

Quantix Energy Transition Index Methodology

An Index that is owned by Quantix Commodities Indices LLC & Calculated by Solactive AG



Index Objective & Philosophy. This document provides a high-level description of the methodology used to compile the Quantix Energy Transition index (“QET” or the Index).

The Quantix Energy Transition index was developed by Quantix Commodities LP and is owned by Quantix Commodities Indices LLC (“Quantix”). The QET was created with the objective of being a diversified exposure to the building blocks of the accelerating energy transition.

As the world undergoes a generational transformation over the next thirty years to ‘net neutral’, moving from fossil fuels to less carbon intensive sources of energy, a whole new societal infrastructure will be built.

The precise end state is unknown as technology rapidly develops to meet this social goal, but what is known is the transformative and inelastic capital flow needed from governments to achieve it, almost irrespective of the cost. According to the IEA World Energy Report 2020, annual investment in clean energy and infrastructure needs to be nearly USD 5 trillion by 2030.

The basic commodities required for the infrastructure are known and will be in high demand for decades to come. However, this demand will come at a time when new supply will be declining due to underinvestment or controlled by governments.

The QET is designed to provide exposure to the demand created by this transition. The Index Review Committee of Quantix Commodities Indices, LLC (the “Index Review Committee”) may consult external sources periodically to gather perspectives about which commodities are suitable to meet its objective. Individual commodities are then weighted by liquidity and open interest.

Index Eligibility

All component instruments in the Eligible Universe must meet the following criteria:

1. One of the commodity futures included on the list of Component Candidates in Appendix A
2. Traded on either a US, Canadian, UK, or European Exchange
3. Approved by the Commodity Futures Trading Commission (the “CFTC”) for investment by U.S. persons
4. A primary contract and not a “look-alike contract” which are cash-settled futures contracts whose pricing is based on the settlement prices of exchange-traded, physically settled futures contracts
5. Open Interest (converted to USD as necessary) greater than or equal to that of the commodity currently included in the Index that has the least Open Interest (converted to USD as necessary) within the same sector, as measured over a minimum of two consecutive years

All commodity futures which meet the above criteria are eligible for inclusion in the index. The Index Review Committee shall determine on an annual whether the commodity futures that meet such criteria shall be included in the index for the following year. In making its decision, the Index Review Committee shall consider, amongst other criteria, the following:

1. The Currency in which the futures contract is denominated
2. The time-zone in which the futures trades
3. Trading costs and the ability to access OTC liquidity

This summarizes the methodology underlying the QET. Please see important information at the end of this document. This is not a recommendation of the QET or of any instrument tracking the QET.



4. The diversification value to the index
5. Access to market prices for publication and inclusion in an index

Please see Appendix B for a list of the sectors and sample commodities and eligible contracts as of June 2, 2022. Selection is fixed as of the date set forth for this Methodology summary but is subject to periodic review by the Index Review Committee. For the purposes of clarity, commodity futures which are currently included in the Index shall not be required to meet the above criteria unless otherwise determined by the Index Review Committee.

In addition, reflecting evolving technologies and liquidity, the Index Review Committee may consult external sources periodically to amend the list of Component Candidates.

Index Construction

The index construction process starts by determining the Economic Significance of each commodity-based futures contract within the Eligible Universe. This test is designed to weight a particular contract based on its open interest (converted into USD as necessary) as compared to the total available open interest in contracts comprising the Eligible Universe.

This is accomplished via the following steps:

Step 1: Calculate the Economic Significance Weight for each eligible commodity-based futures contract in the Eligible Universe based on open interest on the exchanges on which the commodity futures contracts are traded as published daily by the exchanges.

The Economic Significance Weight is calculated using a rolling average of the Open Interest (converted into USD as necessary) in each commodity-related futures contract relative to the sum of the Open Interest of the Eligible Universe, based on information published by the applicable futures exchanges. Quantix will rely on the published data but will use reasonable efforts to re-confirm data with exchange personnel if the data appears to be erroneous.

Step 2: Ensure diversification within the QET

Diversification is achieved through application of specified maximum sector weights as well as maximum and minimum commodity weights. The maximum weight for any sector is 40% although some sectors have lower maximum weights reflecting the relative liquidity of the commodity futures contracts within that sector. If the weight of any sector after Step 1 is greater than its maximum weight, it is reduced by decreasing the weight of each commodity futures contract within that sector (or sectors) on a pro rata basis and adding to the weight of each commodity futures contract included in the sector having the highest weighted average Economic Significance Weight that is not at its sector cap on a pro-rata basis.

