

Nikkei 225 Climate Change 1.5°C Target Index

An FT Wilshire Climate Series Index

Index Guidebook

Nikkei Inc.

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(October 2, 2023 version)

1: Introduction

The Nikkei 225 Climate Change 1.5°C Target Index is an index based on the Nikkei Stock Average (Nikkei 225) where the weights of the constituents are adjusted so that its overall Green House Gas (GHG) emissions (as normalized by enterprise value) of the index is 50% lower than that of the Nikkei 225, and will be further decreased by 7% in coming years. The index complies with the minimum standards for EU Paris-aligned Benchmarks (PAB) and is developed in association with US headquartered Wilshire. Wilshire provides “Wilshire Climate Content”, which means the climate change model and any other content as developed, modified or provided by Wilshire from time to time to be included in and/or applied to the index.

2: Name

(Japanese)

Official : 日経平均気候変動 1.5°C目標指数

Abbreviation : 日経気候変動指数

(English)

Official : Nikkei 225 Climate Change 1.5°C Target Index

Abbreviation : Nikkei Climate 1.5°C Target Index

3: Constituents management

(1) Basic Point

- The constituents of the Nikkei 225 Climate Change 1.5°C Target Index (Nikkei Climate 1.5°C Target Index) are those of the Nikkei 225 where constituents meeting certain criteria are removed. The number of the constituents is variable.
- The constituents are reviewed twice a year at the end of April and October. The constituents removed from the Nikkei 225 upon extraordinary events will also be removed from the index. No addition will be made upon the extraordinary removal in principle.

(2) Periodic Review

- “Base dates” for the review are the 2nd business day of April and October each year. From October 2022, constituents are reviewed in the following rules and the results will become effective from the last business day of the month. The results will be announced with an appropriate notice period.
- If an issue of the constituent stocks meets the following criteria, such

constituent will be excluded. For details, refer to “[Paris-Aligned Benchmarks Exclusion Criteria](#)” of Wilshire (a Wilshire Climate Content).

- Involved in any activities related to Controversial weapons
- Involved in Cultivation and production of tobacco
- Violation of the United Nations Global Compact (UNGC) principles or the Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises
- Derives 1% or more of its revenues from exploration, mining, extraction, distribution or refining of hard coal and lignite
- Derives 10% or more of its revenues from exploration, extraction, distribution or refining of oil fuels
- Derives 50% or more of its revenues from exploration, extraction, manufacturing or distribution of gaseous fuels
- Derives 50% or more of its revenues from electricity generation with a GHG intensity of more than 100g CO₂ e/kWh
- Found or estimated to significantly harm environmental objectives

(3) Extraordinary (non-periodic) removal

- If a constituent is removed from the Nikkei 225, such a constituent will also be removed from the Nikkei Climate 1.5°C Target Index on the same day. No replacement will be added in principle. However, in cases where a newly listed stock which succeeds the substance of such removed stock is added to Nikkei 225, the newly listed stock will replace on the date of its listing (same date as Nikkei 225 in principle).

(4) Constituents on inception and in retroactive calculation

- The constituents used to calculate historical (backward) index under 4-(7) below were chosen as if the constituents were reshuffled by the periodic reviews in April and October each year. The reshuffles were effective on the last business day of the month with the based date which is a day before such effective dates. The constituents as of the start of the index publication (May 30, 2022) were chosen with the base date of April 4, 2022 and became effective from the last business day of the month.

4: Index Calculation

(1) Basic Point

- The weight for the constituents is based on the weight on Nikkei 225 and is adjusted by each company's GHG emission intensity and the balance of sectors.

For details regarding GHG emission of each constituent, refer to “[Carbon Emissions Model](#)” of Wilshire (a Wilshire Climate Content).

- The index level on October 30, 2020, the calculation base date is 22,977.11 same as the value of the Nikkei 225 on the same date.
- The unit of the index is “Yen”(Japanese). The 3rd digit is rounded to make the index have 2 digits after the decimal point.
- Calculated the index every 5 seconds on a real-time basis, using the share prices on the Tokyo Stock Exchange while it opens (start the calculation 5 seconds after the opening). The index was calculated on an end-of-day basis from May 30, 2022, the commencement date of the publication to November 11, 2022.

