MCX
METAL & ENERGY
Trade with Trust

INDEX FUTURES PERFORMANCE REVIEW



2023-2024

FOREWORD

The Index Futures Performance Report (PR) is the outcome of the SEBI circular SEBI/HO/CDMRD/DNPMP/CIR/P/2020/21 dated February 04, 2020, directing all recognised Stock Exchanges offering Commodity Derivatives Segment to conduct performance review of commodity derivatives contracts on an annual basis based on various parameters. The said performance review shall be consulted with the Product Advisory Committee (PAC) and the same shall be disclosed by 30th June of the following financial year.

Following the above directive, the Index Product Management Team at the exchange has created PR for index futures contracts that are traded on the exchange. These have been approved by the PAC.

The Index Futures Performance Report highlights information on the Volume, Turnover, Open Interest of Index Futures on MCX iCOMDEX BULLDEX®, METLDEX® and ENRGDEX® on the Exchange, along with the price correlations with underlying instrument.

It may be noted that the ENRGDEX® Futures contracts were available for trading only till October 2023 expiry.

Acknowledgement

We have been ably guided by the MCX Index Futures PAC members in improving the content of the report and we are extremely thankful to them. We hope to keep improvising the report going forward.

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INDEX FUTURES PERFORMANCE REPORT

1. BACKGROUND

a. Brief about the Commodity Index

MCX India Commodity Indices (iCOMDEX) are excess return indices which consist of Single Commodity Indices, Sectoral Indices and Composite Index. MCX iCOMDEX indices derive values from prices of futures contracts traded on Multi Commodity Exchange of India Ltd. (MCX). An excess return index is considered to be ideal for benchmarking and trading as, along with price returns, it also shows the return attributed to rolling constituent contracts to a new expiry.

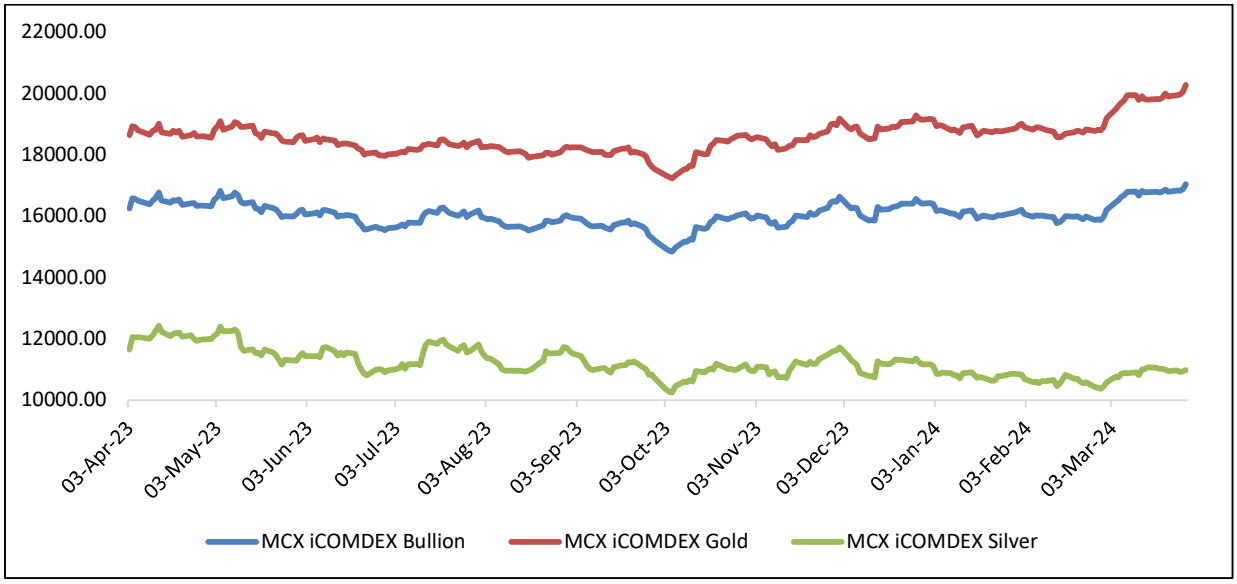
I. BULLDEX

MCX iCOMDEX Bullion Index® is one of the sectoral indices in the MCX iCOMDEX family that reflects real-time performance of bullion sector as a whole. It provides an efficient tool to investors looking to manage their investments in bullion. The index includes gold (1 Kg) futures and silver (30 kg) futures listed on MCX. Each commodity within the index is weighted three-fourths by its liquidity and one-fourth by its physical market size in India, determined by local production and imports.

