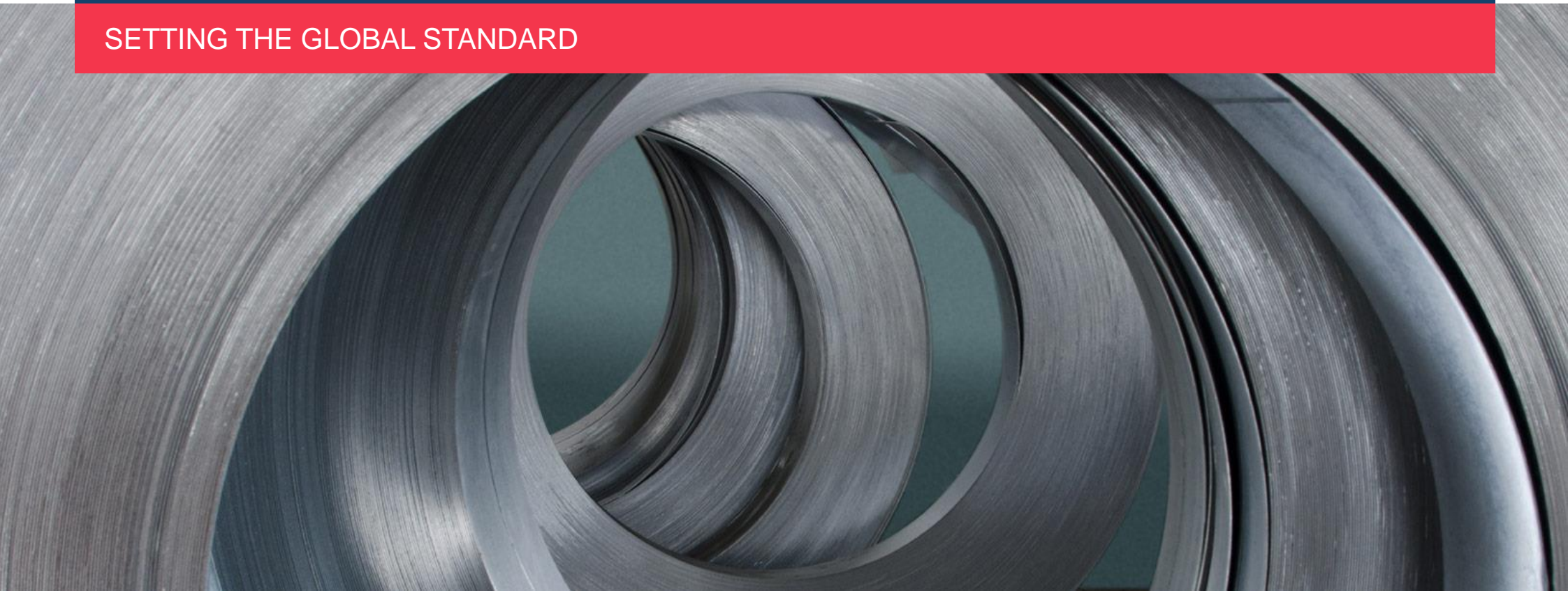


# LME Q1 2023 Update



SETTING THE GLOBAL STANDARD



# Agenda

Section	Title
1.	Topical updates
2.	Market overview
3.	Ferrous markets
4.	LME trading volumes by venue
5.	LME electronic liquidity
6.	LME Monthly (3 <sup>rd</sup> Wednesday) contracts
7.	LME options
8.	Responsible sourcing & sustainability
9.	Upcoming events schedule



# Topical updates

# Topical updates

## LME Action Plan

- The LME Group published a two-year action plan to enhance and strengthen its markets
- The action plan addresses areas including the recommendations put forward in the Oliver Wyman report, eligible Class I material for Nickel delivery and the evolution of market structure
- The action plan and supporting documents were published on 30 March 2023, please click [here](#) to access

## Nickel

- The LME resumed Asian hours trading of Nickel on 27 March, with trading available now available from 01.00 London time
- Resumption of Asian hours trading commenced following a 100% inspection of all bagged nickel warrants in LME-licensed warehouses, which confirmed no further irregularities in LME-warranted nickel stocks
- The inspection was instructed after nine nickel warrants were found to be non-conformant with the contract specifications
- Please see Notice 23/048 for details



