

Truflation Global Commodities Index (TruGCI)

Methodology

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1. Executive Summary

The **Truflation Global Commodities Index (TruGCI)** is a real-time benchmark designed to measure the **U.S. dollar value of a diversified basket of globally significant commodities**.

The index tracks price movements across essential commodity markets, including energy, agriculture, industrial metals, technology-related metals, and precious metals. These commodities represent critical inputs into global production, consumption, infrastructure, food supply, and energy systems.

The TruGCI is designed to provide a transparent and market-based measure of global commodity cost pressures in **dollar terms**.

By using real-time, commodity-based benchmarks, the TruGCI provides:

- A timely signal of commodity-driven inflation and deflation pressures.
- A transparent measure of changes in the dollar cost of hard assets.
- A sector-level view of energy, agriculture, metals, and precious-metals price movements.
- A market-based benchmark for investors, institutions, analysts, and policymakers monitoring global commodity conditions.

In essence, the TruGCI shifts the index objective from **asset-relative purchasing power** to a direct measure of **how the dollar value of a diversified global commodity basket changes over time**.

2. Truflation Global Commodities Index Framework

The **Truflation Global Commodities Index (TruGCI)** is a transparent, rules-based, and market-reflective benchmark designed to measure the USD value of a diversified basket of globally significant commodities.

The index is constructed to capture movements in commodity prices that affect real economic activity, including energy costs, food costs, industrial production inputs, infrastructure materials, technology-related resources, and precious metals.

The index construction process is as follows.

Step 1: Commodities Used

The TruGCI incorporates a diversified set of commodities spanning multiple sectors of the global economy. This breadth ensures a comprehensive and balanced view of commodity price movements across the real assets that underpin global production, consumption, and technological development. The commodities included in the index are outlined below in Exhibit 1.

Exhibit 1 – Commodities Included in the TruGCI

Energy Commodities	Crude Oil Futures	Metals Commodities	Aluminium Futures
	Coal Futures		Iron Futures (Fines 62% FE CFR)
	Natural Gas Futures		Copper Futures
Agricultural Commodities	Corn Futures		Uranium Futures
	Wheat Futures		Lithium Carbonate Futures
	Soybean Futures	Precious Metal Commodities	Gold Futures
	Feeder Cattle Futures		Silver Futures
	Live Cattle Futures		Platinum Futures

The selection of commodities for this index is based on their significance in global markets. The index encompasses major energy sources such as oil and gas, essential agricultural commodities, industrial and technological metals and precious metals commonly used for both investment and industrial purposes.

Step 2: Data Collection

Primary commodity price data for the Truflation Global Commodities Index is sourced from leading global exchanges, including the New York Mercantile Exchange (NYMEX), the Intercontinental Exchange (ICE), Commodity Exchange, Inc. (COMEX), Guangzhou Futures Exchange (GFEX), Chicago Mercantile Exchange (CME), and the Chicago Board of Trade (CBOT). These exchanges provide high quality, exchange traded futures prices that reflect transparent and liquid global markets.

The daily index value is calculated using an arithmetic average of futures prices obtained from the multiple data providers listed above. This approach strengthens data robustness by mitigating source specific anomalies, minimizing the influence of outliers and delivering a balanced representation of prevailing market conditions.

In instances where a daily price is unavailable from one data source, the index calculation relies on prices reported by the remaining sources for the relevant commodity on that day. This approach ensures continuity in index calculation, maintains methodological consistency and minimizes the risk of data gaps.

Data sourced from exchanges undergo a rigorous validation and quality control process, with prices and index values systematically cross verified across multiple sources to ensure consistency, accuracy and reliability. Data sources are continuously monitored to maintain an uninterrupted, up to date flow of information and any anomalies, discrepancies or irregularities are promptly investigated and corrected. Regular updates are incorporated into the index calculation to ensure the index accurately reflects current market conditions.