Long-term investors can use the MCX iCOMDEX Bullion Index® for gaining from exposure to the bullion sector as an asset class. Market participants including individual investors, professional traders, and financial institutions such as hedge funds and mutual funds, can use the MCX iCOMDEX Bullion Index® either as a reference benchmark for their investments in bullion or related asset classes or as the basis of investment products which provide direct exposure to bullion.

The MCX iCOMDEX Bullion Index® conforms to the standards of the International Organisation of Securities Commissions (IOSCO) Principles for Financial Benchmarks (July 2013) in its computation and governance.

The price movements in the MCX iCOMDEX Bullion, Gold and Silver indices are provided below.



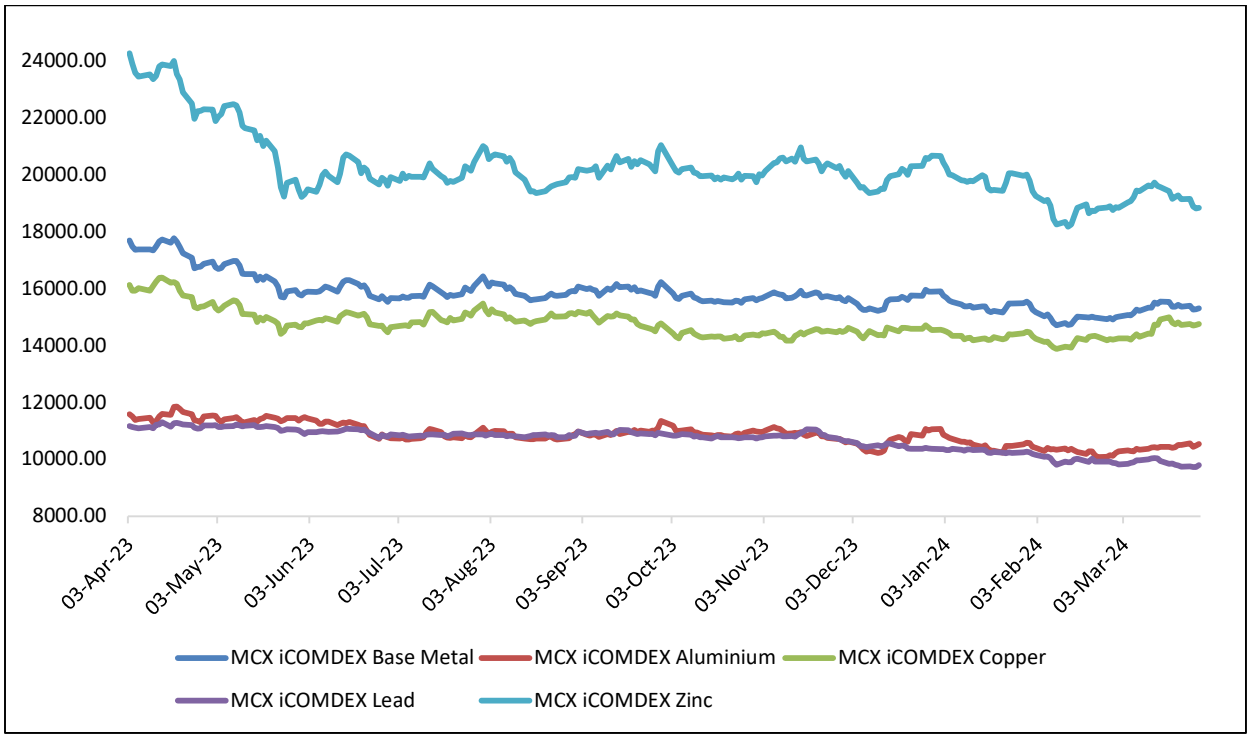
II. METLDEX

MCX iCOMDEX Base Metal Index® is one of the sectoral indices in the MCX iCOMDEX family, providing an efficient tool to investors looking to manage their investments in base metals. The index includes 4 base metals futures listed on MCX, viz., Aluminium (5 MT), Copper (2.5 MT), Lead (5 MT), and Zinc (5 MT). This index can therefore serve as an indicator of the performance of the Indian industrial sector. Every commodity within the base metal index is weighted three-fourths by its liquidity and one-fourth by its physical market size in India, determined by local production and imports. Additionally, the commodity selection process is also subject to further conditions and needs to meet the threshold set forth in the methodology.