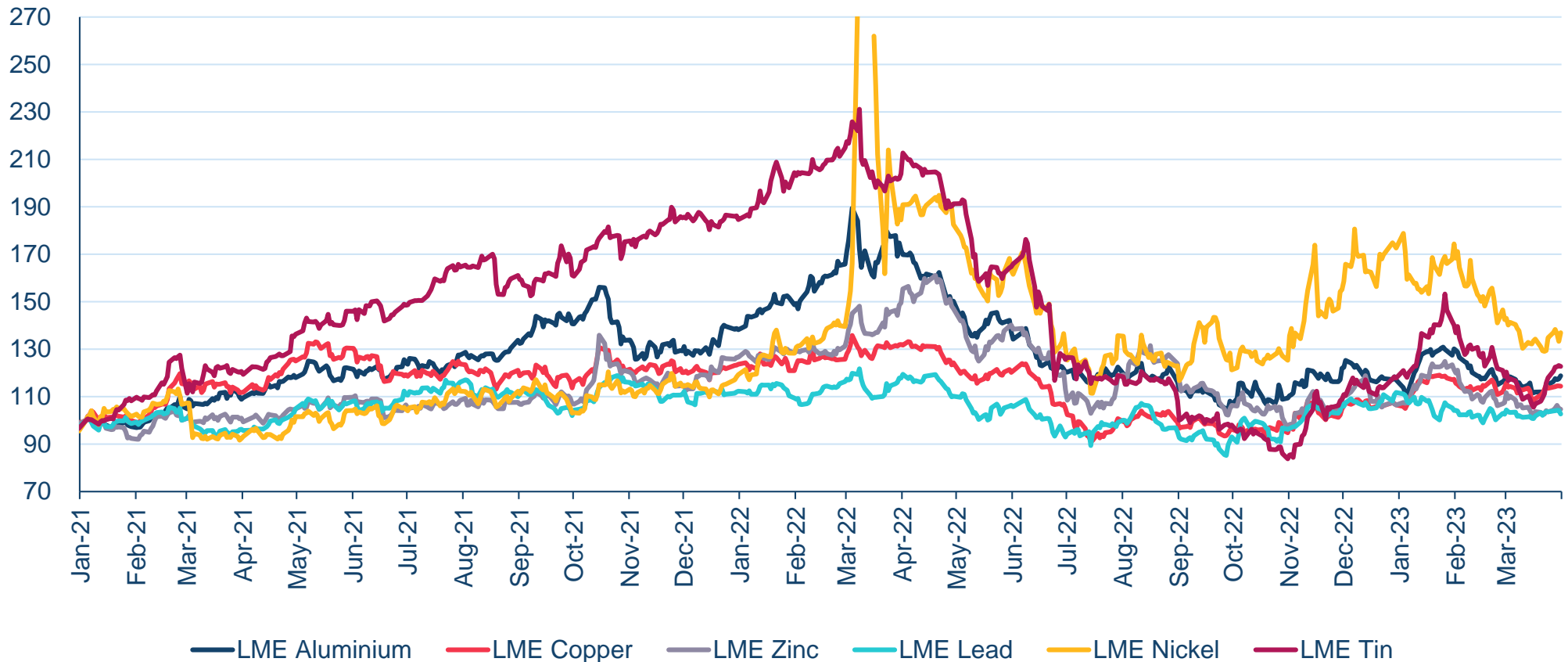
# Market overview – Base Metals

# LME Base Metals – price activity

Base metals trended lower in Q1 2023

## LME prices YTD

3M prices rebased to 100; 4 Jan 21



Data up to 31-03-2023

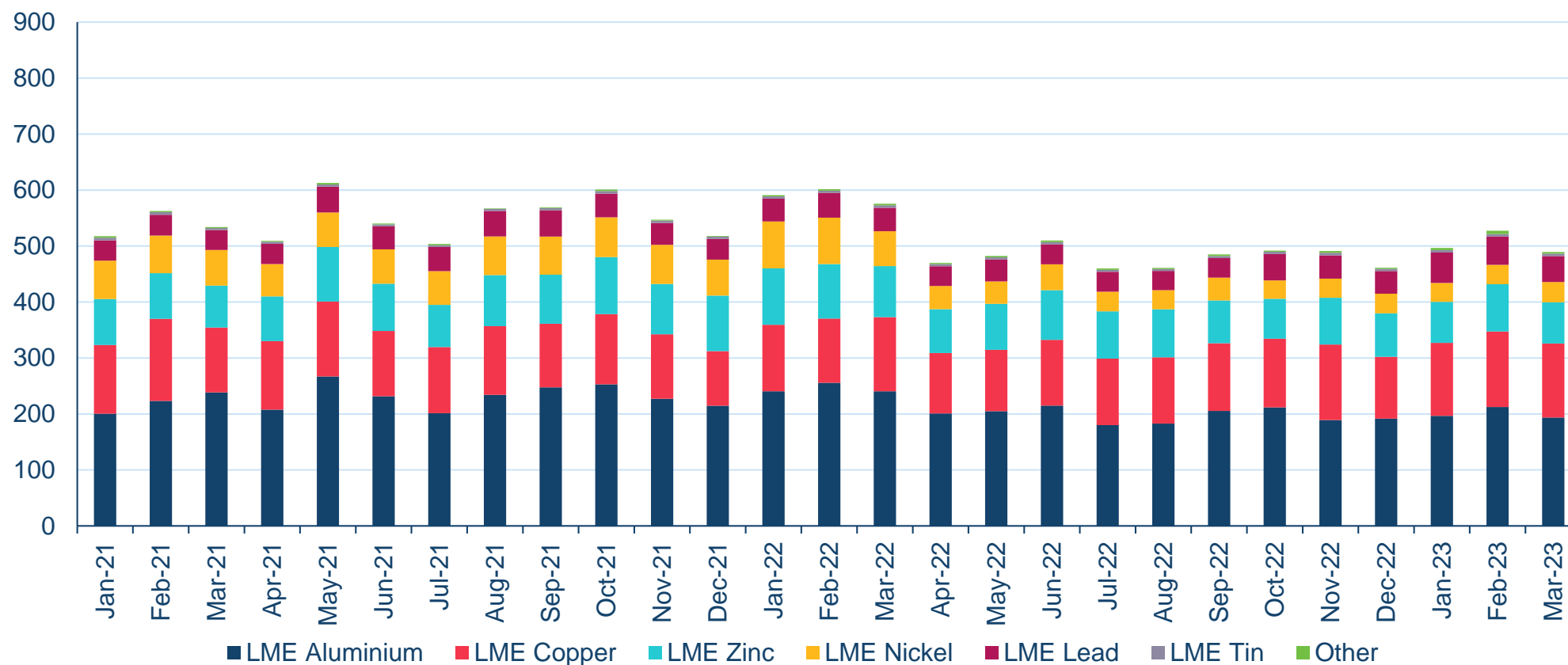


# LME average daily monthly volume

Volumes marginally increased QoQ in Q1 2023

## LME average daily monthly volume

(Thousand lots per day)



