}_k)^2}{\text{Parent Sector Weight}_k} \right) \end{aligned}$$

S&P 500 Paris-Aligned Transition ESG 100 Index and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index

Objective Function

$$\begin{aligned} &= \frac{1}{N} \sum_{i=1}^N \left(\frac{(\text{Parent Weight}_i - \text{Optimized Weight}_i)^2}{\text{Parent Weight}_i} \right) \\ &+ \frac{1}{K} \sum_{k=1}^K \left(\frac{(\text{Parent Sector Weight}_k - \text{Optimized Sector Weight}_k)^2}{\text{Parent Sector Weight}_k} \right) \\ &+ \frac{1}{J} \sum_{j=1}^J \left(\frac{(\text{Parent Capitalization Type Weight}_j - \text{Optimized Capitalization Type Weight}_j)^2}{\text{Parent Capitalization Type Weight}_j} \right) \end{aligned}$$

Note: The market capitalization type of the S&P 500 constituents is defined based on the S&P United States BMI.

For information on the S&P United States BMI, please refer to the S&P Global BMI, S&P/IFCI Index Methodology, available at www.spglobal.com/spdji/.

S&P Core Eurozone 50 Paris-Aligned Transition ESG Index

Objective Function

$$\begin{aligned} &= \frac{1}{N} \sum_{i=1}^N \left(\frac{(\text{Parent Weight}_i - \text{Optimized Weight}_i)^2}{\text{Parent Weight}_i} \right) \\ &+ \frac{1}{K} \sum_{k=1}^K \left(\frac{(\text{Parent Sector Weight}_k - \text{Optimized Sector Weight}_k)^2}{\text{Parent Sector Weight}_k} \right) \\ &+ \frac{1}{M} \sum_{j=1}^M \left(\frac{(\text{Parent Country Weight}_j - \text{Optimized Country Weight}_j)^2}{\text{Parent Country Weight}_j} \right) \end{aligned}$$

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index:

$$\begin{aligned}
 & \textbf{Objective Function} \\
 &= \frac{1}{N} \sum_{i=1}^N \left(\frac{(\text{Parent Weight}_i - \text{Optimized Weight}_i)^2}{\text{Parent Weight}_i} \right) \\
 &+ \frac{1}{K} \sum_{k=1}^K \left(\frac{(\text{Parent Sector Weight}_k - \text{Optimized Sector Weight}_k)^2}{\text{Parent Sector Weight}_k} \right) \\
 &+ \frac{1}{M} \sum_{j=1}^M \left(\frac{(\text{Parent Country Weight}_j - \text{Optimized Country Weight}_j)^2}{\text{Parent Country Weight}_j} \right) \\
 &+ \frac{1}{J} \sum_{j=1}^J \left(\frac{(\text{Parent Capitalization Type Weight}_j - \text{Optimized Capitalization Type Weight}_j)^2}{\text{Parent Capitalization Type Weight}_j} \right)
 \end{aligned}$$

where:

- N = the number of companies selected
- K = the number of sectors in the universe
- M = the number of countries in the universe
- J = the number of universe capitalization types

Optimization Constraints

As of each rebalancing reference date, the optimizer seeks to minimize the above objective function for while satisfying all applicable combinations of the below transition risk, climate opportunities, and index construction constraints.

Table 1. Transition Risk Constraints

Constraint*	Index	Data Source
1.5°C Climate Scenario Transition Pathway Budget Index Alignment	≤ 0	Trucost
Weighted-average Carbon Intensity (WACI) Target	≤ underlying WACI × 50% × Buffer**	Trucost
7% Decarbonization Trajectory WACI Target	$\leq \text{AnchorWACI}^{***} \times \frac{(1-7\%)^{(q/4)}}{1+Inf} \times \text{Buffer}^{**}$ <p>where: q = number of rebalances since index launch date Inf = Enterprise Value Including Cash (EVIC) growth of parent index since index Anchor Date</p>	Trucost
High Climate Impact Sectors Revenue Proportion (HCISRP)	≥ HCISRP of underlying index	Trucost
Fossil Fuel Reserves (FFR) ¹³	≤ 20% × FFR 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 of index on the index's Anchor Date. Prior to launch date, the 7% Decarbonization Trajectory WACI Target was reset to the index Anchor Date. Prior to launch, the 7% decarbonization Trajectory WACI Target was calculated based on the index Inception Date.

¹³ Only the S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index.

