



INDEX METHODOLOGY

NASDAQ CTA GLOBAL CLIMATE TECHNOLOGY INDEX

CLMTCH

INDEX DESCRIPTION

The Nasdaq CTA Global Climate Technology Index is designed to track the performance of a selection of companies engaged in the global Climate Technology industry. The companies are selected based on classification by Consumer Technology Association (CTA).

SECURITY ELIGIBILITY CRITERIA

Security types

A security must be classified as an American Depositary Receipt (ADR), Global Depositary Receipt (GDR), common stock, ordinary share, preference share or Real Estate Investment Trust (REIT). A Chinese A-Share is only considered eligible if the security is tradable through the Shanghai- or Shenzhen-Hong Kong Stock Connect.

If the security is a depositary receipt, references to the “issuer” are references to the issuer of the underlying security.

Listing exchanges

A security must be listed on an Eligible Exchange in any of the Eligible Countries outlined in Appendix A. For more information, refer to **Nasdaq Eligible Exchanges**.

Multiple securities per issuer

One security per issuer is permitted. If an issuer may be represented in the Index by multiple otherwise-eligible securities, the following rules are applied stepwise to determine the representative security:

- For a Chinese issuer with an otherwise-eligible Hong Kong-listed H-Share and an otherwise-eligible A-Share, the A-Share is ineligible. Other security types of the same issuer (e.g., ADR) may also be eligible.

- If one of an issuer’s otherwise-eligible securities is an Index Security as of the Reconstitution Reference Date, only that Index Security may be eligible; otherwise, only the security with the highest three-month average daily traded value may be eligible.

Industry or sector eligibility

A security’s issuer must be classified by CTA as a Climate Technology company, specifically as belonging to one of either Enablers (Power Sources & Storage), Engagers (Climate Infrastructure) or Enhancers (AgTech & FoodTech, Adaptation, Transportation). The sub-classifications are defined as follows (also called thematic taxonomy going forward):

- **Power Sources & Storage** – Companies classified as Power Sources and Power Storage enable the transition toward cleaner sources of energy across the economy including within industry, buildings (e.g. residential and commercial), and transportation. Power Sources and Power Storage include biofuels, battery technology, fuel cells, green hydrogen, power management (including power-focused semiconductors) and renewable power generation (e.g. hydroelectric, solar, and wind power).
- **Climate Infrastructure** – Companies engaged in technologies focused on reducing the carbon impact of commercial, industrial and residential buildings including advanced building materials and mechanical systems (e.g. heating, cooling, ventilation, plumbing, and electric), electric vehicle charging infrastructure (e.g. public and private charging solutions), process improvements (e.g. agricultural, electrical and material technologies that improve the carbon impact of existing construction methods) and smart cities/grid (e.g. grid communication and intelligence, load control, smart metering).
- **AgTech & FoodTech** – Companies principally engaged in technology related to reducing carbon and methane emissions through the development of products intended to displace conventional meat consumption (e.g. alternative/plant-based proteins and cellular agriculture to displace beef, chicken, pork, turkey, etc.) as well as technologies designed to reduce the intensity of traditional farming methods and their related logistical/transportation impacts through engagement in indoor and vertical farming methods.
- **Adaptation** – Companies providing consulting, engineering, and/or software solutions to clients to design, construct and retrofit projects within industry, buildings, and transportation including advancements in renewable power delivery, power generation and power use.
- **Transportation** – Companies enhancing the development of less carbon-intensive transportation products including air mobility (air taxis and vertical take-off and landing planes), electric vehicles (e.g. passenger and commercial/industrial cars, motorcycles, and trucks), macro-mobility (e.g. buses, trains, and other mass transit) and micro-mobility (e.g. last-mile delivery drones and vehicles).

Market capitalization

A security in the Index as of the Reconstitution Reference Date must have a free float market capitalization of at least \$240 million (USD).

A security not in the Index as of the Reconstitution Reference Date must have a free float market capitalization of at least \$300 million (USD).