Data up to 31-03-2023

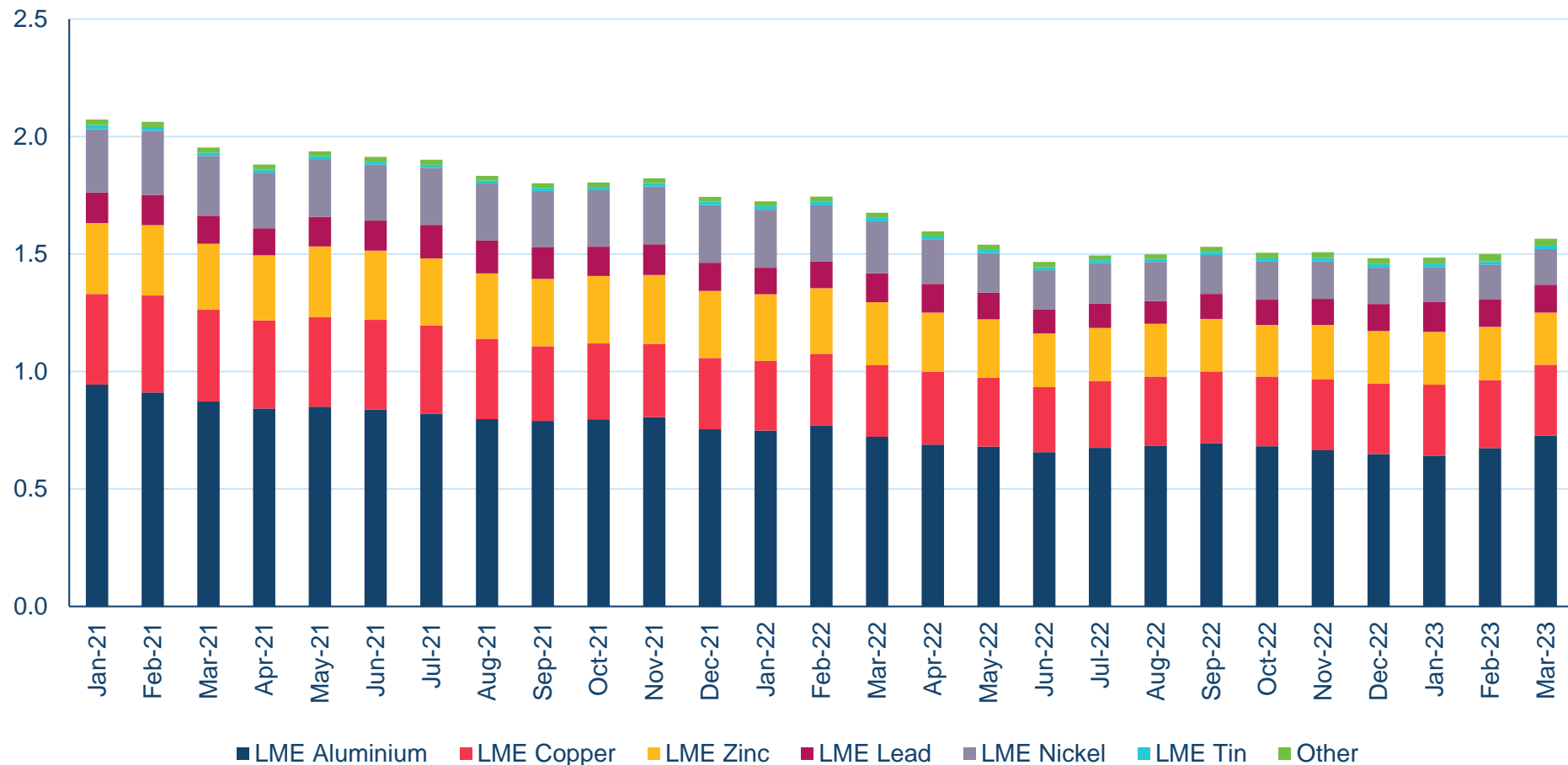


# LME Futures open interest

Future open interest increased to the highest level since April 2022

## Open interest

Average million lots per day; LME Futures



Data up to 31-03-23





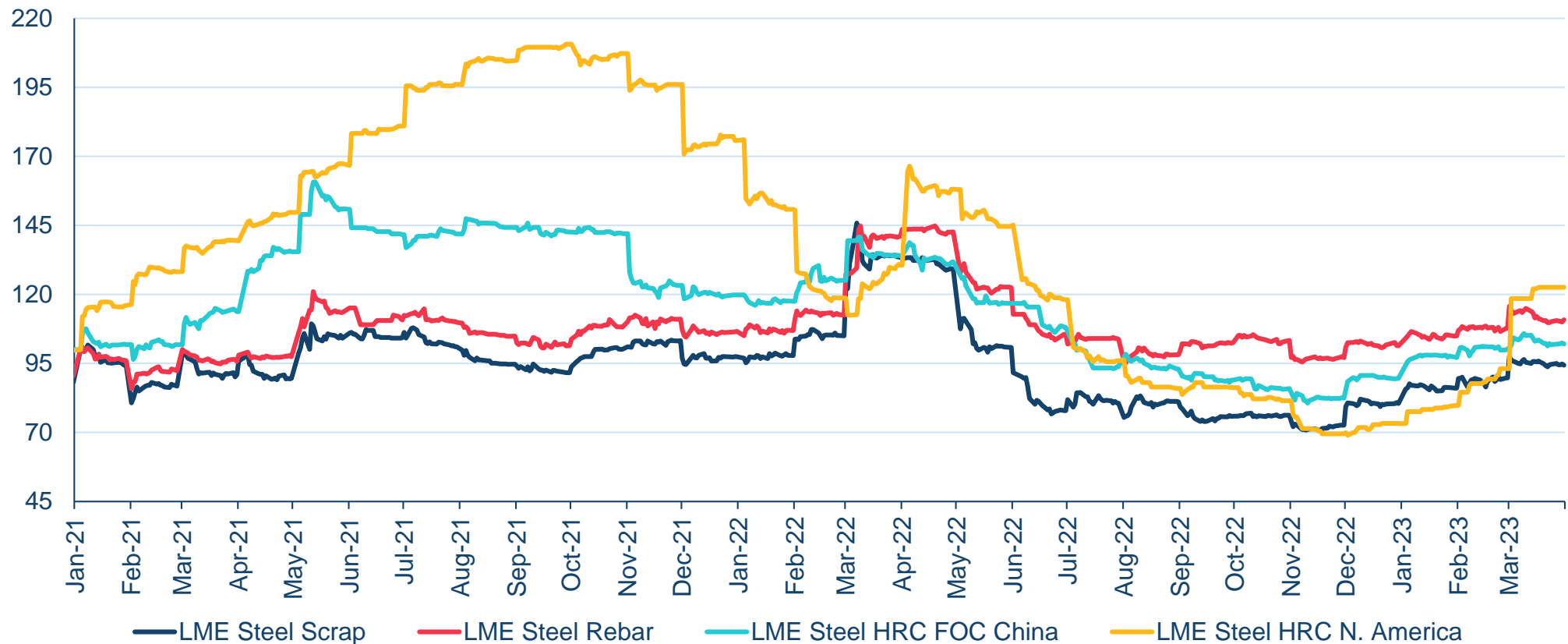
# Ferrous markets

# LME ferrous market price summary

Ferrous prices recovered in Q1, led by HRC North America

## LME prices YTD

Prices rebased to 100; 4 Jan 21



Data up to 31-03-2023  
Month 2 prices

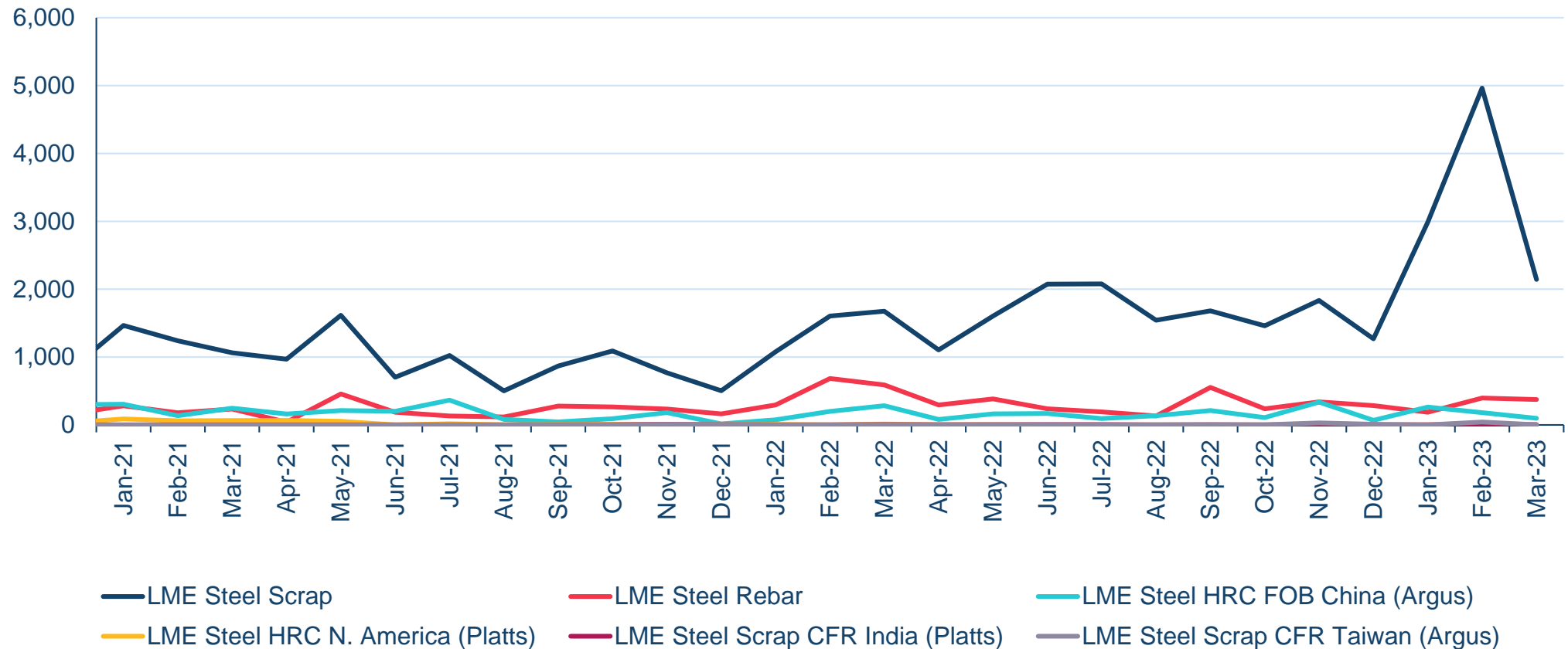


# LME ferrous monthly volume

Ferrous volumes enjoyed a strong Q1, consistently trending above 2000 lots per day

## LME ferrous monthly volume

(Lots per day)