Table 2. ESG Constraint

Constraint	Index	Data Source
Weighted-average Sustainalytics ESG Risk Rating (waESG) ^{****}	≤ underlying index waESG after 20% of the worst stocks by count based on their ESG Risk Rating are removed and their weight redistributed	Sustainalytics

^{****} Stocks without a Sustainalytics ESG Risk Rating are excluded from the waESG calculation.

This constraint is included in the construction of the following indices:

- S&P France 40 Paris-Aligned Transition ESG Index
- S&P Core Eurozone 50 Paris-Aligned Transition ESG Index

Table 3. SBTi Near Term Target Alignment Constraint

Constraint	Index	Data Source
SBTi Near-Term Target Alignment	≥ 50% of index weight must have an SBTi near-term target aligned with a 1.5C scenario	SBTi

This constraint is included in the construction of the following indices:

- S&P France 40 Paris-Aligned Transition ESG Index
- S&P Core Eurozone 50 Paris-Aligned Transition ESG Index

Constraint	Index	Data Source
SBTi Near-Term Target Alignment	≥ 40% of index weight must have an SBTi near-term target aligned with a 1.5C scenario	SBTi
	≥45% of High Climate Impact Sectors weight within the index must have an SBTi near-term target aligned with a 1.5° C scenario	

This constraint is included in the construction of the following indices:

- S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index
- S&P 500 Paris-Aligned Transition ESG 100 Index
- S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index

Table 4. Climate Opportunities Constraint

Constraint	Index	Data Source
Green-to-Brown Revenue Share (GBR)	≥ 4 × GBR of underlying index	Trucost

Table 5. Index Construction Constraints

Constraint	Index
Diversification Relative Company Weight ¹⁴	± 5% from underlying index company weight
Diversification Absolute Max Company Weight	S&P France 40 Paris-Aligned Transition ESG Index ≤ max(15%, underlying company weight)

¹⁴ Only the S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index.

Constraint	Index
	S&P Core Eurozone 50 Paris-Aligned Transition ESG Index $\leq \max(10\%, \text{underlying company weight})$
	S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index $\leq \max(18\%, \text{underlying company weight})$
	S&P 500 Paris-Aligned Transition ESG 100 Index $\leq \max(18\%, \text{underlying company weight})$
	S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index $\leq \max(18\%, \text{underlying company weight})$
Diversification Absolute Min Company Weight	$\geq 0.1\%$
Liquidity Max Stock Weight	$\leq \frac{\text{Hypothetical Days to Buy/Sell} \times \text{Daily Participation} \times \text{Liquidity}_i}{\text{Notional Portfolio Size}}$ <p>where: Hypothetical Days to Buy/Sell = 5 Daily Participation = 20% Liquidity = 3-month ADVT For Liquidity Currency and Notional Portfolio Size for each index, see Table 5.</p>

Table 6. Index Specific Liquidity Currency and Notional Portfolio Size Values

Index	Liquidity Currency	Notional Portfolio Size
S&P France 40 Paris-Aligned Transition ESG Index	EUR	500 million
S&P Core Eurozone 50 Paris-Aligned Transition ESG Index		
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index		
S&P 500 Paris-Aligned Transition ESG 100 Index	USD	
S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index	JPY	50 billion

Table 7. Companies Selected Per Index

Index	Constituent Count
S&P France 40 Paris-Aligned Transition ESG Index	40
S&P Core Eurozone 50 Paris-Aligned Transition ESG Index	50
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index	100
S&P 500 Paris-Aligned Transition ESG 100 Index	100
S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index	100

Constraint Relaxation Hierarchy

S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index. If the optimization does not achieve a solution for these indices, relax each constraint in the hierarchy, in the order listed below, and repeat, if necessary, until a solution is found.

- Weighted-average Sustainalytics ESG Risk Rating
- Diversification Absolute Max Stock Weight
- Diversification Relative Stock Weight
- Liquidity Max Stock Weight
- Fossil Fuel Reserves
- Green-to-Brown Revenue Share
- 1.5°C Climate Scenario Transition Pathway Budget Index Alignment

If the optimization is not solved after relaxing all the above constraints, the following constraint is relaxed:

- Number of Stocks Selected

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
- SBTi Near-Term Target Alignment

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index, S&P 500 Paris-Aligned Transition ESG 100 Index, and S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index. If the optimization does not achieve a solution for these indices, relax each constraint in the hierarchy, in the order listed below, and repeat, if necessary, until a solution is found.