Liquidity

A security in the Index as of the Reconstitution Reference Date must have a three-month average daily traded value of at least \$800 thousand (USD).

A security not in the Index as of the Reconstitution Reference Date must have a three-month average daily traded value of at least \$1 million (USD).

Seasoning

A security must have been traded on an index-eligible exchange at least three months prior to the Reconstitution Effective Date.

ESG eligibility

A security's issuer must not be positively identified by Sustainalytics as exhibiting any of the following characteristics:

- Non-compliance with the United Nations Global Compact (UNGC) principles and related international norms and standards, such as the Organization for Economic Cooperation and Development (OECD) Guidelines and United Nations (UN) Guiding Principles.
- Having a Controversy Rating of five (5).
- Involvement of certain degrees in controversial weapons, thermal coal, oil & gas, or recreational cannabis as described in Appendix B.

Other eligibility criteria

If, at reconstitution, Nasdaq becomes aware that an issuer or security will soon undergo a fundamental change that makes it ineligible, Nasdaq will remove the security from consideration. This includes entering into a definitive merger or acquisition agreement or other pending arrangement that would make it ineligible for Index inclusion, or a filing of bankruptcy or similar protection from creditors, or other events as described in Section 3 of **Corporate Actions and Events Manual – Equities**.

INDEX CALENDAR

Reconstitution schedule

The Index is reconstituted semi-annually in June and December by applying the Constituent Selection Process to all securities that meet the applicable Security Eligibility Criteria.

Reconstitution reference dates

Unless otherwise specified, the Security Eligibility Criteria and Constituent Selection Process are applied using data as of the end of May and November, respectively.

Reconstitution announcement dates

Index Reconstitutions are announced in early June and December.

Reconstitution effective dates

Index Reconstitutions become effective at market open on the trading day following the third Friday in June and December.

Rebalance schedule

The Index is rebalanced semi-annually in June and December.

Rebalance reference dates

The Index Rebalance is conducted using data as of the prior month-end (May and November).

Rebalance announcement dates

Index Rebalance changes are announced in early June and December.

Rebalance effective dates

Index Rebalances become effective at market open on the trading day following the third Friday in June and December.

Holiday schedule

The Index is calculated Monday through Friday and does not close for holidays.

Index calculation and dissemination schedule

The Index Value is calculated five (5) days a week, Monday through Friday, once per second from the start of the trading day in Tokyo (09:00:01 Japan Standard Time) until the close of the trading day in New York (17:16:00 Eastern Time).

CONSTITUENT SELECTION

Semi-annual constituent selection process

Each security's issuer receives scores across three dimensions:

- **Thematic Revenue Score** – The thematic revenue score is a quantitative assessment of each company's approximated revenue derived from climate technology. The value is determined by using open-source and public market data and financial filings to compute the portion of thematic revenues, relative to total annual revenues and is scored as shown in the table below. The Thematic Revenue Score is subject to a five (5) percent buffer; more details can be found in Appendix C.

Thematic Revenue	Point(s)
0 - 24.9%	0
25 - 49.9%	1
50 - 74.9%	2
75 - 100%	3

- **Transition Score** – The Transition Score is a qualitative assessment of each company's current technology offerings within the climate technology thematic. CTA uses raw data inputs to assess and determine each company's level of transition toward a fully carbon-neutral portfolio of products and services as shown in the table below.

Transition Level	Point(s)
Low – Company is in the early stage of developing a single or portfolio of products and services with carbon neutral/carbon-free technologies, though not the company's primary business	1
Medium – Company is in active transition to a portfolio of carbon neutral/carbon-free products and services, though multiple products and services are offered	2
High – Company is fully transitioned to a portfolio of carbon neutral/carbon-free products and services	3

- **Innovation Score** – The Innovation Score is a qualitative assessment of each company's impact toward achieving carbon neutrality. CTA examines numerous data points and sources to include the company's capital investment/R&D in climate technologies, M&A and patent activity, and revenue growth within climate technology and is a proxy for innovation as follows:

Innovation Level	Point(s)
Low	1
Medium	2
High	3

All issuers are categorized as either Tier 1, Tier 2 or none of the former.