Data up to 31-03-2023  
Source: LME

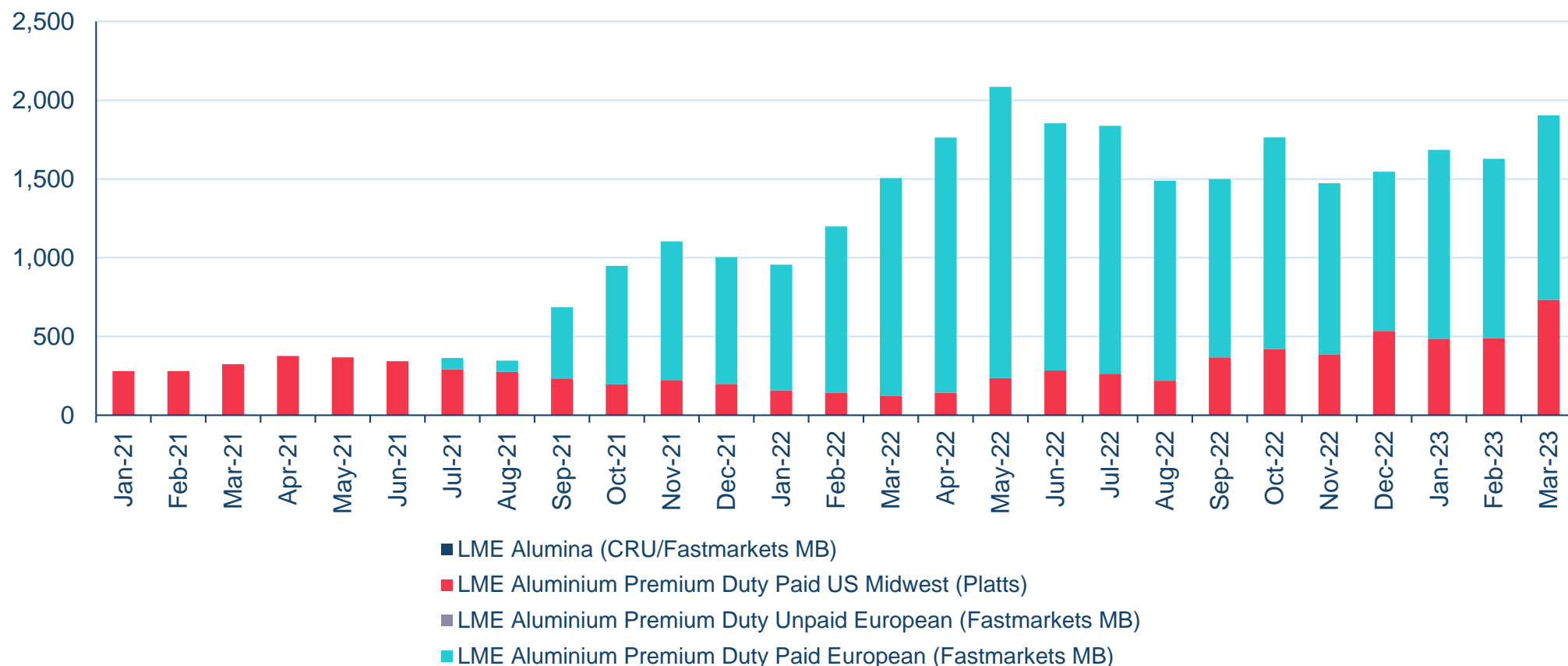


# LME Aluminium cash-settled products open interest

Aggregate Premium Open Interest rose 26% YoY, led by a resurgence in Duty Paid US Midwest

## Open interest

Lots, last business day per month



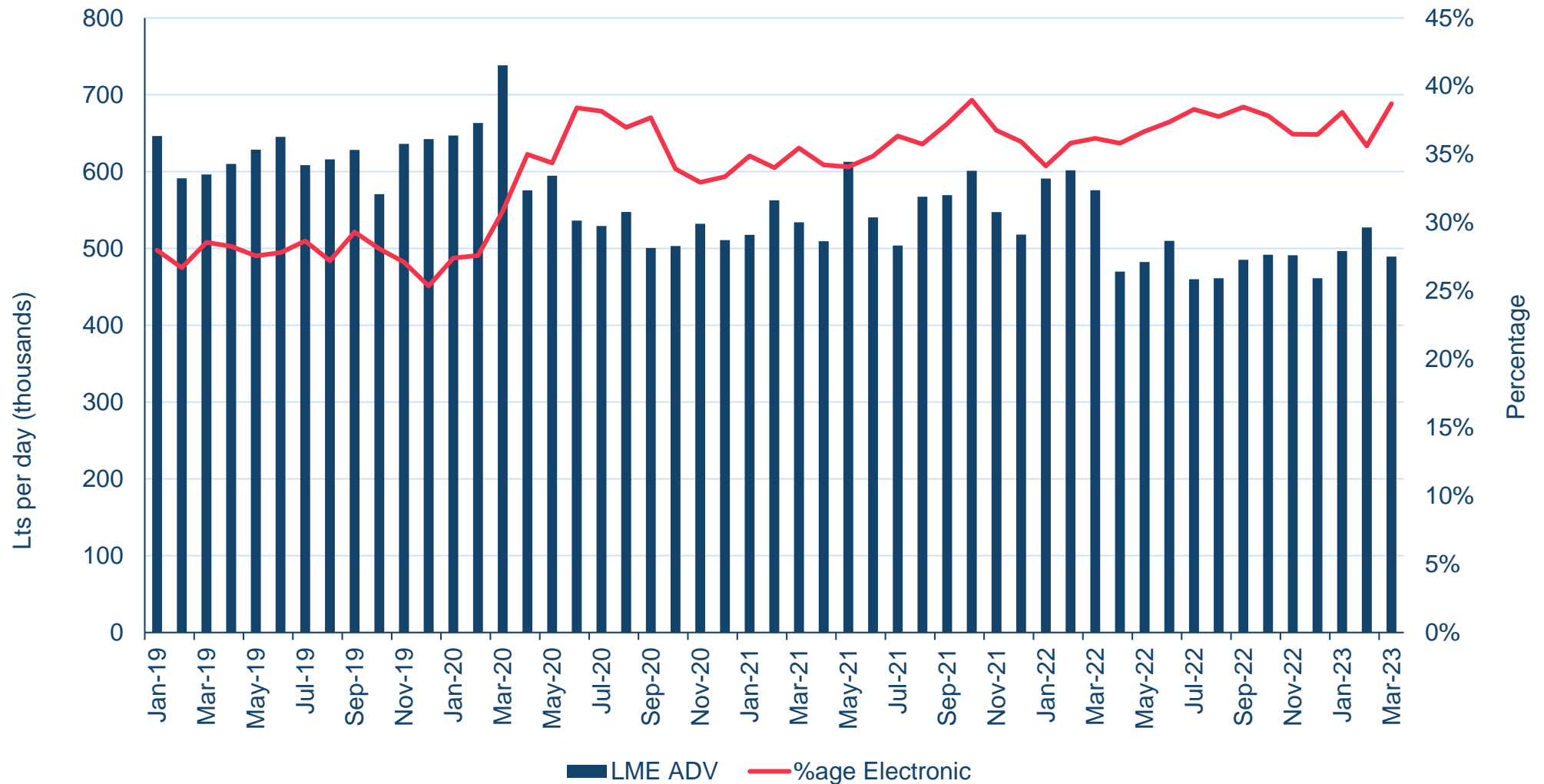
Data up to 31-03-2023  
Source: LME EOI



# LME trading volumes by venue

# LME trading by venue

Electronic accounts for ~35-40 per cent of overall volume, with inter-office the predominant venue



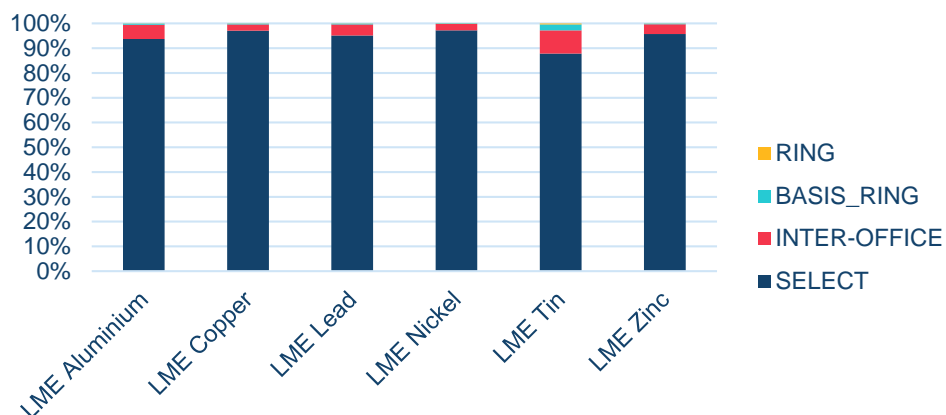
Data up to 31-03-2023  
Source LME. All metals and contracts, ex UNA trades.