- Liquidity Max Stock Weight
- Number of Stocks Selected
- 1.5°C Climate Scenario Transition Pathway Budget Index Alignment

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 Absolute Max Stock Weight
- Near-Term Target Alignment
- Green-to-Brown Revenue Share

Liquidity Related Constraints

S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index. The optimization process is first performed using only stocks with an ADVT of at least 10 million euros. If the optimization successfully achieves a result without requiring any relaxations, then the selected stocks are the final index constituents.

If any relaxations are necessary, the optimization is performed with ADVT thresholds of nine, eight, seven, six and five million euros (five million is the minimum threshold for eligibility). The final constituents are those selected with the highest possible ADVT threshold and the least number of relaxed constraints.

Constraint-Related Definitions

1.5°C Climate Scenario Transition Pathway Budget Index Alignment

The alignment of the index¹⁵ is calculated as follows:

$$\sum w_i \times \frac{\text{Winsorized TPBA}_i}{\text{EVIC}_i}$$

where:

w_i = weight of the company i in the index

Winsorized TPBA_i = max (2.5 percentile of the TPBA of underlying index, TPBA_i)

¹⁵ For history prior to June 2020, only the realized GHG data available at that point-in-time was used in the calculation of the Transition Pathway Budget Alignment (i.e., Predicted GHG was included from July 2020 onwards).

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

The Transition Pathway Budget Alignment (TPBA) of each company i is calculated as the sum of the difference between a company's carbon budget and emissions (either realized or predicted) both using history and future projections. A TPBA of 0 would be compatible with a 1.5°C climate scenario, a budget below 0 would be compatible with better than a 1.5°C climate scenario and a budget above 0 would not be compatible with a 1.5°C climate scenario.

This metric is calculated using the GHG emissions dataset and the 1.5°C Climate Transition Pathway Model Scenario dataset provided by Trucost.

Weighted-Average Carbon Intensity (WACI)

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

where:

w_i = weight of the company i in the index
 $GHG1_i$ = Scope 1 GHG emissions in tCO₂e for the company i
 $GHG2_i$ = Scope 2 GHG emissions in tCO₂e for the company i
 $GHG3_i$ = Scope 3 (upstream and downstream) GHG emissions¹⁶ in tCO₂e for the company i
 $EVIC_i$ = enterprise value including cash of the company i

This metric is calculated using the GHG emissions dataset provided by Trucost.

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

¹⁶ Scope 3 GHG emissions are included in the calculation of Carbon Intensity beginning with the indices' Anchor Date. Prior to the indices' Anchor Date carbon intensity was calculated using only scope 1 and scope 2 GHG emissions.

- Transportation and Storage
- Real Estate Activities

NACE sections have been mapped to Trucost Sectors. This metric is calculated 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](#).

Fossil Fuel Reserves (FFR)

$$\sum w_i \times \frac{\text{Fossil Fuel Reserves}_i}{EVIC_i}$$

where:

- w_i = weight of the company i in the index
- $\text{Fossil Fuel Reserves}_i$ = the embedded emissions (tCO₂) within the fossil fuel reserves owned by company i
- $EVIC_i$ = enterprise value including cash of the company i

This metric is calculated using the fossil fuel reserves dataset provided by Trucost.

Green-to-Brown Revenue Share (GBR)

$$\frac{\sum w_i \times \frac{GR_i}{EVIC_i}}{\sum w_i \times \frac{BR_i}{EVIC_i}}$$

where:

- w_i = weight of the company i in the index
- GR_i = revenue of the company i derived from Green Sectors
- BR_i = revenue of the company i derived from Brown Sectors
- $EVIC_i$ = enterprise value including cash of the company i

S&P DJI defines Green Sectors as the following Trucost Sectors:

- Nuclear Electric Power Generation
- Biomass Power Generation
- Geothermal Power Generation
- Hydroelectric Power Generation
- Solar Power Generation
- Wave & Tidal Power Generation
- Wind Power Generation

S&P DJI defines Brown Sectors as the following Trucost Sectors:

- Coal Power Generation
- Petroleum Power Generation
- Natural Gas Power Generation

This metric is calculated using the sector revenues dataset provided by Trucost.

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

Index Calculations

The indices calculate 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 quarterly, effective after the close of the third Friday of March, June, September, and December. The rebalancing reference date for each rebalance is the third Friday of the prior month. 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. Since index shares are assigned based on prices prior to the rebalancing effective date, the actual weight of each stock at the rebalancing differs from these weights due to market movements.

S&P Dow Jones Indices monitors UNGC compliance on best effort 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.

Additions and Deletions

Additions. Except for spin-offs, no additions occur intra-rebalancing. Spinoffs 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 the underlying index, the stock is 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.