- A Tier 1 issuer generates at least 50% of its revenue from climate technology, as defined by the thematic taxonomy (Thematic Revenue Score ≥ 2).
- A Tier 2 issuer generates 25-50% of its revenue from climate technology ($2 > \text{Thematic Revenue Score} \geq 1$), and the sum of its Transition Score and Innovation Score equals 4 or higher.

All securities that meet the applicable Security Eligibility Criteria and are categorized as either Tier 1 or Tier 2 are included in the Index.

CONSTITUENT WEIGHTING

Constituent weighting scheme

The Index is a modified theme-adjusted free float market capitalization-weighted index.

Constituent weighting process

Each issuer is assigned a Weighted Score, calculated as follows:

$$\text{Weighted Score} = 2 \times \text{Thematic Revenue Score} + \text{Transition Score} + \text{Innovation Score}$$

Each security is assigned a Weighted Score-Based Factor based on its issuer's Weighted Score, calculated as follows:

$$\text{Weighted Score} - \text{Based Factor} = \begin{cases} 0.75 & \text{if } 6 \leq \text{Weighted Score} \leq 7 \\ 1 & \text{if } 8 \leq \text{Weighted Score} \leq 9 \\ 1.25 & \text{if } 10 \leq \text{Weighted Score} \leq 12 \end{cases}$$

Each security is assigned a Theme-Adjusted Free Float Market Value, calculated as the product of the security's free float market capitalization and Weighted Score-Based Factor.

Each Index Security's initial Index weight is determined by dividing the Index Security's Theme-Adjusted Free Float Market Value by the aggregate Theme-Adjusted Free Float Market Value of all Index Securities.

Initial Index Weights are then adjusted to meet the following constraint:

- No Index Security weight may exceed 4.5%.

For additional information about index weighting, see [Nasdaq Index Weight Calculations](#).

INDEX MAINTENANCE

Deletion policy

If, at any time other than an Index Reconstitution, Nasdaq determines that an Index Security has or will undergo a fundamental alteration that would make it ineligible for Index inclusion, the Index Security is removed as soon as practicable. Such alterations may include merger, acquisition, or other major corporate event that would otherwise adversely impact the integrity of the Index.

Replacement policy

Index Securities are not replaced between Index Reconstitutions.

Addition policy

Index Securities are not added between Index Reconstitutions.

Corporate actions

In the periods between scheduled index reconstitution and rebalancing events, individual Index securities may be the subject to a variety of corporate actions and events that require maintenance and adjustments to the Index. Specific treatment of each type of corporate action or event is described in **Nasdaq Corporate Actions and Events Manual – Equities**, which is incorporated herein by reference.

In certain cases, corporate actions and events are handled according to the weighting scheme or other index construction techniques employed. Wherever alternate methods are described, the Index will follow the “Non-Market Cap Corporate Action Method.”

Index share adjustments

Other than as a direct result of corporate actions, the index does not normally experience share adjustments between scheduled index rebalance and reconstitution events.

ADDITIONAL INFORMATION

Announcements

Nasdaq announces Index-related information via the Nasdaq Global Index Watch (GIW) website at <http://indexes.nasdaqomx.com>.

For more information on the general Index Announcement procedures, please refer to the **Nasdaq Index Methodology Guide**.

Unexpected market closures

For information on Unexpected Market Closures, please refer to the **Nasdaq Index Methodology Guide**.

Calculation types

For information on the Index calculation types as well as the mathematical approach used to calculate the Index(es), please refer to the **Calculation Manual – Equities & Commodities**.

Recalculation and restatement policy

For information on the Recalculation and Restatement Policy, please refer to the **Nasdaq Index Recalculation Policy**.

Data sources

For information on data sources, please refer to the **Nasdaq Index Methodology Guide**.

Contact information

For any questions regarding an Index, please contact the Nasdaq Index Client Services team at indexservices@nasdaq.com.