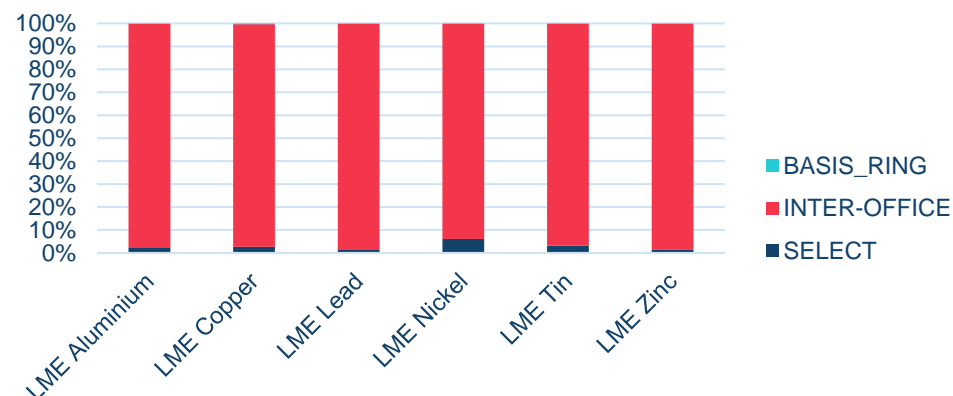
# LME trading by venue

~65 per cent of medium dated spreads (carries) volume trades on LMEselect, while long carries are mostly traded in the inter-office (broker) market

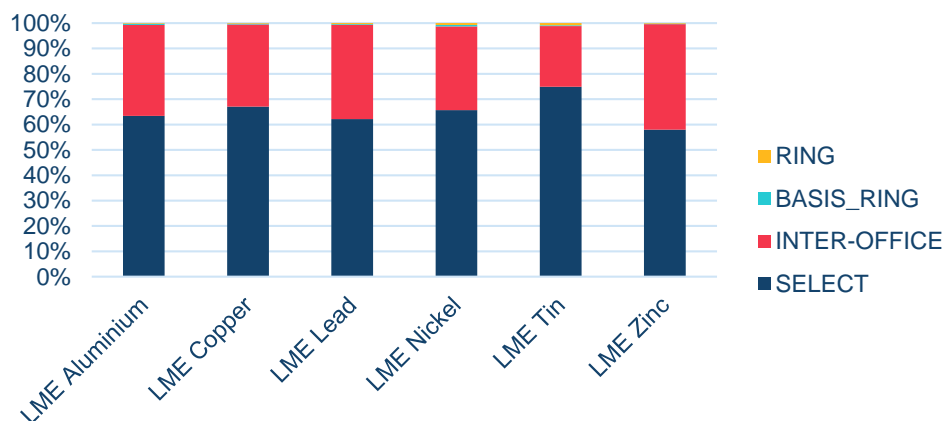
## 3M outright



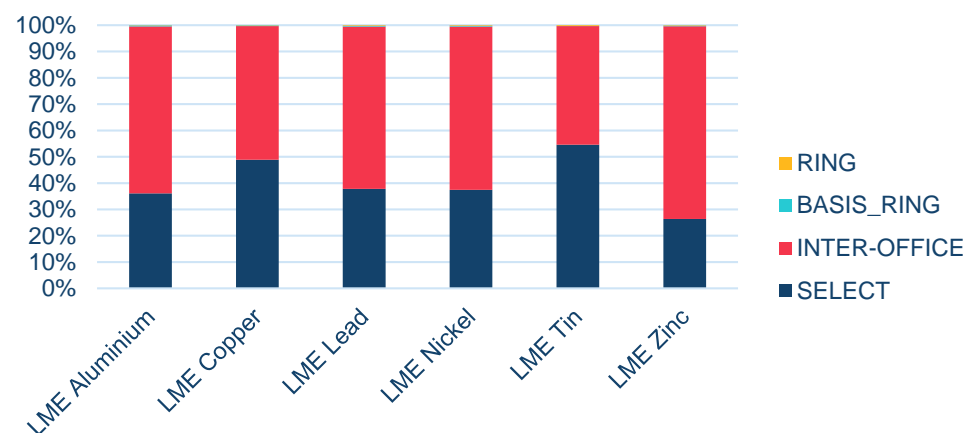
## 3rd Wednesday outright



## Medium carries



## Long carries



Data up to 31-03-2023

Source LME, Data for member trades excluding Give-ups and admin.

