The Bloomberg Energy & Metals Equal-Weighted Index

April 2023

Bloomberg

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Version Tracker

Date	Update	Updated By
04/28/2023	Revised Quarterly Target Weights	Ken Hoefling
12/13/2022	Addition of ESG Disclaimer	Ken Hoefling
9/12/2022	Effective September 19 2022, the total return index calculation changed from using the 13-week (3 -month) US Treasury Bill ("T-Bill") Rate (ticker: USB3MTA Index), to the United States SOFR Secured Overnight Financing Rate (ticker: SOFRRATE Index)	Ken Hoefling
12/09/2019	Bloomberg Energy & Metals Equal-Weighted Index methodology written	Ken Hoefling

Section 1: Index Overview

The Bloomberg Energy and Metals Equal-Weighted Excess Return Index (ticker: **BEMEWER Index,** and together the **Indices**) aims to track the performance of an equal-weighted basket of 11 components, representing an aggregate 12 energy and metal (base & precious) commodity futures contracts. The energy constituents consist of WTI crude oil, brent crude oil, low sulphur gas oil, and natural gas, while the metal components include gold, silver, platinum, palladium, copper, zinc, nickel and aluminum. The Bloomberg Energy and Metals Equal-Weighted Total Return Index (ticker: **BEMEWTR Index**) is calculated using the returns of the BEMEWER Index and the return of cash collateral invested in the 3-Month T-Bill. The Bloomberg Energy and Metals Equal-Weighted Euro Monthly Hedged Total Return Index (ticker: **BEMEWETR Index**) uses the underlying return from the BEMEWTR Index, while hedging the euro risk on a monthly basis.

The Index weights are reset equally on a quarterly basis on close of the last **Business Day** in January, April, July, and October. To maintain the long position of the basket, contracts are 'rolled' from the expiring futures contract to a new contract farther down the futures curve with a longer expiry date. The roll schedule for individual commodity futures contracts are determined by the open interest and volume. All commodities will roll on the first through the fourth Business Day of each calendar month. An **Index Level** or Business Day is determined on a day in which both NYMEX and London Metals Exchange are open for business.

The BEMEWER and the BEMEWTR Index are denominated in U.S. dollars, while the BEMEWETR Index is denominated in EUR. The Indices have a **Base Date** of January 2nd, 2014 with a **Base Index Level** of 100. The **Index Commencement Date** is December 9th 2019.

Bloomberg Index Services Limited (**BISL** and, collectively with its affiliates, Bloomberg) is the **Index Owner** and the **Index Administrator** of the Bloomberg Energy and Metals Equal-Weighted index family.

Table 1: Contract Month Codes

Commodity	Bloomberg Code	Sector	Component	Target Weight	Lot Size
Aluminum	LA	Base Metals	Aluminum	1/11 or 9.09%	1
Copper	LP	Base Metals	Copper	1/11 or 9.09%	1
Low Sulphur Gas Oil	QS	Energy	Gas Oil	1/11 or 9.09%	1
Gold	GC	Precious Metals	Gold	1/11 or 9.09%	1
Natural Gas (HH)	NG	Energy	Natural Gas	1/11 or 9.09%	1
Nickel	LN	Base Metals	Nickel	1/11 or 9.09%	1
Brent Crude Oil	CO	Energy	Petroleum	1/11 or 9.09%	1
Crude Oil (WTI)	CL	Energy	Petroleum	1/11 or 9.09%	1
Platinum	PL	Precious Metals	Platinum	75% of 1/11 or 6.82%	1
Palladium	PA	Precious Metals	Palladium	25% of 1/11 or 2.27%	1
Silver	SI	Precious Metals	Silver	1/11 or 9.09%	1
Zinc	LX	Base Metals	Zinc	1/11 or 9.09%	1

Prior to May 2023, each energy and metals (base and precious) commodity future contract had a target weight of 1/12. No constituents have been added or removed from the Indices historically.

Section 2: Index Limitations

Though the Indices are designed to be representative of the markets they measure or otherwise align with their stated objective, they may not be representative in every case or achieve their stated objective in all instances. They are designed and calculated strictly to follow the rules of this Methodology, and any Index Level or other output is limited in its usefulness to such design and calculation.