Market participants including individual investors, professional traders, and financial institutions such as hedge funds and mutual funds, can use the MCX iCOMDEX Base Metal Index® either as a reference benchmark for their investments in base metals or related asset classes, or as the basis of investment products to provide direct exposure to Indian base/industrial metals.

The MCX iCOMDEX Base Metal Index® conforms to the standards of the International Organisation of Securities Commissions (IOSCO) Principles for Financial Benchmarks (July 2013) in its computation and governance.

The price movements in the MCX iCOMDEX Base Metal Index® and other single commodity indices are provided below.



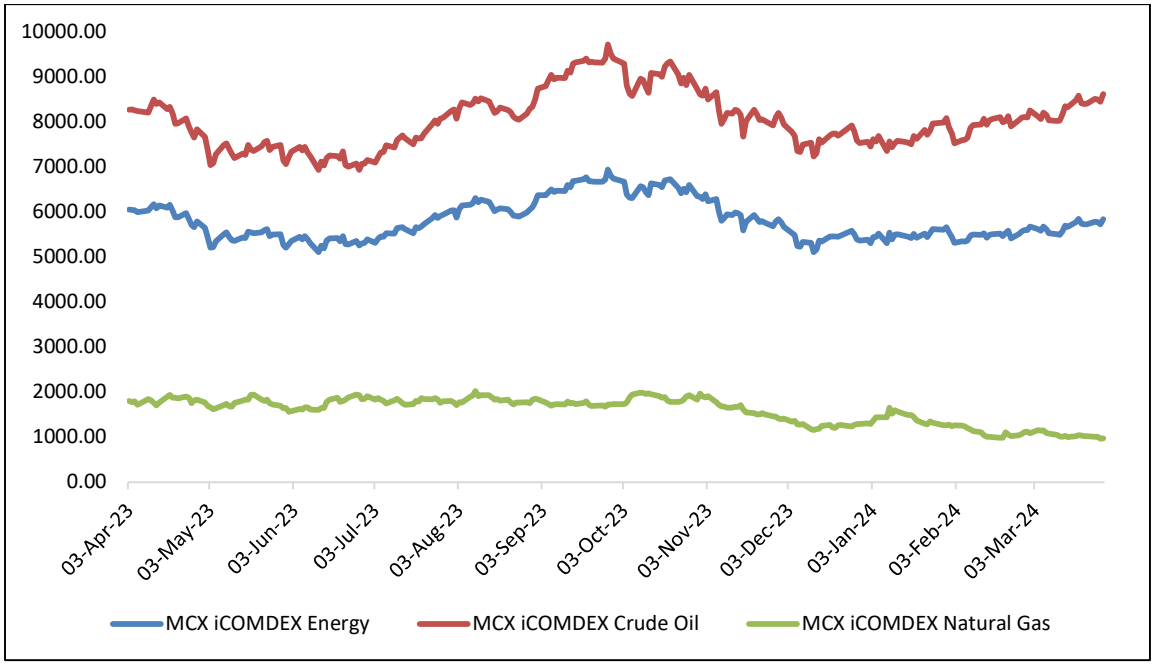
III. ENRGDEX

MCX iCOMDEX Energy® Index is one of the sectoral indices in the MCX iCOMDEX family, providing an alternative tool to investors looking to manage their investments in energy sector. The index includes Crude Oil (100 bbl.) and Natural Gas (1250 mmBtu) futures listed on MCX. To arrive at the weights of the constituents, each commodity within the index is weighted three-fourths by its liquidity and one-fourth by its physical market size in India, determined by local production and imports and subject to caps and floors as per the methodology of MCX iCOMDEX indices.