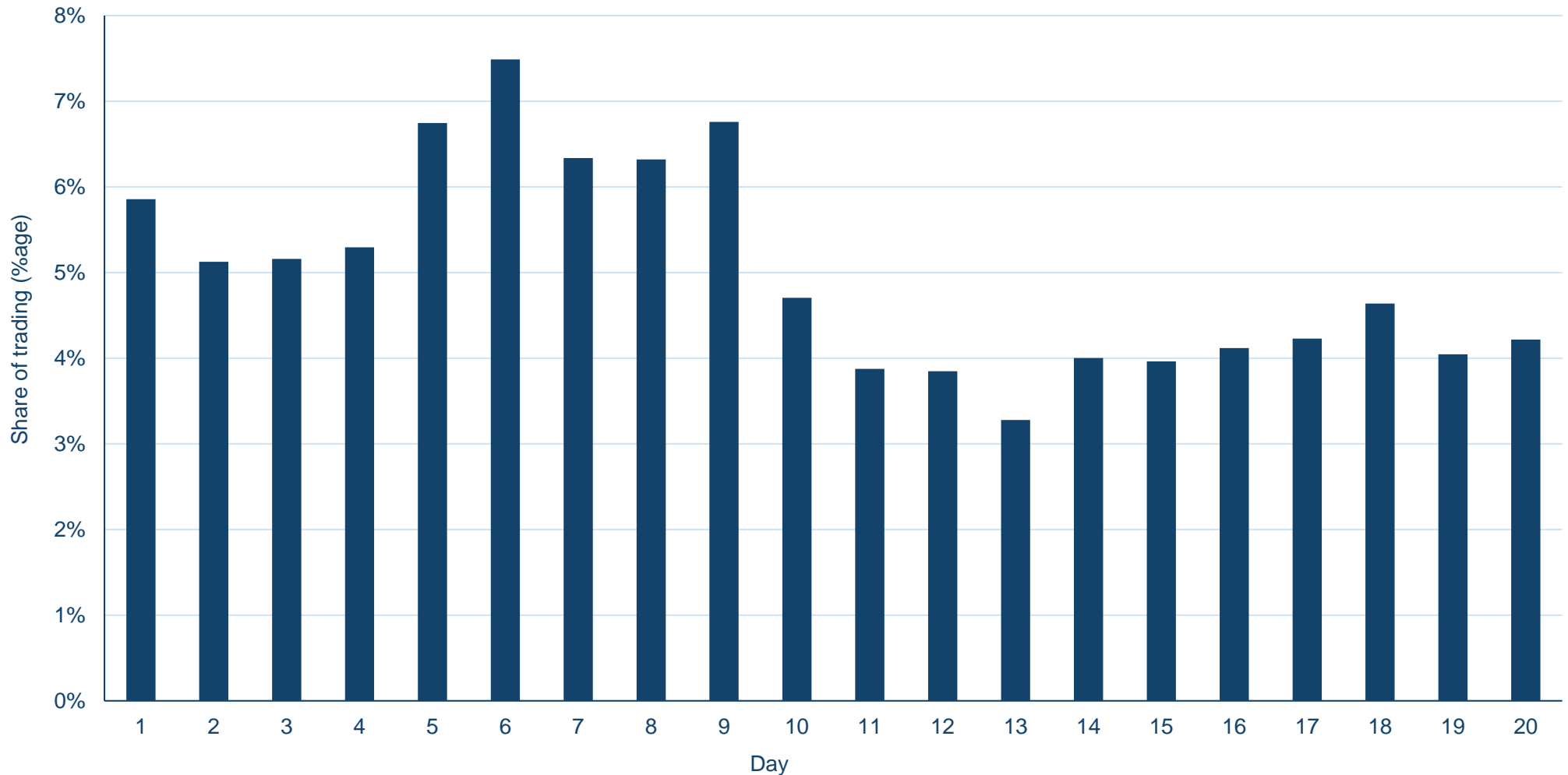


# LME electronic liquidity



# LME electronic liquidity – peak periods

Over 1/3 of all contract volume is traded during the major roll period (5 to 9 business day)



Data up to 31-03-2023

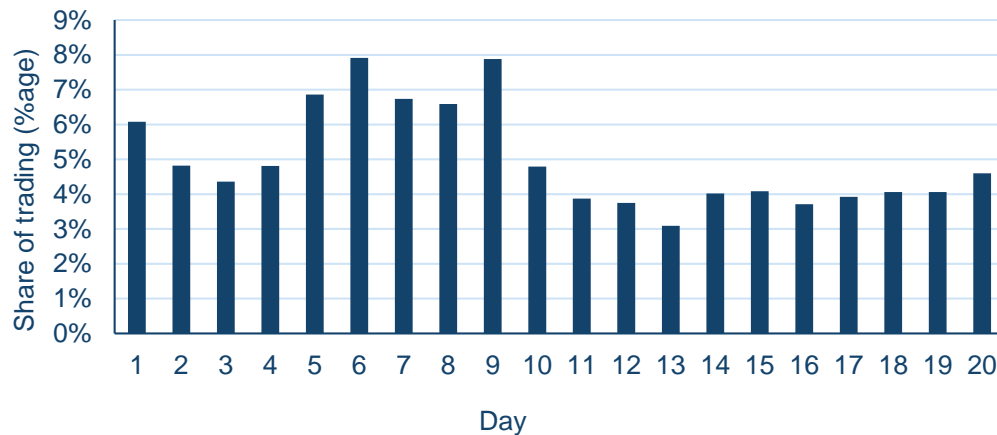
Source LME average daily volume per day (implied in sides, non-implied lots, Month 1-4, Spreads M1-M2, M2-M3 & M1-M3, LME Base metals) over past 12 months



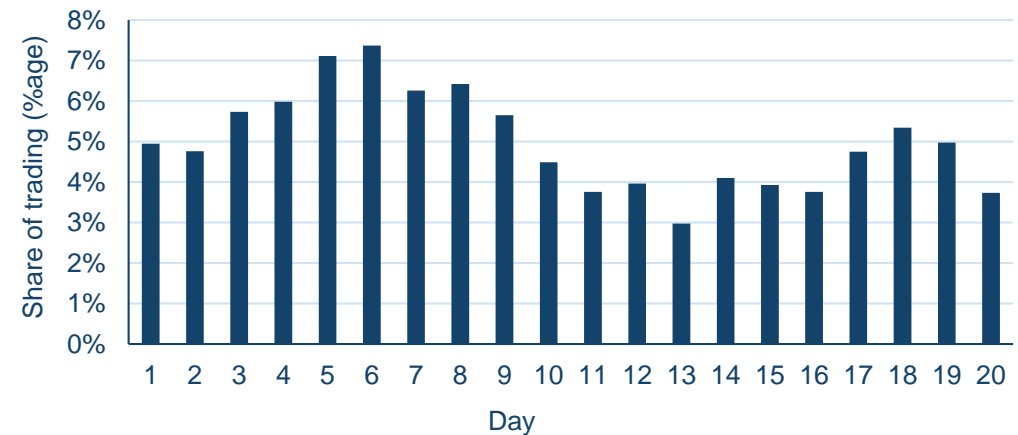
# LME electronic liquidity – spread contracts

Roll period days during the early part of the month are the peak periods for liquidity