Markets can be volatile, including those commodity market interests which the Indices intend to measure or upon which the Indices are dependent in order to achieve their stated objective. For example, trading in futures contracts on physical commodities, including trading in the Index components, is speculative and can be extremely volatile. Market prices of the Index components and the underlying physical commodities may fluctuate rapidly based on numerous factors, including changes in supply and demand relationships (whether actual, perceived, anticipated, unanticipated or unrealized); weather; agriculture; trade; fiscal, monetary and exchange control programs; domestic and foreign political and economic events and policies; disease; pestilence; technological developments; changes in interest rates, whether through government action or market movements; and monetary and other government policies, action and inaction.

The current or "spot" prices of the underlying physical commodities may also affect, in a volatile and inconsistent manner, the prices of futures contracts in respect to the relevant commodity. These factors may affect the value of the Indices in varying ways, and different factors may cause the prices of the Index components, and the volatilities of their prices, to move in inconsistent directions at inconsistent rates.

In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors.

Historical Index levels published prior to the Index launch date are considered hypothetical. Historical Index levels should not be considered as an indication of future performance.

The Bloomberg Energy & Metals Equal-Weighted Index is comprised of liquid commodity future contracts. If any commodity future contract is terminated or replaced in accordance with the rules of the Index methodology, a comparable commodity futures contract may be selected by BISL. The replacement of a commodity future contract may cause the level of the Energy & Metals Equal-Weighted Index to change or be adjusted.

BISL may discontinue or suspend calculation or publication of the Indices defined in this methodology. If this happens, BISL shall use reasonable efforts to provide advance notice through an Index announcement made available via bloombergindices.com and on the Bloomberg Terminal {INP <GO>}.

Section 3: Index Calculation

The Bloomberg Energy and Metals Equal-Weighted Indices aims to track the performance of an equal-weighted basket of 11 components, representing an aggregate 12 energy and metal (base & precious) commodity futures contracts. The energy constituents consist of WTI crude oil, brent crude oil, low sulphur gas oil, and natural gas, while the metal components include gold, silver, platinum, palladium, copper, zinc, nickel and aluminum. Listed below in Table 1, is the current list of the energy and metals commodity futures contracts, their respective sectors, components, and **Target Weights** are reset. The Index Based Date CC and the ongoing CC are used maintain continuity in the Indices.

CC's are calculated using the following formulas:

Base Date CC Calculation

$$CC = \frac{ITW_i * 100}{NCSP_t}$$

Where:

CC	is the Commodity Contract Units used to apply the target weight of the individual commodity futures contract, rounded to 10 decimal places.
ITW_i	is the target weight of commodity futures contract i for each quarterly Rebalancing Day.
$NCSP_t$	is the **Next Contract Settlement Price** on Business Day t.

CC Calculation

$$CC = \frac{ITW_i * 100}{NCSP_t} * CCAF$$

Where:

CC	is the Commodity Contract Units used to apply the target weight of the individual commodity futures contract, rounded to 10 decimal places.
ITW_i	is the target weight of commodity futures contract i for each quarterly Rebalancing Day.
$CCAF$	is the **Commodity Contract Units Adjustment Factor**.
$NCSP_t$	is the Next Contract Settlement Price on Business Day t.

$$CCAF = \frac{\sum_i CC_r * NCSP}{100}$$

Where:

$CCAF$	is the Commodity Contract Units Adjustment Factor.
CC_r	is the previous Commodity Contract Units.
$NCSP$	is the Next Contract Settlement Price on Business Day t

Index Rolling

The Indices hold long positions in energy and metal (base and precious) commodity futures contracts on the Chicago Mercantile Exchange (CME), London Metals Exchange (LME), and the Intercontinental Exchange (ICE). To maintain a long position, contracts are 'rolled' from the expiring futures contract to a new contract farther down the futures curve with a longer expiry date. The calculation of the Bloomberg Energy & Metals Equal-Weighted Indices follow the roll schedule based on the commodity contract calendar listed in Table 3. The mapping table for the contract letters and months is define in Table2.

Table 2: Contract Month Codes

Contract Code	Month
F	January
G	February
H	March
J	April
K	May
M	June
N	July
Q	August
U	September
V	October
X	November
Z	December

The Contract Calendar Table (Table 3 and Table 4) represents the **Lead Contract** on the first Business Day of each month for each commodity futures contract.