Ongoing Maintenance

Index constituents are drawn from the underlying index. 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.

Quarterly Updates

Changes to a constituent's shares and IWF due to the quarterly updates are effective after the close on the third Friday in March, June, September, and December.

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 indices calculate in euros and U.S. dollars.

WMR foreign exchange rates are taken daily at 4:00 PM London Time and used in the calculation of the indices. 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/.

Base Dates and History Availability

Index history availability, base date, and base value are:

Index	Launch Date	First Value Date	Base Date	Base Value
S&P France 40 Paris-Aligned Transition ESG Index	05/30/2022	12/31/2016	12/31/2016	1000
S&P Core Eurozone 50 Paris-Aligned Transition ESG Index ¹⁷	08/29/2022	12/31/2016	12/31/2016	1000
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index	04/24/2023	12/31/2016	12/31/2016	1000
S&P 500 Paris-Aligned Transition ESG 100 Index	04/24/2023	12/31/2016	12/31/2016	1000
S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index	08/13/2024	12/16/2016	12/16/2016	1000

¹⁷ The index relaunched on 11/28/2022 with all history restated. For more details, please refer to the announcement, available [here](#).

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 indices rebalance. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents as well as their corresponding weights and index shares effective for the upcoming rebalancing.

Please visit www.spglobal.com/spdji/ for a complete schedule of rebalancing timelines and pro-forma delivery times.

Holiday Schedule

The indices calculate 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 exchange rates services are not published.

A complete holiday schedule for the year is available at 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.

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at 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	RIC
S&P France 40 Paris-Aligned Transition ESG Index (EUR)	Price Return Total Return Net Total Return	SPFRPAEP SPFRPAET SPFRPAEN	.SPFRPAEP .SPFRPAET .SPFRPAEN
S&P Core Eurozone 50 Paris-Aligned Transition ESG Index (EUR)	Price Return Total Return Net Total Return	SPCEPAEP SPCEPAET SPCEPAEN	.SPCEPAEP .SPCEPAET .SPCEPAEN
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index (EUR)	Price Return Total Return Net Total Return	SPWEXPEP SPWEXPET SPWEXPEN	.SPWEXPEP .SPWEXPET .SPWEXPEN
S&P 500 Paris-Aligned Transition ESG 100 Index (USD)	Price Return Total Return Net Total Return	SPXPATUP SPXPATUT SPXPATUN	.SPXPATUP .SPXPATUT .SPXPATUN
S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index (EUR)	Price Return Total Return Net Total Return	SPJXTEEP SPJXTEET SPJXTEEN	.SPJXTEEP .SPJXTEET .SPJXTEEN

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.

Website

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

Appendix A

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. 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 France 40 Paris-Aligned Transition ESG Index	12/31/2016	02/28/2022	05/30/2022
S&P Core Eurozone 50 Paris-Aligned Transition ESG Index	12/31/2016	02/28/2022	08/29/2022
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index	12/31/2016	02/28/2022	04/24/2023
S&P 500 Paris-Aligned Transition ESG 100 Index	12/31/2016	02/28/2022	04/24/2023
S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG Index	12/31/2016	02/28/2022	08/13/2024

Appendix B

Methodology Changes

Methodology changes since May 30, 2022, are as follows:

Change	Effective Date (After Close)	Previous	Methodology Updated
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Constraint Relaxation Hierarchy	06/21/2024	<p>If the optimization does not achieve a solution, each constraint in the hierarchy is relaxed in the order listed below and repeated, if necessary, until a solution is found.</p> <ul style="list-style-type: none"> Weighted-average Sustainalytics ESG Risk Rating Diversification Absolute Max Stock Weight Diversification Relative Stock Weight Liquidity Max Stock Weight Fossil Fuel Reserves Green-to-Brown Revenue Share 1.5°C Climate Scenario Transition Pathway Budget Index Alignment <p>If the optimization is not solved after relaxing all the above constraints, the following constraint is relaxed:</p> <ul style="list-style-type: none"> Number of Stocks Selected <p>The following constraints are considered hard constraints and are not relaxed:</p> <ul style="list-style-type: none"> Weighted-average Carbon Intensity (WACI) Target 7% Decarbonization Trajectory WACI Target High Climate Impact Sectors Revenue Proportion SBTi Near-Term Target Alignment 	<p>If the optimization does not achieve a solution, each constraint in the hierarchy is relaxed in the order listed below and repeated, if necessary, until a solution is found.</p> <ul style="list-style-type: none"> Liquidity Max Stock Weight Number of Stocks Selected 1.5°C Climate Scenario Transition Pathway Budget Index Alignment <p>The following constraints are considered hard constraints and are not relaxed:</p> <ul style="list-style-type: none"> Weighted-Average Carbon Intensity (WACI) Target 7% Decarbonization Trajectory WACI Target High Climate Impact Sectors Revenue Proportion Diversification Absolute Max Stock Weight Near-Term Target Alignment Green-to-Brown Revenue Share
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Diversification Relative Company Weight	06/21/2024	± 5% from underlying index company weight	--
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned	06/21/2024	≤ max(10%, underlying company weight)	≤ max(18%, underlying company weight)