Market participants including individual investors, professional traders, and financial institutions such as hedge funds and mutual funds, can use the MCX iCOMDEX Energy Index® either as a reference benchmark for their investments in the energy sector or related asset classes or as the basis of investment products which provide direct exposure to energy sector.

The MCX iCOMDEX Energy Index® conforms to the International Organisation of Securities Commissions (IOSCO) Principles for Financial Benchmarks (July 2013) in its computation and governance.

The price movements in the MCX iCOMDEX Energy Index® and other single commodity indices are provided below.



b. Commodity fundamentals and balance sheet

c. Major changes in the polices governing trade in the spot markets of the commodity

d. Geopolitical issues in the commodity and its impact on Indian scenario.

Please find details in respect to points 1 (b), (c) and (d) below.

The brief fundamentals of underlying commodities are elucidated as under.

MCX iCOMDEX Bullion Index futures underlying commodities

Gold

- Bullion prices were influenced by a variety of factors, reflecting the complex interplay of global economic trends, geopolitical events, and market dynamics.
- As per the World Gold Council Central Bank Gold Reserves Survey 2023, 24% of central banks plan to increase gold reserves in the next 12 months, reflecting growing pessimism about the US dollar and optimism about gold's role.
- The 2023 banking crisis and tensions in the Middle East drove a surge in gold and silver bullion demand as investors sought safe-haven assets.
- Currency values, particularly the US dollar, played a significant role in bullion prices, with shifts in the dollar often leading to inverse movements in gold and silver prices.
- Gold supply was projected to increase by 2-2.7% in 2023, with mined supply growing at a similar pace to 2022 and recycled metal potentially increasing due to higher prices.
- Central banks globally continued to bolster their gold reserves, amassing a total of 337 metric tons in the third quarter of 2023.
- Gold imports in India reached a 31-month high in October, increasing by 60% compared to the previous year.
- India's overall gold imports declined by about 30% due to high customs duty and global economic uncertainties, impacting the global demand for gold.
- India's gold demand surged by 10% to 210.2 tonnes in Q3 2023, with investment in gold bars and coins reaching the highest level since 2015.
- ETFs reported significant sales of gold, with net sales reaching 521,966 ounces by 10th January 2024, reflecting investor caution and impacting prices.
- China's central bank acquired 181 tonnes of gold in 2023, taking its total holdings to 4% of its reserves.

Silver

- Silver supply in 2023, global mine production fell by 1% y/y to 830.5Moz (25,830t) in 2023 due to weaker output in Mexico owing to the temporary suspension of Newmont's Peñasquito in Q2 and Q3.2023 following union strike action and the processing of lower grade ore at some mines in Argentina and the closure of Pan American Silver's Manantial Espejo mine were key drivers of this fall
- Silver by-product output from lead-zinc operations rose by 1% y/y despite the suspension of some mines in response to low base metal prices.
- Silver derived from copper operations also increased, up 3.9% y/y driven by productivity gains and the ramp up of new operations.
- A total of 71.7% of annual silver mine supply was produced as a by-product in 2023. While the share of silver produced from gold mines declined y/y, from 15.5% to 13.7%, the contribution from copper and lead/zinc operations rose, from 25.5% to 26.7% and from 30.3% to 30.8% respectively. The share of production from primary silver mines was unchanged year-on-year, accounting for 28.3% of mine output in 2023
- Primary silver mines, where silver revenues dictate economic viability, accounted for only 28.3% of global supply in 2023.
- Primary silver production slipped to 235.2Moz (7,316t) last year.
- Silver total recycling in 2023 inched up by 1% to a 10-year high of 178.6Moz (5,556t).
- Silver demand in 2023 following a record 2022, total demand saw a fall in 2023 of 7% to 1,195Moz (37,169t). The drop was mainly led by the price sensitive sectors of physical investment, jewellery and silverware while photography saw further structural losses. In sharp contrast, the industrial sector posted

another record high. Offtake from the industrial sector achieved a record high last year, rising 11% to 654.4Moz (20,353t).