Step 3: Weighting Scheme

Each commodity's weighting is designed to reflect its relative importance within the global economy. Commodities with higher weightings, such as crude oil, play a central role in global energy markets and exert a substantial influence on overall economic conditions. Agricultural commodities, including soybeans, corn, and wheat, represent vital components of the global food supply. Industrial metals like copper and aluminum are fundamental to manufacturing and infrastructure development, while precious metals such as gold, silver, and platinum serve dual roles as industrial inputs and investment assets.

The inclusion of newly added commodities, Lithium Carbonate and Uranium, highlights the growing importance of sustainable energy resources and advanced technology materials in the evolving global economy.

This balanced and comprehensive approach ensures that the Truflation Global Commodities Index provides a robust and meaningful measure to a diversified basket of globally significant commodities.

The methodology is modeled on the World Bank's *Commodity Price Data (Pink Sheet)* framework, with targeted adaptations to incorporate emerging commodities that reflect current economic and technological trends.

Basis for Weightings

The foundational weights are derived from the World Bank's Pink Sheet methodology, which accounts for trade volumes, economic significance, and prevailing market dynamics of individual commodities. This approach offers a well-established and widely recognized framework for assessing the relative

importance of commodities within the global economy and serves as a robust baseline for the index.

Inclusion of New Commodities

To ensure relevance in the context of evolving energy systems and technological advancement, the index incorporates two additional commodities: Lithium Carbonate and Uranium.

- Lithium Carbonate is included to capture the rapid growth of electric vehicles and high-technology industries, reflecting its critical role in battery production and energy storage solutions.
- Uranium is added to represent the increasing global emphasis on nuclear energy as a reliable, low-carbon power source. As countries invest in nuclear infrastructure to enhance energy security and support decarbonization goals, uranium has emerged as a strategically important commodity.

Adjustments and Rebalancing

The inclusion of Lithium Carbonate and Uranium required adjustments to the original weighting structure to ensure the total index weighting remains at 100 percent. The weights of existing commodities were proportionally scaled to accommodate these additions while preserving the integrity and balance of the overall index.

The final weightings, see exhibit 2, are intended to reflect each commodity's current relevance and impact within global markets. Regular evaluations of market conditions, economic data, and structural trends are conducted to keep the index aligned with evolving global realities.

Exhibit 2 - TruGCI Weighting

Commodity	Classification	Weight
Crude Oil Futures (Brent, WTI & Dubai Crude)	Energy	48.0%
Coal Futures	Energy	3.0%
Natural Gas Futures	Energy	7.0%
Soybean Futures	Agricultural	4.0%
Corn Futures	Agricultural	6.0%
Wheat Futures	Agricultural	6.0%
Feeder Cattle Futures	Agricultural	1.5%
Live Cattle Futures	Agricultural	1.5%
Aluminum Futures	Metals	4.0%
Iron ore fines 62% Fe CFR Futures	Metals	4.0%
Copper Futures	Metals	4.0%

Uranium	Metals	4.0%
Lithium Carbonate Futures	Metals	3.0%
Gold Futures	Precious Metals	3.0%
Silver Futures	Precious Metals	0.6%
Platinum Futures	Precious Metals	0.4%

Step 4: Calculation

The index calculation methodology is designed to accurately capture changes in the prices of the selected commodities. This section outlines the procedures, assumptions, and formulas used to compute the Truflation Global Commodities Index.

The first step is to establish the base date which serves as the foundational reference point for the Truflation Global Commodities Index and is essential for calculating the dollar value. 2011 has been selected as the base period to ensure the availability of consistent and comprehensive historical data across all included commodities.

- *Base Date Selection:* The official base date of the index is January 1, 2011. This date marks the starting point from which changes in the dollar value of the commodities basket are measured. The year 2011 represents a pivotal period in global economic and technological development and the increasing importance of advanced technologies and renewable energy resources, key themes reflected in the index composition.
- *Base Date Calculation:*
 - *Commodity Pricing:* On the base date, the price of each commodity included in the index is recorded using its respective futures price, where applicable.
 - *Weight Application:* Each commodity price is multiplied by its assigned index weight. For example, if Brent Crude Oil futures are priced at \$X on the base date and carry a weight of 48.0%, their contribution to the index equals $\$X \times 0.48$.
 - *Dollar Value of the Basket:* The weighted values of all commodities are summed to determine the total dollar value of the commodities basket on the base date. This figure serves as the benchmark for measuring subsequent changes in the basket's value.