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Transition ESG 100 Index: Diversification Absolute Max Company Weight			
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: SBTi Near Term Target Alignment Constraint	06/21/2024	--	≥ 40% of index weight must have an SBTi near-term target aligned with a 1.5C scenario, and, ≥45% of High Climate Impact Sectors ¹⁸ weight within the index must have an SBTi near-term target aligned with a 1.5° C scenario.
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Fossil Fuel Reserves (FFR) Constraint	06/21/2024	≤ 20% × FFR of underlying index	--
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index: Constituent Weighting	06/21/2024	--	<i>See Index Construction.</i>
S&P 500 Paris-Aligned Transition ESG 100 Index: Constituent Weighting	06/21/2024	--	<i>See Index Construction.</i>
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions based on S&P Global ESG Score and Sustainalytics ESG Risk Rating	06/21/2024	--	The index verifies if at least 10% of the total index weight is excluded by ESG Risk Rating or S&P Global ESG Score. If the 10% exclusion threshold is not met, the index identifies the sector with the least exclusions by weight and applies a single exclusion to remove the constituent with the worst S&P Global ESG Score. The process continues iteratively until the 10% target exclusion target is reached.
S&P Western Europe Plus LargeMidCap 100	06/21/2024	--	At each rebalancing reference date, the index verifies that at least 30% of the total index weight is excluded by application of

¹⁸ Underlying index constituents are assigned a status of either 'High' or 'Low Climate Impact' based on GICS Sub-Industry Group. For more information on high/low climate impact, please see [here](#).

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions Based on S&P Global ESG Score			the ESG-related exclusions relative to the underlying index after the non-ESG listing criteria are applied. If the 30% exclusion threshold is not met, the index identifies the sector with the least exclusions by weight and applies a single exclusion to remove the constituent with the worst S&P Global ESG Score from that sector. The process continues iteratively until the 30% target exclusion is reached.
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions Based on Sustainalytics ESG Risk Rating	06/21/2024	As of each rebalancing reference date, rank eligible securities by Sustainalytics ESG Risk Rating and exclude, by count, the highest ranked 20% of the total number of securities in the index universe.	At each rebalancing reference date, exclude companies with a Sustainalytics ESG Risk Rating > 30.
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions Based on Greenhouse Gas Emissions Intensity of Majority Power Generating Companies	06/21/2024	--	$\frac{GHG1_i}{Total\ Power\ Generation_i} > 20719\ gCO_2e/kWh$ <p>where: $GHG1_{i,y}$ = Scope 1 GHG emissions in tCO2e for the company $Total\ Power\ Generation_{i,y}$ = total power generated (GWh) by constituent i. This is the sum of the data points in the below table.</p>
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions based on Fossil Fuel Reserves	06/21/2024	--	Companies with 2P Fossil Fuel (Thermal Coal, Other (Non-Metallurgical) Coal, Conventional and Unconventional Oil, Natural Gas, Shale Gas, 'Other' Oil and Gas) Reserves, as defined by Trucost, >0 are excluded.
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions Based on New Thermal	06/21/2024	--	Companies with Coal Expansion involvement in Mining, Power Plants, or Transport/Infrastructure are excluded.

¹⁹ Label ISR soutenu par les pouvoirs publics (2023). Appendix 7: Exclusions. FR: <https://www.lelabelisr.fr/wp-content/uploads/Referentiel-Label-ISR-dec23.pdf>. EN: https://www.lelabelisr.fr/wp-content/uploads/EN_Referentiel-Label-ISR-mars24.pdf.