- Industrial silver demand rose by 11% to 654.4Moz (20,353t) in 2023, posting another record high
- India's 25% slump due to price damage, import competition and limited stock build was mostly responsible, as demand outside of India only fell by 3%. Silver prices showed significant volatility throughout the year, with notable fluctuations in the Indian Rupee (INR) value of silver.
- The biggest increase during 2023 was in China (+44%), which raised the East Asian total by 25%. Some of this was offset by one-off negatives in Europe and by Indian losses.
- Physical investment after hitting an all-time high in 2022, fell by 28% y/y in 2023 to a three-year low.
- After five consecutive annual gains, physical investment fell by almost a third last year to a three-year low of 243.1Moz (7,562t).
- Indian physical investment fell by a sharp 38% to 49.3Moz (1,534t) in 2023.
- Exchange-Traded Products (ETPs) Silver ETPs witnessed annual outflows for the second year in a row in 2023. Combined holdings fell by 4% or 42Moz (1,310t) over the year to 964Moz (29,980t) by end-2023, down by 20% from their 2021 all-time high and taking holdings to their lowest level since July 2020.

MCX iCOMDEX Base Metal Index futures underlying commodities

- Base metal segment price performance was neutral to positive in the FY 2023-24. Price rise was seen in the later half of the year.
- The reasons attributed are China's economic woes, feeble global growth outlook, higher interest rates and oversupply fears. Copper grew by 2% in the year end 2023. Zinc was the worst performing metal in the group.
- A strong demand in later half was due to sanctions on Russian origin, Israel Hamas conflict disrupting the supply routes and FED maintaining stable interest rate in USA. Adding to it, a positive macroeconomic environment in China and strong US dollar.
- Domestic price has been reflecting the global scenario, but in due consideration of the currency movements and supply aspects. Exchange witnessed regular inflows from the FTA nations (from Japan and South Korea) for Copper and Zinc in particular. The Exchange had expanded empanelment of domestic refined Lead brands facilitating deliveries at multiple locations. Strong inflows during the quarter and year end were a regular feature.

MCX iCOMDEX Energy Index futures underlying commodities

- The performance of the oil and gas sector in 2023-24 has been influenced by a variety of factors, including economic recovery, geopolitical developments, supply chain issues, and the ongoing energy transition.

- OPEC+ continued to play a crucial role in managing oil supply. The war between Islamist group Hamas and Israel has been one of the most significant geopolitical risks to oil and gas markets since Russia's invasion of Ukraine last year. The dramatic escalation between Israel and Iran has sidelined the most significant disruption of global energy trade over the last year.

For further details, please refer to Performance Review report of respective individual commodity.

2. TRADING RELATED PARAMETER

a. Monthly and Annual traded volume (quantity in appropriate units)

Month/ Year	BULLDEX	METLDEX	ENRGDEX
Apr-23	12,368	-	-
May-23	17,285	-	-
Jun-23	14,623	-	-
Jul-23	10,198	-	-
Aug-23	8,941	-	-
Sep-23	7,316	-	-
Oct-23	7,446	-	-
Nov-23	5,233	-	-
Dec-23	4,924	-	-
Jan-24	4,449	-	-
Feb-24	3,267	-	-
Mar-24	4,013	-	-
Total FY 23-24	**1,00,039**	-	-

Note: (i) Contract size is 50 times of Index. (ii) Monthly/Annual volume is in total traded lots.

b. Annual traded volume as proportion of total deliverable supply (quantity in appropriate units)

c. Annual traded volume as proportion of total annual production (quantity in appropriate units)

d. Annual average Open interest as proportion of total production

e. Annual average Open interest as proportion of total deliverable supply

Points 2 (b) to 2 (e) are Not Applicable

For product specific details of underlying commodities, please refer to Performance Review report of respective individual commodity.

f. Monthly and Annual value of trade (in Rs. Crores)

Total Turnover (in Rs. Crores)

Month/ Year	BULLDEX	METLDEX	ENRGDEX
Apr-23	1,017.23	-	-
May-23	1,416.80	-	-
Jun-23	1,165.27	-	-
Jul-23	816.86	-	-
Aug-23	708.32	-	-
Sep-23	574.74	-	-
Oct-23	581.64	-	-
Nov-23	419.22	-	-
Dec-23	401.89	-	-
Jan-24	359.45	-	-
Feb-24	261.31	-	-
Mar-24	335.25	-	-
Total FY 23-24	**8057.99**	-	-

g. Monthly and Annual quantity of delivery (in appropriate units)

h. Monthly and Annual value of delivery (in Rs. Crores)