The Maximum Weight for any group of commodity futures contracts referencing an individual commodity is 15%. If the Economic Significance Weight for any group of commodity futures contracts referencing an individual commodity is greater than 15%, its weight is reduced, with the remaining amount being added to the commodity with the next highest Economic Significance Weight within the same Sector. The Minimum Weight for any individual commodity futures contract is 2%. If the Economic Significance Weight for any commodity futures contract is less than 2%, its weight is increased, with the balance being subtracted from the commodity with the next lowest Economic Significance within the same Sector. For the purposes of clarity, weight constraints are only binding on rebalance dates; between rebalance dates weights may drift above the cap or below the floor as prices fluctuate.

The QET may be composed of no less than 10 commodity futures contracts from the Eligible Universe. If the number of commodity futures contracts in the Eligible Universe having an Adjusted Weight equal to or greater than the Minimum Weight is less than 10, then the weight of the commodity futures contract having the next highest weight is increased to the Minimum Weight by reducing the weights of all other commodity related futures in the Eligible Universe having weights greater than the Minimum Weight equally while respecting the other diversification rules.

This summarizes the methodology underlying the QET. Please see important information at the end of this document. This is not a recommendation of the QET or of any instrument tracking the QET.



Index Rebalancing

A. Rebalancing Frequency

The QET is rebalanced by Quantix once a month. The QET weights are recalculated based on available data and the reweighting takes place during Roll Period of the subsequent month (the “Rebalance Period”). At the close of each business day during the Rebalance Period, a Pro-Rata Portion (defined as 1/N where N is the number of days in the Roll Period as defined below) of the prior month’s weights are replaced by the same Pro-Rata Portion of the next month’s weights. In the event of a Market Disruption Event (“MDE”), QET will add the Pro-Rata Portion to the following day.

B. Contract Roll

Each commodity futures contract within the Eligible Universe will be deemed to be rolled, for purposes of the calculation, according to the following Contract Schedule. These commodity futures contracts will be rolled according to the schedule under Roll Period below such that the contract in the table below will be present on the 1st day of that calendar month. For example, on 1st January, the HG weight will be in the May (K) contract of the current year. In the event of an MDE, the contract roll will work in the same manner as outlined above under Rebalancing Frequency.

Contract Schedule:

Commodity		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HG	Copper	K0	N0	N0	U0	U0	Z0	Z0	Z0	H1	H1	H0	K1
LA	Aluminum	K0	N0	N0	U0	U0	X0	X0	F1	F1	H1	H1	K1
LN	Nickel	K0	N0	N0	U0	U0	X0	X0	F1	F1	H1	H1	K1
LX	Zinc	K0	N0	N0	U0	U0	X0	X0	F1	F1	H1	H1	K1
LL	Lead	H0	K0	K0	N0	N0	U0	U0	X0	X0	F1	F1	H1
NG	Natural Gas (US)	K0	N0	N0	U0	U0	X0	X0	F1	F1	H1	H1	K1
FN	Natural Gas (UK)	G0	H0	J0	K0	M0	N0	Q0	U0	V0	X0	Z0	F1
TZT	Natural Gas (Europe)	G0	H0	J0	K0	M0	N0	Q0	U0	V0	X0	Z0	F1
SI	Silver	K0	N0	N0	U0	U0	Z0	Z0	Z0	H1	H1	H1	K1
PA	Palladium	H0	M0	M0	M0	U0	U0	U0	Z0	Z0	Z0	H1	H1
PL	Platinum	J0	J0	N0	N0	N0	V0	V0	V0	F1	F1	F1	J1
BO	Soybean Oil	K0	N0	N0	Z0	Z0	Z0	Z0	F1	F1	H1	H1	K1
CUA	Ethanol	G0	H0	J0	K0	M0	N0	Q0	U0	V0	X0	Z0	F1
MO	Emissions (Europe)	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z1	Z1
CTI	Emissions (California)	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z0	Z1	Z1

Letters: F = January, G = February, H = March, J = April, K = May, M = June, N = July, Q = August, U = September, V = October, X = November, Z = December

Numbers: 0 = current year, 1 = next year

Example: 01-Sep-22, the Nickel contract will be F1 ie January of the next year (ie 2023) future

This summarizes the methodology underlying the QET. Please see important information at the end of this document. This is not a recommendation of the QET or of any instrument tracking the QET.