Table 3: Energy & Metals Commodity Contract Calendar

Commodity	Exchange	Bloomberg Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Natural Gas (HH)	CME	NG	G	H	J	K	M	N	Q	U	V	X	Z	F
Crude Oil (WTI)	CME	CL	G	H	J	K	M	N	Q	U	V	X	Z	F
Brent Crude Oil	ICE Europe	CO	H	J	K	M	N	Q	U	V	X	Z	F	G
Low Sulphur Gas Oil	ICE Europe	QS	G	H	J	K	M	N	Q	U	V	X	Z	F
Aluminum	LME	LA	G	H	J	K	M	N	Q	U	V	X	Z	F
Copper	LME	LP	G	H	J	K	M	N	Q	U	V	X	Z	F
Zinc	LME	LX	G	H	J	K	M	N	Q	U	V	X	Z	F
Nickel	LME	LN	G	H	J	K	M	N	Q	U	V	X	Z	F
Platinum	CME	PL	J	J	J	N	N	N	V	V	V	F	F	F
Palladium	CME	PA	H	H	M	M	M	U	U	U	Z	Z	Z	H
Silver	CME	SI	H	H	K	K	N	N	U	U	Z	Z	Z	H
Gold	CME	GC	G	J	J	M	M	Q	Q	Z	Z	Z	Z	G

Table 4: Brent Crude Commodity Contract Calendar January 2014 to December 2015

Commodity	Exchange	Bloomberg Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Brent Crude Oil	ICE Europe	CO	G	H	J	K	M	N	Q	U	V	X	Z	F

Each commodity future will roll from the lead contract to the next contract over the first four Business Days of each month, at 25% each Business Day. If a **Market Disruption Event** (MDE) occurs during the roll period (Business Days 1 through 4) for a particular commodity, the roll weight will be "held". The roll weight will catch up on the next Business Day when a MDE is not present. Table5 is an example of the rolling process during the February Roll Period of 2014

Table 5: Rolling Example for Crude Oil (CL)

					Yesterday Roll Weight		Today Roll Weight	
Date	**Ticker**	**Day Count**	**Lead Contract**	**Next Contract**	**% Lead**	**% Next**	**% Lead**	**% Next**
2/3/2014	CL	1	CLH14	CLJ14	100%	0%	75%	25%
2/4/2014	CL	2	CLH14	CLJ14	75%	25%	50%	50%
2/5/2014	CL	3	CLH14	CLJ14	50%	50%	25%	75%
2/6/2014	CL	4	CLH14	CLJ14	25%	75%	0%	100%

Index Calculation

Index Levels are determined on a day in which both NYMEX and London Metals Exchange are open for business. If a commodity futures contract **Settlement Price** is unavailable on a Business Day when the both the NYMEX and LME exchanges are open. The last available official Settlement Prices will be used for the calculation of the Indices. The official Index Level precision is four decimal places.

The BEMEWER (excess return) Index Level is calculated as follows:

$$IndexER = IndexER_{t-1} * (1 + DR)$$

Where:

$IndexER$	is the BEMEWTR Index Level on Business Day t, rounded to 4 decimal places.
$IndexER_{t-1}$	is the BEMEWTR Index Level on the Business Day immediately preceding Business Day t.
$\boldsymbol{DR}$	is the **Daily Return** of the index commodity futures contracts

The Daily Return is calculated as:

$$DR = \left(\frac{\mathrm{DCTT}}{DCYT} - 1\right)$$

Daily Contract Today Total ("DCTT") is calculated as:

$$DCTT = \sum_i LCC * YLRW * \frac{LCSP_t}{L} + NCC * YNRW * \frac{NCSP_t}{L}$$

Where:

LCC	is the Lead CC.
$YLRW$	is the Yesterday Lead Roll Weight, i.e., the roll weight of commodity futures contact i on the Business Day immediately preceding Business Day t.
$LCSP_t$	is the Lead Contract Settlement Price
NCC	is the Next CC
$YNRW$	is the Yesterday Next Roll Weight, i.e., the roll weight of commodity futures contact i on the Business Day immediately preceding Business Day t.
$NCSP_t$	is the Next Contract Settlement Price
L	is the Lot Size (defined in Table 1)
i	is the commodity futures contract