Index dissemination

Index values and weightings information are available through Nasdaq Global Index Watch (GIW) website at <https://indexes.nasdaqomx.com/> as well as the Nasdaq Global Index FlexFile Delivery Service (GIFFD) and Global Index Dissemination Services (GIDS). Similar to the GIDS offerings, Genium Consolidated Feed (GCF) provides real-time Index values and weightings for the Nordic Indexes.

For more detailed information regarding Index Dissemination, see the **Nasdaq Index Methodology Guide**.

Website

For further information, please refer to Nasdaq GIW website at <https://indexes.nasdaqomx.com/>.

FTP and dissemination service

Index values and weightings are available via FTP on the Nasdaq Global Indexes FlexFile Delivery Service (GIFFD). Index values are available via Nasdaq's Global Index Dissemination Services (GIDS).

GOVERNANCE

Index governance

All Nasdaq Indexes follow the same governance structure. For a detailed list of this information, please see the **Nasdaq Index Methodology Guide**.

Nasdaq Index Management Committee

The Nasdaq Index Management Committee approves all new Index Methodologies. This committee is comprised of full-time professional members of Nasdaq. The committee meets regularly, and reviews items including, but not limited to, pending corporate actions that may affect Index constituents, statistics comparing the composition of the indexes to the market, companies that are being considered as candidates for addition to an Index, and any significant market events.

For a detailed overview of the Index Management Committee, please see the **Nasdaq Index Methodology Guide**.

Internal reviews of methodology

For a detailed description on internal reviews of the Methodology, please see the **Nasdaq Index Methodology Guide**.

Communication with stakeholders and consultations

For a detailed description on Consultations and Communications with Stakeholders, please see the **Nasdaq Index Methodology Guide**.

Index cessation

Nasdaq has a documented procedure that is followed for Index Cessation that includes termination/retirement of an Index or Index Family.

For more information, please refer to the **Nasdaq Index Cessation Policy**.

Discretionary adjustment

This Index Methodology was created by Nasdaq to achieve the aforementioned objective of measuring the underlying purpose of each Index governed by this methodology document. Any deviations from this methodology are made in the sole judgment and discretion of Nasdaq so that the Index continues to achieve its objective.

For more information on potential adjustments including Calculation and Pricing Disruptions, Expert Judgment, and Unexpected Reconstitution/Rebalances, please refer to the **Nasdaq Index Methodology Guide**.

GLOSSARY OF TERMS AS USED IN THIS DOCUMENT

For the glossary of key terms, please refer to the **Nasdaq Index Methodology Guide**.

APPENDIX A: ELIGIBLE COUNTRIES

The Index requires a security to be listed on an Eligible Exchange in any of the following Eligible Countries. For more information, refer to **Nasdaq Eligible Exchanges**.

Eligible Countries	ISO Country Code
AUSTRIA	AT
AUSTRALIA	AU
CANADA	CA
CHINA	CN
GERMANY	DE
DENMARK	DK
FINLAND	FI
SPAIN	ES
FRANCE	FR
UNITED KINGDOM	GB
HONG KONG	HK
IRELAND	IE
ISRAEL	IL
ITALY	IT
JAPAN	JP
KOREA, REPUBLIC OF	KR
THE NETHERLANDS	NL
NORWAY	NO
PORTUGAL	PT
NEW ZEALAND	NZ
SWEDEN	SE
SINGAPORE	SG
SWITZERLAND	CH
TAIWAN	TW
UNITED STATES	US

APPENDIX B: PROHIBITED AREAS OF BUSINESS INVOLVEMENT

At each reconstitution, companies positively identified by Sustainalytics as being engaged in the following business activities, as deemed to be ineligible.