(2) Calculation Formula

- The daily index value shall be calculated by the following formula.

$$\text{Index value} = \Sigma \{ \text{Share price} \times \text{Weight Factor} \} / \text{Divisor}$$

(3) Share price

- Priority in the usage of prices are as follows:
(i) Special Quote or sequential trade quote, (ii) Closing price, (iii) Base price (The base price is obtained based on the priority order of ex-rights theoretical price, the last special quote price or sequential trade quote price on the previous day, and the closing price on the previous day.)

(4) Weight Factor

- The Weight Factor used for the index calculation (number of shares for the index) shall be compiled on the Base Date of the Periodic Review by the following formula. It is rounded down to integer number, truncating after the decimal points.

$$\text{Weight Factor} = \frac{\text{GHG emission adjusted weight}}{\text{Share Price on the Base Date} \times 10^{12}}$$

(i) GHG emission adjusted weight(%)

GHG emissions adjustment weights are based on the weights in the Nikkei 225 and are adjusted subject to the following condition. For details, refer to “[Climate Change Indexes](#)” of Wilshire (a Wilshire Climate Content).

- GHG emission intensity of the index is reduced by at least 50% compared to the Nikkei 225
- GHG emission intensity of the index is reduced by at least 7% annually year-on-year
- Weights of High Climate Impact Sector keep the same level as the Nikkei 225
- Each weight of the Nikkei's 6 sectors used to select constituents for the Nikkei 225 is within $\pm 5\%$ of that of the Nikkei 225
- The capping of each constituent weight is 10% or 10 times of the same stock in the Nikkei 225

(ii) Split or reverse split of the constituent stock

After the Weight Factors are assigned, if an index constituent company makes a stock split or reverse split, the Weight Factor shall be adjusted corresponding to the ratio of the split or reverse split on the ex-date.

- In cases where a newly listed stock, which succeeds the substance of an excluded stock due to the establishment of a holding company etc., is added on its listing date, the weight factor for the stock to be added shall be determined by multiplying the weight factor for the excluded stock by the integration ratio, while also considering other factors so as to succeed the weight of the excluded stock.

(5) Divisor

- The Divisor on October 30, 2020, the calculation base date is determined by the following formula.

$\text{Divisor} = \frac{\sum \{ \text{Share prices} \times \text{Weight Factor on the calculation date} \}}{22977.13}$
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- After the calculation base date, the Divisor will be changed every time when the index constituents are changed by using the following formula.

$$\begin{aligned} \text{Divisor tomorrow} &= \text{Divisor today} \\ &\times (\sum \{\text{base prices next day of the index constituents for the next day} \\ &\quad \times \text{Weight Factor for the next day}\}) \\ &/ (\sum \{\text{base prices today of the today's constituents} \\ &\quad \times \text{today's Weight Factor}\}) \end{aligned}$$

- 5th digit is rounded to make the Divisor have 4 digits after the decimal point.

(6) Modification of the index value

- If any event occurs and comes out at a later date where it is necessary to modify the index value, as a general rule, Nikkei reflects the modified data into the index value on the index calculation date coming subsequently after the event comes out, as the date when the event occurs. Retroactive calculation for the modification will not be conducted in principle.

(7) Retroactive calculation in the past

- The index is retroactively calculated to October 30, 2015 on an end-of-day basis.
- The constituents used for the retroactive calculation are determined as described in 3-(4).

5: Others

(1) Total Return Index calculation

Nikkei calculates “Nikkei 225 Climate Change 1.5°C Target Index (Total Return)” and “Nikkei 225 Climate Change 1.5°C Target Index (Net Total Return)” as the related indexes of the “Nikkei 225 Climate Change 1.5°C Target Index” by adding the dividends and the net dividends excluding taxes respectively. These indexes are calculated on an end-of-day basis.

The basic points for the total return calculation such as the method to incorporate dividends conform to the Nikkei 225 Total Return Index and the Nikkei 225 Net

Total Return Index.

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(4) Contact

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Appendix : Change history of Index Guidebook

May 30, 2022 version	Initial version
November 14, 2022 version	Revise the description in “4:Index Calculation (1)Basic Point” due to the calculation interval change (every 5 seconds)
October 2, 2023 version	<p>3: Constituents Management (3) Extraordinary (non-periodic) removal Add the description in cases where a newly listed stock replaces a removed constituent</p> <p>4: Index Calculation (4) Weight Factor Add the description in cases where a newly listed stock replaces a removed constituent</p>