Points 2 (g) and 2 (h) are Not Applicable

i. Monthly and Annual Average Open Interest (OI) (in appropriate units)

Average Daily Open Interest (in lots)

Month/ Year	BULLDEX	METLDEX	ENRGDEX
Apr-23	521	-	-
May-23	651	-	-
Jun-23	778	-	-
Jul-23	524	-	-
Aug-23	667	-	-
Sep-23	630	-	-
Oct-23	614	-	-
Nov-23	357	-	-
Dec-23	239	-	-
Jan-24	316	-	-
Feb-24	317	-	-
Mar-24	323	-	-
FY 23-24	**497**	-	-

j. Annual average volume to open interest ratio

Index Futures	Average Daily Volume (in lots)	Average Daily Open Interest (in lots)	Volume to Open Interest ratio
BULLDEX	394	497	0.79
METLDEX	-	-	-
ENGRDEX	-	-	-

Data Source: Bhavcopy from MCX Website.

k. Total number of unique members and clients who have traded during the financial year.

Index Futures	Total number of unique members	Total number of unique clients
BULLDEX	123	3499
METLDEX	-	-
ENRGDEX	-	-

l. Ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest (Annual average as well as maximum daily value)

Commodity	Instrument	UNIT	Average of Open Interest	Average of FPOs / Farmers Long VCPs / Hedgers Long	Average of FPOs/ Farmers Short VCPs/ Hedgers Short	Average of Long %	Average of Short %	Max of FPOs/ Farmers Long VCPs/ Hedgers Long	Max of FPOs/ Farmers Short VCPs/ Hedgers Short
MCXBULLDEX	Futures	UNIT	25,176.18	146.46	180.12	0.50%	0.83%	1000	-
MCXENRGDEX	Futures	UNIT	-	-	-	-	-	-	-
MCXMETLDEX	Futures	UNIT	-	-	-	-	-	-	-

Note: Details are provided based on daily disclosure on the Exchange website for the period April 2023 to March 2024 in line with SEBI circular no SEBI/HO/CDMRD/DNPMP/CIR/P/2019/08 Dated January 04, 2019. Based on the data provided by the members from time to time pertaining to Farmers/ FPOs, VCPs/ Hedgers.

m. Number of unique FPOs/ farmers and VCPs/ hedgers who traded in the financial year.

Index Futures	VCPs/Hedgers
BULLDEX	12
METLDEX	-
ENRGDEX	-

Note:

- *Based on the classification provided by the members as on March 31, 2023, for clients traded during FY 2022-23.*
- *In case of classification of OWN (Prop Account) is uploaded as VCPs for any commodity, the same is included in "VCPs/ Hedger' category.*

n. Algorithmic trading as percentage of total trading

Index Futures	Percentage
BULLDEX	44.94
METLDEX	-
ENRGDEX	-

o. Delivery defaults

- **Number of instances**
- **Quantity involved**
- **Value involved**

Not Applicable

3. **PRICE MOVEMENTS**

a. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available).

No representative Index futures are traded globally.

b. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price).

Not Applicable

c. Correlation between exchange futures & domestic spot prices along with ratio of standard deviation.

Correlation with Index Futures:

	Correlation (%)	Ratio of standard deviation
Bullion Index	97.69%	0.9578
Base Metals Index	96.24%	1.0264
Energy Index*	99.73%	1.0052

Note:

* Energy Index values till 10th October 2023

-Correlation between Futures Prices and Index Values is computed based on daily returns using LN(Pt / Pt-1). Ratio of standard deviation is standard deviation of daily futures returns to standard deviation of daily spot (index values) returns.

d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).

No representative Index futures are traded globally.

e. Comparison of Exchange polled price and mandi price (in case of agricultural commodities) / other relevant price (in case non-agricultural commodities) at basis centre.

Not Applicable

f. Maximum & Minimum value of daily futures price volatility and spot price volatility along with disclosure of methodology adopted for computing the volatility.