Category of Involvement	Description	Acceptable Involvement Range	Acceptable Ownership Range
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.	No involvement	n/a
Controversial Weapons: Significant ownership (Tailor- made and essential)	The company is involved, through corporate ownership, 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%
Thermal Coal: Extraction	The company extracts thermal coal.	≤2.5% of revenues	n/a
Thermal Coal: Power Generation	The company generates electricity from thermal coal.	≤2.5% of revenues	n/a
Thermal Coal: Power Generation Capacity	The company maintains generating capacity from thermal coal.	≤2.5% of total capacity	n/a
Oil & Gas: Production	The company is involved in oil and gas exploration and production, refining, transportation and/or storage.	≤2.5% of revenues	n/a
Cannabis: Production (Recreational Cannabis)	The company is involved in the development and/or cultivation of cannabis for recreational purposes.	0% of revenues	n/a

Cannabis: Significant ownership (Production Recreational Cannabis)	The company owns 10 to 50 percent of another company with involvement in the development and/or cultivation of cannabis for recreational purposes.	n/a	0-9.9%
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APPENDIX C: THEMATIC REVENUE SCORING BUFFER AT RECONSTITUTION

In the event a company’s thematic revenue declines from the prior evaluation period to the extent that the thematic revenue score would be adjusted lower, the thematic revenue score shall remain unchanged for the initial reconstitution period in which the decline occurs, provided the change does not exceed five (5) percentage points from the prior evaluation period and is intended to mitigate excessive changes in weighting.

If the company’s thematic revenue remains below the original threshold for a second reconstitution period, the thematic revenue score will be adjusted to reflect the current thematic revenue. As an example, a company with 52% thematic revenue is assessed two (2) points. If at reconstitution, the thematic revenue declined to 48%, the thematic revenue score would remain at two (2) points for the reconstitution. If at the next reconstitution, the thematic revenue is below 50% (e.g. 49%), the thematic score would be reassessed at one (1) point.

APPENDIX D: METHODOLOGY CHANGE LOG

Effective Date	Methodology Section	Previous	Updated
06/30/2023	Security eligibility criteria: ESG eligibility	<p>A security’s issuer must not be positively identified by Sustainalytics as exhibiting any of the following characteristics:</p> <ul style="list-style-type: none"> • Non-compliance with the principles of the United Nations Global Compact • Having a Sustainalytics Controversy Rating of five (5) • Involvement of certain degrees in controversial weapons, thermal coal, oil & gas, or recreational cannabis as described in the Appendix. 	<p>A security’s issuer must not be positively identified by Sustainalytics as exhibiting any of the following characteristics:</p> <ul style="list-style-type: none"> • Non-compliance with the United Nations Global Compact (UNGC) principles and related international norms and standards, such as the Organization for Economic Cooperation and Development (OECD) Guidelines and United Nations (UN) Guiding Principles. • Having a Controversy Rating of five (5). • Involvement of certain degrees in controversial weapons, thermal coal, oil & gas, or recreational cannabis as described in Appendix B.

06/20/2023	Security eligibility criteria: Listing exchanges	A security must be listed on an exchange named in Nasdaq Eligible Exchanges.	A security must be listed on an Eligible Exchange in any of the Eligible Countries outlined in Appendix A. For more information, refer to Nasdaq Eligible Exchanges.
06/20/2023	Appendix A: Eligible countries	--	The Index requires a security to be listed on an Eligible Exchange in any of the following Eligible Countries. For more information, refer to Nasdaq Eligible Exchanges.

DISCLAIMER

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity, including but not limited to, quantitative inclusion criteria. Nasdaq may also, due to special circumstances, if deemed essential, apply discretionary adjustments to ensure and maintain the high quality of the index construction and calculation. Nasdaq does not guarantee that any Index accurately reflects future market performance.

Neither Nasdaq, Inc. nor any of its affiliates (collectively "Nasdaq") makes any recommendation to buy or sell any security or any representation about the financial condition of any company. Investors should undertake their own due diligence and carefully evaluate companies before investing. The information contained herein is provided for informational and educational purposes only, and nothing contained herein should be construed as investment advice, either on behalf of a particular security or an overall investment strategy. **ADVICE FROM A SECURITIES PROFESSIONAL IS STRONGLY ADVISED.**