Daily Contract Yesterday Total (DCYT) is calculated as:

$$DCYT = \sum_i LCC_{t-1} * YLRW * \frac{LCSP_{t-1}}{L} + NCC_{t-1} * YNRW * \frac{NCSP_{t-1}}{L}$$

Where:

LCC_{t-1}	is the Lead CC
$YLRW$	is the Yesterday Lead Roll Weight, i.e., the roll weight of commodity futures contact i on the Business Day immediately preceding Business Day t.
$LCSP_{t-1}$	is the Lead Contract Yesterday Settlement Price
NCC_{t-1}	is the Next CC
$YNRW$	is the Yesterday Next Roll Weight, i.e., the roll weight of

	commodity futures contact i on the Business Day immediately preceding Business Day t.
$NCSP_{t-1}$	is the Next Contract Yesterday Settlement Price
L	is the Lot Size (defined in Table 1)

BEMEWTR (total return) Index Level is calculated as follows:

$$\mathrm{BEMEWTR\ t} \quad = \mathrm{BEMEWTR}_{t-1} \text{ x } (\frac{IndexER}{IndexER_{t-1}} + \mathrm{CR}_{\ t})$$

Where:

BEMEWTR t	is the current Business Day Bloomberg Energy and Metals Equal-Weighted TR level, rounded to 4 decimal places
$\mathrm{BEMEWTR}_{t-1}$	is the Business Day immediately preceding Business Day Bloomberg Energy and Metals Equal-Weighted TR level
$IndexER$	is the IndexER level on Business Day t
$IndexER_{t-1}$	is the Business Day immediately preceding Business Day t day IndexER level
$\mathrm{CR}_{\ t}$	is the **Collateral Return**, calculated as

$$\mathrm{CR}_{\ t} \quad = \mathrm{R}_{\ t-1} \text{ x } \frac{d}{\mathrm{D}}$$

Where:

$\mathrm{R}_{\ t-1}$	United States SOFR Secured Overnight Financing Rate (ticker: SOFRRATE Index) *subject to one-day lag*
d	is the number of calendar days between last Business Day (i.e. weekend=3)
D	is the number of annual calendar days (ACT/360)

Prior to September 19, 2022, the total return index was calculated using the 13-week (3 -month) US Treasury Bill ("T-Bill") Rate, the rate used is the most recent weekly auction high discount rate (ticker: USB3MTA Index).

BEMEWETR (euro monthly hedged total return) Index Level is calculated as follows:

$$BEMEWETR\ t \quad = BEMEWETR_{m}\ x\ \ (\frac{BFIX\ m * BEMEWTR_{t}}{BFIX\ t * BEMEWTR_{m}} + HC_{\ t})$$

Where:

$BEMEWETR\ t$	is hedged index on current Business Day, rounded to 4 decimal places
$BEMEWETR\ m$	is hedged index on the last Business Day of previous month
$BEMEWTR\ t$	is unhedged index on current day
$BEMEWTR\ m$	is unhedged index on the last day of previous month

HC_t	is hedged cost on current day
BFIX m	is the EURL160 on the last day of previous month
BFIX t	is the EURL160 on current day

$$HC_t = BFIX_m * \left(\frac{1}{BFIX1M_m} - \frac{1}{BFIX_t + (BFIX1M_t - BFIX_t) * \left(\frac{DR}{DIM}\right)} \right)$$

Where:

$BFIX\ m$	is the EURL160 on the last day of previous month (London 4PM BFIX)
$BFIX1M\ m$	is the EUR1ML160 on the last day of previous month
$BFIX\ t$	is the EURL160 on current day
$BFIX1M\ t$	is the EUR1ML160 on current day
DR	is day remaining in month
DIM	is the number of days in the calendar month

"BFIX" or "Bloomberg FX Fixings" means fixings calculated as a Time-Weighted Average Price (TWAP) of the arithmetic midrates of the Bloomberg Generic Price (BGN) and BGNE (where available) for currencies used in the index. These fixings are calculated at 30 minute intervals throughout the day and the London 16:00 fixings are used in calculation of the Bloomberg Energy and Metals Equal-Weighted Euro Monthly Hedged Total Return Index. For more information on BFIX, please see the methodology here. The following outrights tickers are used for the index calculation; EURL160 Index, and EUR1ML160 Index. If an individual London 16:00 fixing is not available, BISL will determine the appropriate FX rate for the current Business Day.