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Coal Exploration, Extraction or Transportation Projects			
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Fossil Fuel Operations and Power Generation	06/21/2024	Oil Exploration or Processing: Revenue Threshold at 10% Natural Gas Exploration or Processing: Revenue Threshold at 50%.	Oil Exploration or Processing: Revenue Threshold at 0% Natural Gas Exploration or Processing: Revenue Threshold at 0%.
S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG Index and S&P 500 Paris-Aligned Transition ESG 100 Index: Exclusions Based on Index Activities	06/21/2024	Companies are excluded for involvement in Shale Energy, Oil Sands and Arctic Oil & Gas Exploration.	Exclude companies for involvement in Oil & Gas Production and Generation.
S&P France 40 Paris-Aligned Transition ESG Index and S&P Core Eurozone 50 Paris-Aligned Transition ESG Index: SBTi Near-Term Target Alignment	12/15/2023	--	≥ 50% of index weight must have an SBTi near-term target aligned with a 1.5C scenario.
All Indices: Rebalancing	09/15/2023	The indices rebalance quarterly, effective after the close of the last business day of March, June, September, and December. The rebalancing reference date for each rebalance is the last trading day of the prior month.	The indices rebalance quarterly, effective after the close of the third Friday of March, June, September, and December. The rebalancing reference date for each rebalance is the third Friday of the prior month.
S&P France 40 Paris-Aligned Transition ESG Index: Eligibility Requirements – Sustainalytics Risk Rating Data Coverage	12/30/2022	If a company does not have an Sustainalytics ESG Risk Rating, it is assigned the underlying index waESG.	If a company does not have a Sustainalytics ESG Risk Rating, it is excluded.
S&P France 40 Paris-Aligned Transition ESG Index: Eligibility Requirements – Trucost Climate Data Coverage	12/30/2022	--	If a company does not have Trucost data coverage related to Transition Pathway, GHG Emissions (Scope 1, 2 and 3), Sector Revenues or Fossil Fuel Reserves, it will be excluded.
S&P France 40 Paris-Aligned Transition ESG Index:	12/30/2022		Level of Involvement Threshold: >0% Significant Ownership Threshold: ≥25%

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
<p>Exclusions Based on Business Activities:</p> <ul style="list-style-type: none"> Controversial Weapons: Non-Tailor made or Non-Essential Small Arms: Civilian Customers (Assault Weapons) Small Arms: Civilian Customers (Non-Assault weapons) Small Arms: Key Components Small Arms: Retail/distribution (Assault weapons) Small Arms: Retail/distribution (Non-Assault weapons) Small Arms: Military/Law Enforcement Customers Military Contracting: Weapons 		--	
<p>S&P France 40 Paris-Aligned Transition ESG Index:</p> <p>Exclusions Based on Business Activities:</p> <ul style="list-style-type: none"> Military Contracting: Weapon Related Products and/or Services 	12/30/2022	--	<p>Level of Involvement Threshold: ≥5%</p> <p>Significant Ownership Threshold: N/A</p>
<p>S&P France 40 Paris-Aligned Transition ESG Index:</p> <p>Exclusions Based on Business Activities:</p> <ul style="list-style-type: none"> Tobacco: Retail 	12/30/2022	<p>Level of Involvement Threshold: ≥10%</p> <p>Significant Ownership Threshold: N/A</p>	<p>Level of Involvement Threshold: ≥5%</p> <p>Significant Ownership Threshold: N/A</p>
<p>S&P France 40 Paris-Aligned Transition ESG Index:</p>	08/26/2022	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	Each company is represented once by the most liquid share class, as determined by three-month ADVT as of the rebalancing reference date.

Change	Effective Date (After Close)	Previous	Methodology	Updated
Multiple Classes of Stock		Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.		

Appendix C

Backward Data Assumption

The indices employ 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	ESG Risk Ratings	2/28/2019	4/1/2019

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

S&P France 40 Paris-Aligned Transition ESG 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	205	0	0%	160	97.9%
2017	189	0	0%	157	98.8%
2018	185	0	0%	157	99.7%
2019	163	147	99.8%	150	99.9%
2020	170	148	99.2%	155	99.7%
2021	191	147	99.0%	147	99.0%
2022	191	145	97.8%	n/a	n/a

S&P Core Eurozone 50 Paris-Aligned Transition ESG 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	559	0	0%	449	97.6%
2017	531	0	0%	443	98.1%
2018	526	0	0%	449	99.1%
2019	477	429	99.4%	442	99.5%
2020	504	439	98.8%	466	99.7%

Rebalancing Date	Underlying Index Stock Count	Point-in-Time Data		After Using the Data Assumption	
		Stock Count	Index Weight	Stock Count	Index Weight
2021	549	447	98.0%	458	98.7%
2022	559	452	98.5%	n/a	n/a