C. Roll Period

Each commodity futures contract within the Eligible Universe will be deemed to be rolled, for purposes of the calculation, according to the above contract schedule and over the period in the following table. These commodity futures contracts will be rolled equally weighted according to the following roll period schedule (the “Roll Period”). For example, in a month where HG rolls, it will be rolled over the 5 business days commencing on the 5th business day of the month. Note that in the event of an MDE the roll may be adjusted as outlined above.

Commodity	Roll Start (Business Day)	Roll Length (Business Day)
HG	5	5
LA	5	5
LN	5	5
LX	5	5
LL	5	5
NG	5	5
FN	1	10
TZT	1	10
SI	5	5
PA	5	5
PL	5	5
BO	5	5
CUA	1	15
MO	1	10
CTI	1	10

D. FX Calculation

While the QET is denominated in USD, certain commodity futures contracts included in the QET are denominated in other currencies. At the same time, the QET is a commodity index and is therefore not designed to generate returns from changes in foreign exchange rates. Therefore, the following steps are taken on a monthly basis:

- i. The first step is to convert futures prices from local currencies into USD. This is done by multiplying the price of the relevant futures contract by the relevant spot foreign exchange rate (expressed as units of local currency per USD).
- ii. The second step is to “hedge” the above local currency exposure back into USD. This is done by including the returns of a monthly rolling FX forward position in the relevant currencies at the relevant weights of the non-USD denominated futures contracts. The notional amount of this FX forward will be determined on a monthly basis. This position will be rolled as it matures.

These two steps are designed to convert gains and losses on non-USD denominated futures contracts into USD.

This summarizes the methodology underlying the QET. Please see important information at the end of this document. This is not a recommendation of the QET or of any instrument tracking the QET.



E. Collateral Calculation

The QET is a Total Return index, meaning that its returns include a daily accrual based on the most recent 13-week US T-Bill auction in addition to the returns of the commodity futures contracts comprising the Index. This is calculated as follows:

$$\text{QET Total Return Index} = \text{QET Total Return Index for the prior business day (excluding any impact of FX hedging)} \\ * (1 + [\text{Commodity Return}] + ((1 + [\text{T-Bill daily accrual rate}])^{**} [\text{Days}] - 1))$$

Note: Days is the number of days between the calculation date and the prior business day for the strategy, which is commonly 1 for Tuesday to Friday and 3 on Monday, but may be larger in the event of holidays.

Note: ** represents exponentiation (i.e., raising the quantity by the power of another measure).

$$\text{T-Bill daily accrual rate} = (1 / (1 - ([\text{T-Bill auction discount rate}] / 100) * 91 / 360))^{**} (1 / 91) - 1$$

T-Bill auction discount rate = The "High Rate" of the most recent 13-Week US Treasury Bill as published by the US Department of the Treasury on its official website <https://treasurydirect.gov/instit/annceresult/annceresult.htm>. The number is in percentage terms, and the most recent T-Bill referenced must have an auction date that is at least one day prior to the calculation date.

Amendments to this Methodology

The Index Review Committee is responsible for approving changes to this methodology. This document will be updated to reflect changes approved by the Index Review Committee.



APPENDIX A

Commodity	Trading Facility	Ticker	Sector
Copper	LME	LP	Base Metals
Aluminum	LME	LA	Base Metals
Nickel	LME	LN	Base Metals
Zinc	LME	LX	Base Metals
Lead	LME	LL	Base Metals
Uranium	CMX	UX	Base Metals
Cobalt	CMX	CVT	Base Metals
Lithium	CMX	LFA	Base Metals
Tin	LME	LT	Base Metals
Iron Ore	SGX	SCO	Base Metals
Natural Gas (US)	NYM	NG	Natural Gas
Natural Gas (UK)	ICE - UK	FN	Natural Gas
Natural Gas (Europe)	ICE - EU	TZT	Natural Gas
Silver	CMX	SI	Precious Metals
Palladium	CMX	PA	Precious Metals
Platinum	CMX	PL	Precious Metals
Soybean Oil	CBT	BO	Oilseed
Ethanol	CME	CUA	Oilseed
Rapeseed	Euronext	IJ	Oilseed
Canola	ICE - CAN	RS	Oilseed
Palm Oil	Bursa Malaysia	KO	Oilseed
EUA	ECX	MO	Emissions
CCA*	ICE - US	CTI*	Emissions
UK Emissions	ICE - EU	UKE	Emissions
RGGI*	ICE - US	WQC*	Emissions