Section 4: Market Disruption Events

Market Disruption Events (MDE)
MDE's can occur in future contracts for several reasons:

a) The termination or suspension of, or material limitation or disruption in, the trading of any future contract used in the calculation of the Index on that day;
b) The settlement price of any such contract reflect the maximum permitted price change from the previous day's settlement price, based on limits set by commodity exchanges
c) The failure of an exchange to publish settlement prices.

If an MDE occurs with respect to the Bloomberg Energy and Metals Equal-Weighted Index during the "Roll Period" for either the lead or next contract, the daily roll of the relevant futures contract will be held for that Business Day. On the following Business Day on which a Market Disruption Event does not occur, the roll weight will account for the current days roll weight and the previous Business Day (MDE's) roll weight.

If a MDE persists for four consecutive Index Business Days immediately following the original Index Business Day on which a MDE occurs, then the Index Administrator shall determine what further actions it may reasonably take.

If, on any Index Business Day, a Market Disruption Event occurs or is occurring that the Index Administrator determines, in its sole discretion, materially affects the Index, the Index Administrator may defer or suspend the calculation and publication of the Index Value and any other information relating to the Index until the next Index Business Day on which such disruption event is not continuing.

Section 5: Benchmark Governance and Review

Data Providers and Data Extrapolation

The Indices are rules-based, and their construction is designed to consistently produce Index Levels without the exercise of discretion. The Indices are produced without the interpolation or extrapolation of input data.

In addition, the Index Administrator seeks to avoid contributions of input data that may be subject to the discretion of the source of such data and instead seeks to use input data that is readily available and/or distributed for a number of non-index or benchmark creation purposes. Accordingly, the Indices require no 'contributors' to produce and no codes of conduct with any such sources are required.

Benchmark Governance

Benchmark Governance, Audit and Review Structure

BISL uses three primary committees to provide overall governance and effective oversight of its benchmark administration activities:

- The Product, Risk & Operations Committee ("**PROC**") is responsible for the first line of control over the creation, design, production and dissemination of benchmark indices, strategy indices and fixings administered by the BISL. [1]
- The oversight function is provided by Bloomberg's Benchmark Oversight Committee ("**BOC**"). The BOC is independent of the PROC and is responsible for the review and challenge of the Board and the PROC regarding relevant aspects of the provision of Benchmarks by BISL, as set out in the UK BMR.
- The Risk Committee ("**RiskCo**") advises the Board, the PROC and the BOC on the Company's overall risk appetite, tolerance and strategy and oversees the Company's risk exposure and risk strategy.

On a quarterly basis, the PROC reports to the BOC on governance matters, including but not limited to client complaints, the launch of new benchmarks, operational incidents (including errors & restatements), major announcements and material changes concerning the benchmarks, the results of any reviews of the benchmarks (internal or external) and material stakeholder engagements.

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Index and Data Reviews

[1] Note that administrators of significant (but not critical) benchmarks may opt not to disclose (i) re the roles performed by any persons involved in reviewing and approving the methodology and (ii) a description of the procedure for the nomination and removal of the persons involved in reviewing and approving the methodology.

The Index Administrator will review the Indices (both the rules of construction and data inputs) on a periodic basis, not less frequently than annually, to determine whether they continue to reasonably measure the intended underlying market interest, the economic reality or otherwise align with their stated objective. More frequent reviews may result from extreme market events and/or material changes to the applicable underlying market interests.

In addition to material changes, BISL may from time to time terminate one or more Indices ("Discontinued Indices"), whether due to changes in market structure, a lack of requisite data, insufficient usage, or for other regulatory or practical concerns. The process for terminating such Discontinued Indices is as follows:

The PROC will review proposed terminations, taking into account the reasons for termination, the impact on users (if any), the availability of alternative products and other such factors. If termination is approved, users will be provided as much prior notice as is reasonable under the circumstances, typically 90 days. In the event there is little or no known usage identified, the Discontinued Indices may be terminated with less (or no) notice, as applicable. In the event the Discontinued Indices are licensed for use as the basis of an ETF or other widely-available financial product or is otherwise determined by BISL to be an important benchmark without reasonable substitutes, the notice period may be extended, as warranted. Any advance notice period is subject to BISL being reasonably able to continue administering and calculating such benchmark during such period (for example, BISL has access to requisite data on commercially reasonable terms, is not subject to any litigation or other claims, has adequate internal resources and capabilities, etc.). Terminations and associated user engagement decisions made by the PROC are subject to review by BISL's oversight function, the BOC.