As a result the Truflation Global Commodities Index formula is:

$$\text{TruGCI}(t) = (\text{Price}_{\text{GOLD}} \times \text{Weight}_{\text{GOLD}}) + (\text{Price}_{\text{SILVER}} \times \text{Weight}_{\text{SILVER}}) + \dots + (\text{Price}_n \times \text{Weight}_n)$$

Step 5: Rebalancing Frequency

The Truflation Global Commodities Index is rebalanced annually on June 1st, ensuring that the index continues to accurately reflect evolving market conditions while maintaining methodological stability.

Prior to each rebalancing, a comprehensive market analysis is performed, incorporating statistical models to identify emerging trends, structural shifts, and changing market dynamics. These include:

- Adjustments based on traditional metrics such as market relevance and trading activity, but also with consideration given to price volatility.
- Global economic and technology developments to systematically assess their impact on commodity markets. For example, the growing emphasis on renewable energy and electrification may increase the relevance of specific commodities within the index. Weightings are adjusted accordingly to ensure the index remains forward looking and aligned with macroeconomic and technological shifts.

Before implementing any rebalancing changes, simulations and backtesting are conducted using historical data to evaluate the potential impact of proposed adjustments under various market scenarios. These analyses inform final weighting decisions and help optimize index performance and resilience.

Following each rebalancing cycle, the index's performance is reviewed to identify opportunities for methodological enhancement. The rebalancing framework remains adaptable, allowing for refinements based on new insights, market developments and technological advancements.

All changes made during the rebalancing process are fully documented and communicated in a transparent manner. A detailed post rebalancing report is published, outlining the rationale for each adjustment and its expected impact on index composition and performance. Links to our annual post rebalancing reports are published in the appendix below.

Step 6: Scaling Factor (Divisor Adjustment)

A scaling factor is applied to maintain index continuity and prevent artificial changes in the index level resulting from structural events. Structural events include constituent additions or deletions, changes in index weights due to scheduled rebalancing and other methodology driven adjustments.

The scaling factor is calculated as:

$$\text{Scaling Factor} = \text{Old Weighted Sum} / \text{New Weighted Sum}$$

The index level is calculated as:

$$\text{Index Level} = \text{Weighted Sum} \times \text{Scaling Factor}$$

Prior to a structural event, the scaling factor remains unchanged. On the effective date of a constituent change or weight rebalance, the scaling factor is recalculated so that the index level immediately before and after the event remains consistent. The recalculated scaling factor remains in effect until the next structural event requiring adjustment.

All scaling factor changes are documented with effective dates to ensure transparency, auditability, and historical consistency of the index series.

3. The Output Metrics

The Truflation Global Commodities Index will be updated on a daily basis and produces the following indexes:

1. TruGCI Headline Index (USD)
2. Daily Headline year on year percentage change
3. Each of the constituents index
4. Each of the constituents year on year percentage change
5. Historical time series

The TruGCI Index was launched on June 6, 2025, with historical data available from 2011.

In addition to the main TruGCI Index, the index has four sub-indexes that have been created to provide deeper insight into market dynamics, which include:

- TruGCI Metals
- TruGCI Energy
- TruGCI Agriculture
- TruGCI Precious Metals

Each sub-index isolates specific segments of the broader market to highlight trends and performance patterns: for example, the Metals sub-index tracks price dynamics of key industrial and precious metals, while the Energy, Agriculture, and Precious Metals sub-indexes capture market behavior in their respective sectors. These sub-indexes allow investors and analysts to assess trends and performance beyond the aggregated Truflation Global Commodities Index, providing a more granular view of sector-specific market movements.

The data is published daily on the Truflation dashboard, where users can access historical records and download the full datasets.