* Tickers for CCA and RGGI futures change with each new vintage. These are the tickers as of June 2, 2022. This manual will not be updated to reflect new tickers unless the manual is being updated for other reasons.



APPENDIX B

Commodity	Trading Facility	Ticker	Sector
Copper	LME	LP	Base Metals
Aluminum	LME	LA	Base Metals
Nickel	LME	LN	Base Metals
Zinc	LME	LX	Base Metals
Lead	LME	LL	Base Metals
Natural Gas (US)	NYM	NG	Natural Gas
Natural Gas (UK)	ICE - UK	FN	Natural Gas
Natural Gas (Europe)	ICE - EU	TZT	Natural Gas
Silver	CMX	SI	Precious Metals
Palladium	CMX	PA	Precious Metals
Platinum	CMX	PL	Precious Metals
Soybean Oil	CBT	BO	Oilseed
Ethanol	CME	CUA	Oilseed
EUA	ECX	MO	Emissions
CCA*	ICE - US	CTI*	Emissions

* Tickers for CCA and RGGI futures change with each new vintage. These are the tickers as of June 2, 2022. This manual will not be updated to reflect new tickers unless the manual is being updated for other reasons.



Important Information

The QET is maintained by Quantix Commodities Indices LLC ("Quantix"). Nothing in this Methodology is intended to be or should be interpreted as a recommendation or investment advice. The QET is a rules-based index that is calculated based on a specified set of rules with the intention of producing a grouping of commodity futures contracts that is investible for U.S. persons and that should address specified goals. No assurance is given by Quantix and its affiliates that the QET will achieve the goals it is designed to address, that its construction or calculation will not include errors or that use of the QET will be suitable for any person.

This document shall not constitute an offer to sell nor the solicitation of any offer to buy any financial instrument or security, including, without limitation any instruments managed or sub-advised by Quantix Commodities LP, an affiliate of Quantix.

While all the information prepared in this document is believed to be accurate, Quantix makes no warranty as to its completeness or accuracy. The information in this Methodology summary is only current as of the date indicated, and may be superseded by subsequent market events or for other reasons.

An investor cannot invest directly in an index. Indices are unmanaged and are not subject to fees and expenses and is not available for direct investment.

CME Group market data is used under license as a source of information for this methodology. CME Group has no other connection to Harbor or Quantix or its affiliates and does not sponsor, endorse, recommend or promote any Harbor or Quantix products or services. CME Group has no obligation or liability in connection with Harbor or Quantix products and services. CME Group does not guarantee the accuracy and/or the completeness of any market data licensed to Quantix and shall not have any liability for any errors, omissions, or interruptions therein.

The information in this material is only current as of the date indicated, and may be superseded by subsequent market events or for other reasons. Any statements of opinion constitute only current opinions of Harbor and Quantix, which are subject to change and which Harbor and Quantix do not undertake to update. Statements concerning financial market trends are based on current market conditions, which will fluctuate. Nothing herein constitutes an offer to sell, or solicitation of an offer to purchase, any securities.

Some information contained herein has been obtained from third party sources and has not been independently verified by Harbor nor Quantix. Harbor and Quantix believes such information to be accurate, but make no representations as to the accuracy or the completeness of such third-party information.

All rights to the trademark, name and intellectual property associated with the Index is the property of Quantix Commodities Indices LLC. No representation is made by Quantix Commodities Indices LLC nor Harbor Capital Advisors, Inc., that the Index is accurate or complete or that any investment in the Index or in a product that tracks the Index will be profitable or will achieve the design objectives.

All charts and data are for illustrative purposes only.

Investing entails risks and there can be no assurance that any investment will achieve profits or avoid incurring losses.

Harbor Capital Advisors, Inc