Criteria for data inputs include reliable delivery and active underlying markets. Whether an applicable market is active depends on whether there are sufficient numbers of transactions (or other indications of price, such as indicative quotes) in the applicable constituents (or similar underlying constituent elements) that a price (or other value, as applicable) may be supplied for such constituent(s).

Other than as set forth in this Methodology, there are no minimum liquidity requirements for Index constituents and/or minimum requirements or standards for the quantity or quality of the input data.

The review will be conducted by product managers of the Indices in connection with the periodic rebalancing of the Indices or as otherwise appropriate.

Any resulting change to the Methodology deemed to be material (discussed below) will be subject to the review of the PROC (defined below) under the oversight of the BOC (defined below), each of which committees shall be provided all relevant information and materials it requests relating to the change. Details regarding the PROC and BOC are described in Section 5 - Benchmark Governance.

Material changes will be reflected and tracked in updated versions of this Methodology.

BISL's Index administration is also subject to Bloomberg's Compliance function which periodically reviews various aspects of its businesses in order to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls are functioning properly.

Material changes related to the Indices will be made available in advance to affected stakeholders whose input will be solicited. The stakeholder engagement will set forth the rationale for any proposed changes as well as the timeframe and process for responses. The Index Administrator will endeavor to provide at least two weeks for review prior to any material change going into effect. In the event of exigent market circumstances, this period may be shorter. Subject to obligations of confidentiality, stakeholder feedback and the Index Administrator's responses will be made accessible upon request. Because the Indices are strategy indices and not widely-available benchmark indices, this stakeholder engagement will be conducted on a bespoke basis with the Index Owner, rather than a more open and public consultation that might be more appropriate for benchmark indices.

In determining whether a change to an Index is material, the following factors shall be taken into account:

- The economic and financial impact of the change;
- Whether the change affects the original purpose of the Index; and/or
- Whether the change is consistent with the overall objective of the Index and the underlying market interest it seeks to measure

Exchange Settlement Price Delays

In the event an exchange delays the pricing of future settlements pertaining to the Bloomberg Energy and Metals Equal-Weighted Indices, BISL will delay the publication of Index Levels to vendors and delivery of index data files.

Error Corrections/Restatement Policy

BISL strives to provide accurate calculation of its indices. However, to the extent a material error in index levels is uncovered following publication and dissemination, a notification will be sent to index owners alerting them of such error and the expected date of a revised publication, if warranted.

BISL considers the following factors to determine whether to restate. Not all conditions need to be present to warrant a restatement, and certain factors may be more determinative that others depending on the circumstances of the given error.

- The relative importance of the data field impacted by the error;
- When the error occurred and when it was discovered;
- The number of indices and sub-indices affected;
- Whether the impacted indices are linked to tradable products;
- The magnitude of the error;
- The burden of restatement on client re-processing relative to the impact of the error;
- The impact of the restatement on analytical tools.

Exchange Settlement Price Amendments

On the occasion when an exchange amends the Settlement Price of a contract used in the Bloomberg Energy and Metals Equal-Weighted Indices prior to 7 PM EST, BISL will send an index announcement following the discovery to inform all clients of the correction. BISL will then recalculate, republish, and redistribute end-of day files.

Expert Judgment

BISL may use expert judgment with regards to the following:

- Index restatements
- Extraordinary circumstances during a market emergency
- Data interruptions, issues, and closures

When expert judgment is required, BISL undertakes to be consistent in its application, with recourse to written procedures outlined in this Methodology and internal procedures manuals. In certain circumstances exercises of expert judgment are reviewed by senior members of BISL management and Bloomberg Compliance teams, and are reported to the PROC. BISL also maintains and enforces a code of ethics to prevent conflicts of interest from inappropriately influencing index construction, production, and distribution, including the use of expert judgment.