S&P Western Europe Plus LargeMidCap 100 Paris-Aligned Transition ESG 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	508	0	0%	485	97.8%
2017	496	0	0%	480	98.7%
2018	497	0	0%	490	99.1%
2019	480	470	99.4%	477	99.7%
2020	483	475	99.6%	481	100%
2021	493	483	99.0%	491	99.7%
2022	472	462	99.3%	n/a	n/a

S&P 500 Paris-Aligned Transition ESG 100 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	505	0	0%	469	95.4%
2017	505	0	0%	479	97.0%
2018	505	0	0%	490	98.1%
2019	505	498	99.5%	500	99.6%
2020	506	503	99.6%	505	100%
2021	505	494	98.8%	496	98.9%
2022	503	493	98.9%	n/a	n/a

S&P Japan LargeMidCap 100 Paris-Aligned Transition ESG 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	404	0	0%	399	99.7%
2017	406	0	0%	403	99.8%
2018	414	0	0%	411	99.9%
2019	420	407	98.9%	418	100%
2020	409	408	99.8%	409	100%
2021	399	398	99.9%	399	100%
2022	382	381	99.9%	382	100%
2023	357	355	99.9%	357	100%

Appendix D

ESG Disclosures

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY ²⁰				
1.	Name of the benchmark administrator.	S&P DJI Netherlands B.V.		
2.	Underlying asset class of the ESG benchmark. ²¹	Equity		
3.	Name of the S&P Dow Jones Indices benchmark or family of benchmarks.	S&P Paris-Aligned & Climate Transition (PACT) Index Family Benchmark Statement		
4.	Do any of the indices maintained by this methodology take into account ESG factors?	Yes		
5.	If the response to (4) is “Yes,” the indices stated here take into account ESG factors.	For a list of the benchmarks within this family that take in account ESG factors, please refer to the S&P DJI Methodology & Regulatory Database .		
6.	Where the response to (4) is ‘Yes’, the section below lists those ESG factors that are taken into account by the ESG indices governed by the methodology, including those ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816.			
6.a	List of environmental factors considered	ESG Factor²²	S&P DJI ESG Factor	Comment
		Weighted average ESG rating of the benchmark (voluntary).	<u>Transition Risk</u> <u>Constraints:</u> <i>Weighted-average Sustainalytics ESG Risk Rating</i>	Weighting. For more information, please refer to the ‘ <i>Index Construction</i> ’ section of the methodology.
		Degree of exposure of the portfolio to the sectors listed in Sections A to H and Section L of Annex I to Regulation (EC) No	<u>Transition Risk</u> <u>Constraints:</u> <i>High Climate Impact Sectors Revenue Proportion (HCISRP)</i>	Weighting. For more information, please refer to the ‘ <i>Index Construction</i> ’ section of the methodology.

²⁰ The information contained in this Appendix is intended to meet the requirements of the European Union Commission Delegated Regulation (EU) 2020/1817 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation of how environmental, social and governance factors are reflected in the benchmark methodology and the retained EU law in the UK [The Benchmarks (amendment and Transitional Provision) (EU Exit) Regulations 2019].

²¹ The ‘underlying assets’ are defined in European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

²² ‘ESG factors’ are defined in Annex II of European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY²⁰

	1893/2006 of the European Parliament and of the Council as a percentage of the total weight in the portfolio.		
	Greenhouse gas (GHG) intensity of the benchmark.	Transition Risk Constraints: <i>Weighted-average Carbon Intensity (WACI) Target; 7% Decarbonization Trajectory WACI Target</i>	Weighting. For more information, please refer to the 'Index Construction' section of the methodology.
	N/A	Transition Risk Constraints: <i>Fossil Fuel Reserves</i>	Weighting. For more information, please refer to the 'Index Construction' section of the methodology.
	N/A	Transition Risk Constraints: <i>1.5°C Climate Scenario Transition Pathway Budget Index Alignment</i>	Weighting. For more information, please refer to the 'Index Construction' section of the methodology.
	N/A	Transition Risk Constraints: <i>Eligible Science Based Targets Companies</i>	Weighting. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
	N/A	Climate Opportunities Constraints: <i>Green-to-Brown Revenue Share (GBR)</i>	Weighting. For more information, please refer to the 'Index Construction' section of the methodology.
	N/A	Fossil Fuel Operations and Power Generation	Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
	N/A	Controversies Rating	Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
	N/A	Business Activities: <i>Oil Sands</i>	Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
	N/A	Business Activities: <i>Shale Energy</i>	Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
6.b List of social factors considered.	International treaties and conventions, United Nations principles or, where applicable, national law used in order to determine what constitutes a 'controversial weapon'.	Business Activities: <i>Controversial Weapons</i>	Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
	Weighted average percentage of benchmark	Business Activities: <i>Controversial Weapons</i>	Exclusion. For more information, please refer