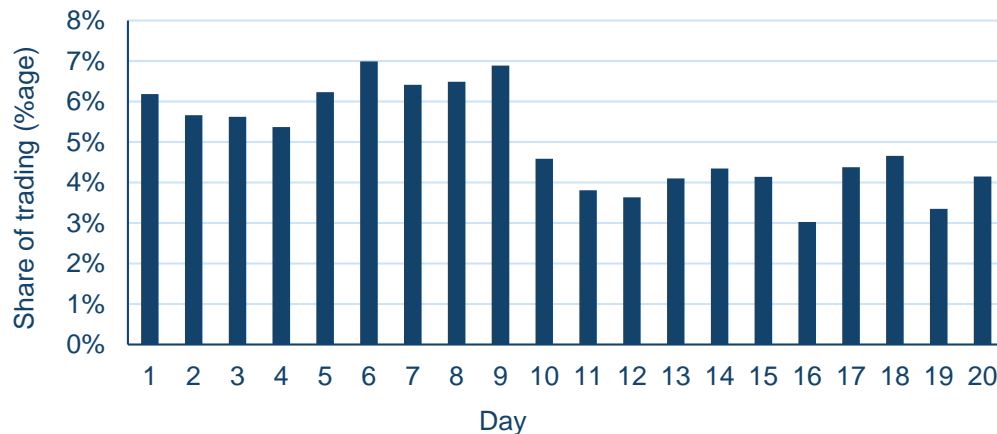
## LME Aluminium



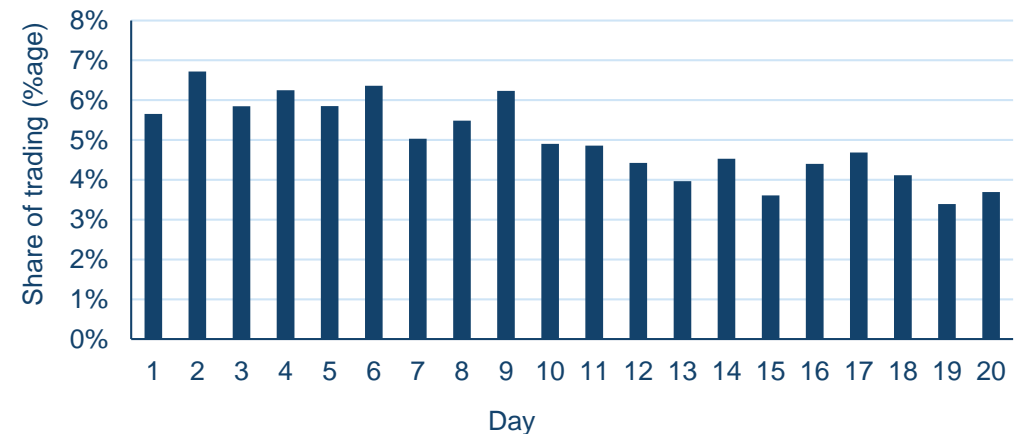
## LME Copper



## LME Zinc



## LME Lead



Data up to 31-03-2023

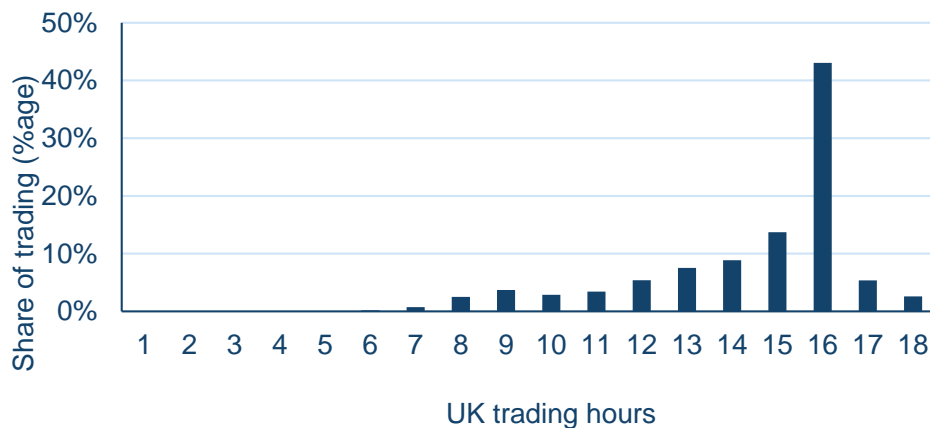
Source LME average daily volume per day (implied in sides, non-implied lots, Month 1-4, Spreads M1-M2, M2-M3 & M1-M3, LME Base metals) over past 12 months



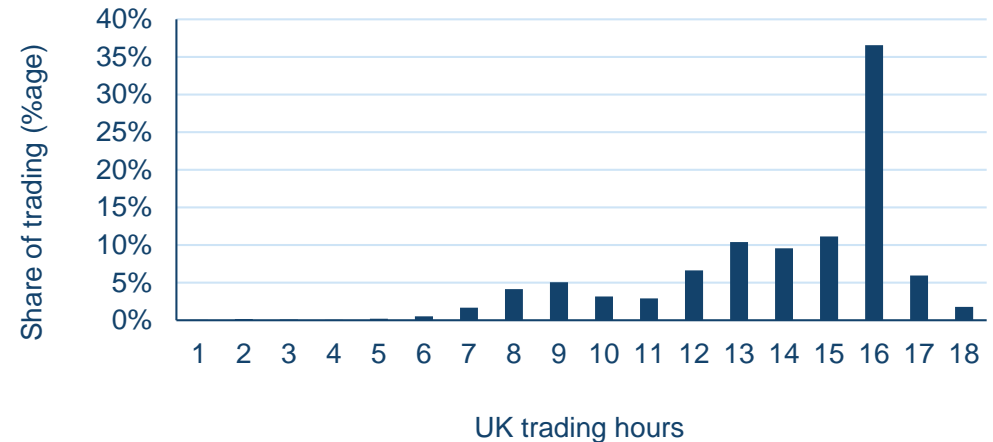
# LME electronic liquidity – 3M to Monthly(3<sup>rd</sup> Wed) spreads

Trading is skewed towards the end of day, despite active quotes throughout the session

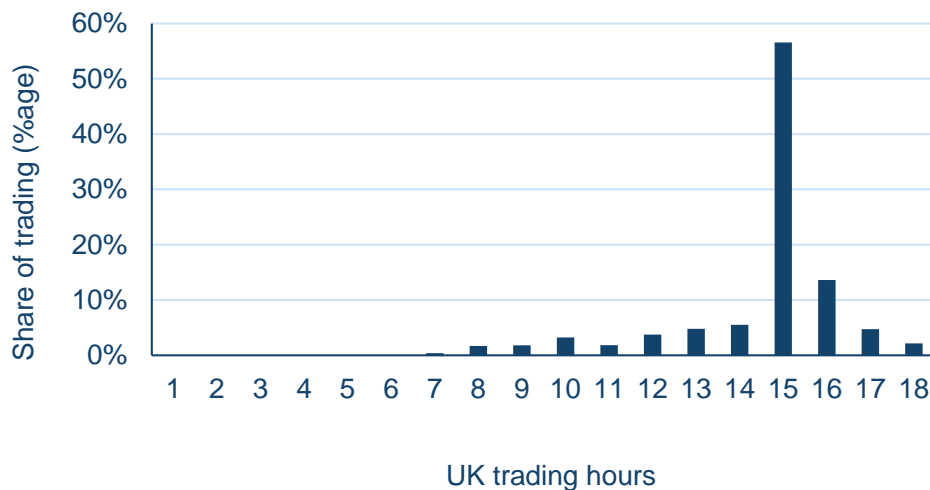
## LME Aluminium



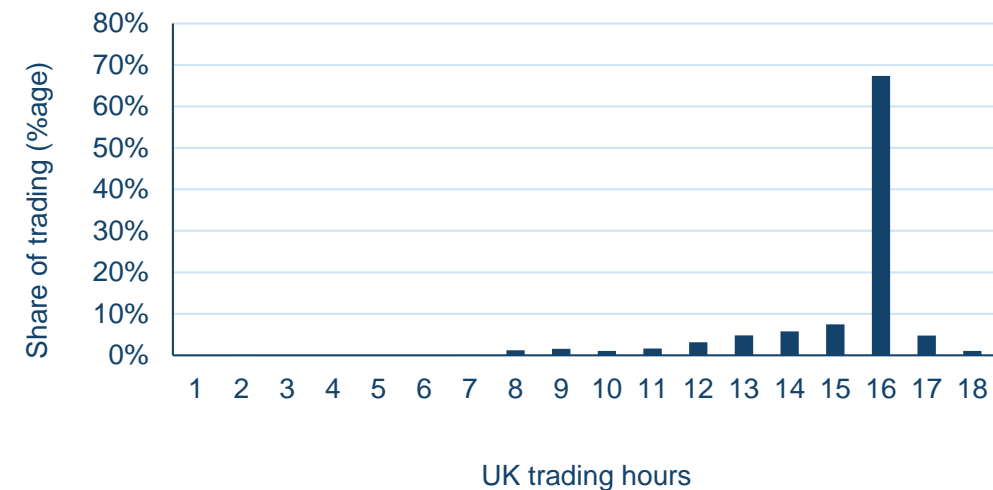
## LME Copper



## LME Zinc



## LME Lead



Data up to 31-03-23

Source LME, Q1 2023 average daily volume per day. 3M spreads from month 1, month 2, month 3 and month 4.