Reinvestment of Dividends and Coupons

Dividends and coupon payments play no direct role in this Index Methodology Handbook, and are therefore not accounted for by the Index.

EXPLANATION OF HOW ESG FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
Item 1. Name of the benchmark administrator.	Bloomberg Index Services Limited ("BISL")
Item 2. Type of benchmark or family of benchmarks.	Other
Item 3. Name of the benchmark or family of benchmarks.	Family Energy and Metals Equal-Weighted Index
Item 4. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	No
Item 5. Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816.	

Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets. The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks.	
(a) List of environmental factors considered:	Not applicable
(b) List of social factors considered:	Not applicable
(c) List of governance factors considered:	Not applicable
Item 6. Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816, depending on the relevant underlying asset concerned. Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets. The ESG factors shall not be disclosed for each constituent of the benchmark, but shall be disclosed at an aggregated weighted average value of the benchmark. Alternatively, all of this information may be provided in the form of a hyperlink to a website of the benchmark administrator included in this explanation. The information on the website shall be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years.	
(a) List of environmental factors considered:	Not applicable
(b) List of social factors considered:	Not applicable
(c) List of governance factors considered:	Not applicable
Hyperlink to the information on ESG factors for each benchmark:	Not applicable
Item 7. Data and standards used	
(a) Data input. (i) *Describe whether the data are reported, modelled or sourced internally or externally.*	Not applicable

(ii) *Where the data are reported, modelled or sourced externally, please name the third party data provider.*	
(b) Verification and quality of data. *Describe how data are verified and how the quality of those data is ensured.*	Not applicable
(c) Reference standards *Describe the international standards used in the benchmark methodology.*	Not applicable
Date on which information has been last updated and reason for the update:	October 2022, Update

Section 6: Index Terms

"Base Index Level" means the stating Index Level of 100 for each of the Indices.

"BEMEWER Index" means the Bloomberg Energy and Metals Equal-Weighted Excess Return Index.

"BEMEWTR Index" means the Bloomberg Energy and Metals Equal-Weighted Total Return Index.

"BEMEWETR Index" means the Bloomberg Energy and Metals Equal-Weighted Euro Monthly Hedged Total Return.

"BISL" means Bloomberg Index Services Limited.

"BOC" means the Benchmark Oversight Committee.

"Business Day" means any day on which both NYMEX and London Metals Exchange are open for business.

"**Commodity Contract Units (CC)"** means the derived units calculated to apply the Target Weights of each individual commodity futures contract to the Index as set out in Section 3

"Component Group" means the highly correlated commodities as defined in Table 1.

"Index Administrator" means BISL.

"Index Base Date" means the first date of the Index history as described in Section 1.

"Index Commencement Date" means the date each of the Indices is first made available on the relevant Bloomberg Page, i.e., December 9th, 2019.

"Index Level" means, in respect of the Index and an Business Day, the value of the Index on such Business Day, calculated in accordance with the methodology described in Section 3.

"Index Owner" means BISL.

"**Indices**" means BEMEWER Index, BEMEWTR Index and BEMEWETR Index.

"PROC" means the Product, Risk and Oversight Committee.

"Lead Contract" means the rolling out commodity futures contract as defined in Table 3.

"Market Disruption Event" (MDE) has the meaning given to such term in Section 4.

"Next Contract" means the rolling in commodity futures contract as defined in Table 3.

"Next Contract Settlement Price" means the official settlement prices provided by the exchange of the rolling in commodity futures contract defined in Table 3.

"Rebalancing Day" means the Business day when the Index resets to its equal Target Weights on the last Business Day in January, April, July, and October.

"Rolling" means the commodity futures contracts are 'rolled' during the Roll Period in increments of 25% from the expiring futures contract (Lead Contract) to a new contract farther down the futures curve with a longer expiry date (Next Contract). After the Roll Period, the former Next Contract becomes the new Lead Contract.

"Roll Period" means in respect of the Indices and the Lead Contract, the first through the fourth Business Day of each month.

"Settlement Price"- means the official settlement prices provided by an exchange

"Target Weights" means the weighting of each commodity futures contract, as defined in Table 1.

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