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY ²⁰			
		constituents in the controversial weapons sector.	to the 'Eligibility Criteria' section of the methodology.
		Weighted average percentage of benchmark constituents in the tobacco sector.	Business Activities: <i>Tobacco</i> Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
		Number of benchmark constituents subject to social violations (absolute number and relative divided by all benchmark constituents), as referred to in international treaties and conventions, United Nations principles and, where applicable, national law.	UNGC Non-Compliant Companies Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
		Weighted average ESG rating of the benchmark (voluntary).	Transition Risk Constraints: <i>Weighted-average Sustainalytics ESG Risk Rating</i> Weighting. For more information, please refer to the 'Index Construction' section of the methodology.
		N/A	Controversies Rating Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
6.c List of governance factors considered.		Weighted average ESG rating of the benchmark (voluntary).	Transition Risk Constraints: <i>Weighted-average Sustainalytics ESG Risk Rating</i> Weighting. For more information, please refer to the 'Index Construction' section of the methodology.
		N/A	Controversies Rating Exclusion. For more information, please refer to the 'Eligibility Criteria' section of the methodology.
7.	Data and standards used.		
7.a	Data sources, verification and quality of data.	<p>The datasets are defined as either:</p> <ul style="list-style-type: none"> - Reported: All data in the dataset are provided as disclosed by companies, or as stated in the public domain. - Modeled: All data are derived using a proprietary modelling process with only proxies used in the creation of the dataset. - Reported and Modeled: The dataset is either a mix of reported and Modeled data or is derived by the vendor using reported data/information in a proprietary scoring or determination process. <p>The index methodology uses the following ESG datasets.</p>	
	Data Source.	Dataset.	
	S&P Trucost Limited (a part of S&P Global) (external data source)	<p>This methodology uses several datasets provided by S&P Trucost Limited:</p> <ul style="list-style-type: none"> • Transition Pathway Model dataset (Reported and Modeled) • Greenhouse Gas Emissions dataset (Reported and Modeled) • Green-to-Brown Share dataset (Reported and Modeled) • Fossil Fuel Reserves dataset (Reported and Modeled) • Trucost Sector Revenues dataset (Reported and Modeled) 	

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY²⁰

		<i>For more information on Trucost, please refer to http://www.trucost.com/.</i>
	Sustainalytics (external data source)	<p>This methodology uses the following datasets provided by Sustainalytics, a global leader in sustainability research and analytics:</p> <ul style="list-style-type: none"> • Business Activities (Reported and Modeled) – Product involvement data • Global Standards Screening (Reported and Modeled) • ESG Risk Ratings (Reported and Modeled) • Controversy Ratings (Reported and Modeled) <p><i>For more information, please refer to www.sustainalytics.com.</i></p>
	Science Based Targets Initiative (SBTi)	<p>This methodology uses the information provided on the Science Based Targets Initiative’s website (‘Companies Taking Action’).</p> <p><i>For more information on this information and the SBTi please refer to https://sciencebasedtargets.org/companies-taking-action</i></p>
7.b	Verification and quality of data.	<p>The data quality process involves regular reviews of new data received, and includes comparison with previous data, outlier and error checks and escalation of suspect data to data vendors. S&P DJI also holds regular feedback sessions with data partners and vendors to share any quality concerns and to remedy any issues that are observed during data validations performed by the Global Data Management Team. In addition, all users of third-party data perform their own review of data used in the maintenance of indices. Many of the third-party data used by S&P DJI is reviewed against secondary and tertiary data sources for cross comparison and validation. Some more thematic or specific datasets may not have a comparable data source that can be used for comparison, but these datasets are still reviewed for internal consistency and self-comparison over time.</p>
7.c	Reference standards.	<p>Data is sourced from Trucost, which uses the following standards:</p> <ul style="list-style-type: none"> • <i>Scopes 1 and 2:</i> the GHG Protocol Corporate Standard. • <i>Scope 3 (upstream & downstream):</i> The Corporate Value Chain Standard, which is a supplement to the GHG Protocol specific to Scope 3.
Appendix latest update:		September 2023 – Added section 7c.
Appendix first publication:		May 2022

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

will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used. Index returns shown do not represent the results of actual trading of investable assets/securities. S&P DJI maintains the index and calculates the index levels and performance shown or discussed but does not manage any assets.

Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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