The volatility details for MCXBULLDEX, MCXMETLDEX and MCXENRGDEX or F.Y. 2023-24 is provided as under:

Commodity	Max Future Price Volatility %	Min Future Price Volatility %	Max Spot Price Volatility %	Min Spot Price Volatility %
MCXBULLDEX	1.02	0.43	2.7	0.46
MCXMETLDEX	0.72	0.28	1.04	0.28
MCXENRGDEX	0.44	0.28	3.97	1.11

Note: Above details are based on near month contract volatility and for the period 1-Apr-2023 to 31-Mar-2024.
Methodology adopted for computing the volatility is Exponential Weighted Moving Average (EWMA).

g. Number of times the futures contract was in backwardation/contango by more than 4% for the near month contract in the period under review.

Particulars	No. of times Index Futures contract	In Contango/ Backwardation
BULLDEX	-	-
METLDEX	-	-
ENRGDEX	-	-

Formula: (Index Futures – Underlying Index)/Underlying Index *100

4. **OTHER PARAMETERS**

a. Qualitative and quantitative measure for Hedge effectiveness ratio and basis Risk (Volatility of Basis) along with disclosure of methodology adopted for such calculations.

Hedge Ratio and Basis risk for BULLDEX, METLDEX and ENRGDEX futures:

The methodology adopted is also indicated below.

Hedge Ratio for 2023-24	
Commodity	**Hedge Ratio**
MCXBULLDEX	0.9877
MCXMETLDEX	0.9516
MCXENRGDEX*	0.9957

Note:
* Energy Index values till 10th October 2023
Hedging efficiency is the value of Coefficient of Determination (R2) obtained from regressing changes in five-day moving average of daily MCX Spot Prices on changes in five-day moving average of daily MCX Futures Prices during the period.

Basis Risk for 2023-23			
Commodity	**Unit of Basis**	**Avg Return of Basis**	**Basis Risk**
MCXBULLDEX	Rs/Unit	-1.7821	19.1184
MCXMETLDEX	Rs/Unit	-1.1133	6.4609
MCXENRGDEX	Rs/Unit	-1.9357	10.4099

Note:
- * Energy Index values till 10th October 2023
- Basis Risk is computed as the Standard deviation of daily normal return in Basis, which is excess of Spot over Futures price.
- In case Basis is zero for any day , next day's Basis return has been ignored for computing the standard deviation.
- *'Hedge Ratio' is defined as the number of units of futures contracts which minimises the risk of the hedged asset position. When futures prices are perfect estimators of spot prices, Hedge Ratio is expected to be 1. That is, one unit of the asset position can be fully hedged by one unit of the futures contract. But, with imperfect link between spot and futures prices, as well as unequal volatility, the hedge ratio usually diverges from 1.*

b. Details about major physical markets of the commodity vis-à-vis market reach in terms of availability of delivery centers (information to be provided state-wise and UT-wise).

Not Applicable

c. Details about major physical markets of the commodity and average Open Interest for each month generated from those regions.

Not Applicable

d. Details, such as number and target audience, of stakeholders' awareness programs carried out by the exchange.

Index Futures	No. of awareness programs	No. of Target audience
FY 23-24	647	31,496

Target audience includes financial institutions, and investors.

e. Steps taken / to be undertaken to improve hedging effectiveness of the contracts as well as to improve the performance of illiquid contracts.

Conducted 647 awareness programs during the FY 2023-24.

5. ANY OTHER INFORMATION TO BE DISCLOSED AS DEEMED IMPORTANT BY THE EXCHANGE OR AS SUGGESTED BY THE PAC.

None

Disclaimer: *The information contained in this report is provided for information purpose only and are provided on as available basis. Along with MCX information, this report also contains the information obtained from third party sources/ market sources on best effort basis. The user of the information assumes the entire risk of any use of such information provided herein at its sole discretion. MCX ensures accuracy and reliability of information, to the best of its endeavors, however, makes no warranty or representation as to the accuracy, completeness, or reliability of any of the information along with the third-party information contained herein. MCX expressly disclaims any and all liability whatsoever to any person for any damage or loss of any nature arising out of use or as a result of reliance, any error, misrepresentations, or omissions of any of the information provided herein. The information contained in this document is not intended to provide any professional council or investment advice. No information contained herein may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means - electronic, mechanical, photocopying, recording, scanning, or otherwise without explicit prior permission of MCX.*