4. Compliance and Governance

The compliance and governance framework of the Truflation Global Commodities Index defines the controls and oversight mechanisms designed to support integrity, transparency and methodological rigor in the construction and maintenance of the benchmark.

The TruGCI methodology is designed to align with internationally recognized standards for financial benchmarks, including the IOSCO Principles for Financial Benchmarks, which address areas such as data sufficiency, transparency, accountability, and auditability.

In particular, the methodology incorporates IOSCO consistent controls across (i) administrator responsibility and documented calculation procedures, (ii) use of exchange based, observable input data with validation and cross verification, (iii) periodic review through scheduled rebalancing and documented methodology updates, and (iv) accountability through record-keeping, monitoring, and stakeholder feedback mechanisms.

The methodology document clearly identifies all data sources used in the index calculation, providing transparency to users and stakeholders. Any changes to data sources resulting from market developments or improvements in data availability are communicated in a timely and transparent manner. The data collection process adheres to international standards and best practices for financial benchmarks, with data confidentiality and integrity maintained throughout all stages of collection and processing.

By leveraging a combination of direct exchange data and aggregated information from trusted data providers, the Truflation Global Commodities Index delivers a comprehensive, accurate and reliable representation of market conditions. This diversified data sourcing approach supports the robust construction and ongoing maintenance of the index, fostering confidence among users and stakeholders.

Stakeholder engagement is a central element of the index governance process. Users are encouraged to provide feedback, which is carefully reviewed by the

oversight committee to enhance the index's relevance and ensure it continues to meet user needs.

Through the implementation of rigorous compliance and governance procedures, the index maintains the highest standards of quality and integrity, fostering trust among users and supporting the effective functioning of the index.

5. Truflation Global Commodities Index Benefits

The Truflation Global Commodities Index offers several key benefits for investors, analysts, and other stakeholders seeking a deeper understanding of broader market trends. Key benefits include:

- ***USD-Denominated Commodity Benchmark:*** The TruGCI tracks the dollar value of a diversified commodity basket, providing a direct view of commodity cost pressures.
- ***Real-Time Commodity Inflation Signal:*** The index provides timely insight into inflationary and deflationary pressures arising from energy, agriculture, industrial metals, technology materials, and precious metals.
- ***Sector and Market Segmentation:*** The TruGCI includes sub-indices for Energy, Agriculture, Metals, and Precious Metals. These sub-indices allow users to identify which sectors are driving changes in the overall basket value.
- ***Broad Commodity Coverage:*** The index includes a diversified set of commodities, reducing reliance on any single commodity and improving the representativeness of the benchmark.
- ***Benchmarking and Market Analysis:*** The TruGCI provides a standardized measure for tracking commodity price movements over time. It can be used for market analysis, inflation monitoring, risk management, and macroeconomic research.
- ***Data-Driven Transparency:*** The index leverages exchange-based data and trusted market sources. Validation, cross-verification, and quality controls are used to support reliability and accuracy.
- ***Support for Informed Decision-Making:*** The TruGCI equips investors, businesses, policymakers, and researchers with a real-time measure of commodity market conditions and input-cost dynamics.

6. Summary

The **Truflation Global Commodities Index (TruGCI)** is designed to provide a transparent, rules-based, and economically meaningful benchmark for measuring the USD value of a diversified basket of globally significant commodities.

The methodology ensures consistency, continuity, and institutional integrity over time. By combining real-time exchange data with systematic oversight, the TruGCI delivers a reliable framework for tracking commodity price movements, sector-specific cost pressures, and broader commodity-driven inflation dynamics.

As markets, technologies, and economic structures evolve, the index is designed to adapt thoughtfully while preserving methodological stability.

7. Version History

Version	Date Released	Notes
1.0	June 6, 2025	Genesis of the Truflation Bitcoin Purchasing Power Index (TruBPPI)
2.0	May 28, 2026	Rename of TruBPPI into Truflation Global Commodities Index and removal of Bitcoin ratio calculation. Methodology updated to reflect those changes

8. Annual Post Rebalancing Reports

Year	Date Released	Links
2026	June 1, 2026	