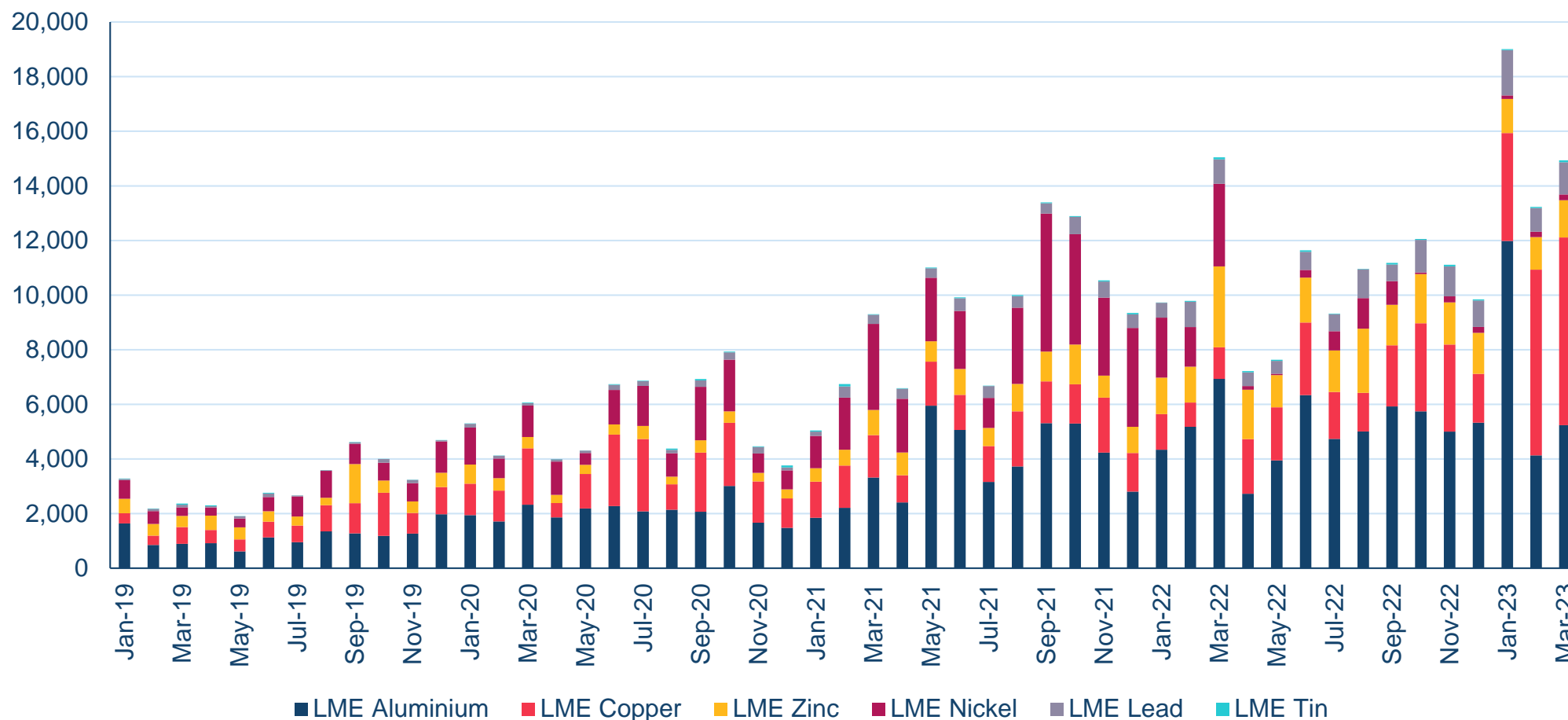


# LME monthly (3<sup>rd</sup> Wednesday) contracts

# LME monthly (3<sup>rd</sup> Wednesday) electronic volumes

Q1 was a record quarter for monthly volumes, up 44% QoQ

**LME 3rd Wednesday volume**  
(Volume per month)



Data up to 31-03-23

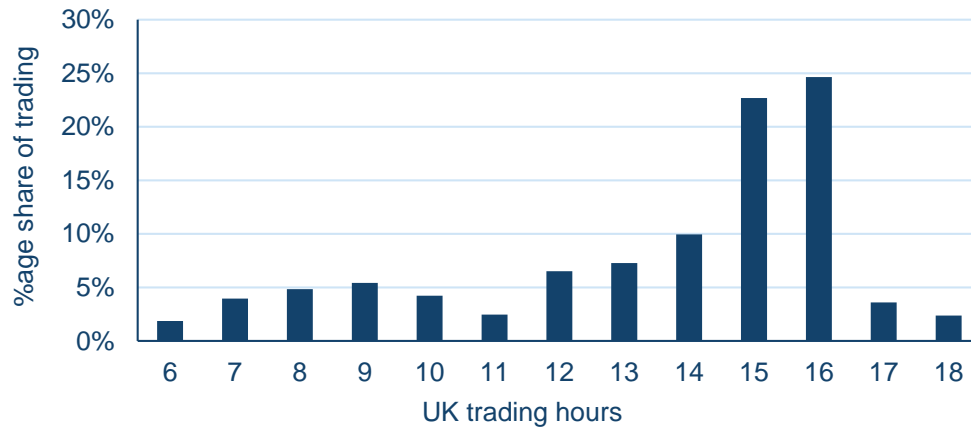
3<sup>rd</sup> Wednesday volumes include implied (counted in sides) and non implied trades (counted in lots)



# LME monthly contracts – liquidity clusters (hours)

On-screen monthly liquidity is available throughout UK trading hours, with heavier trading in afternoon trading

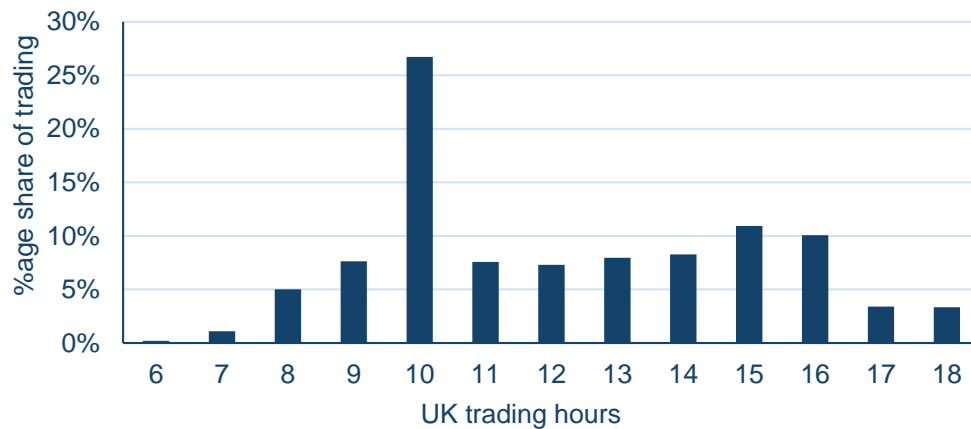
## LME Aluminium



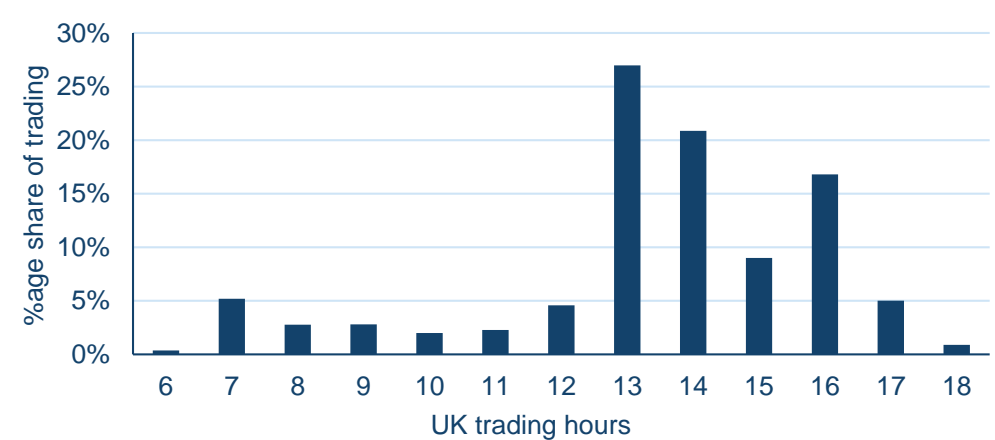
## LME Copper



## LME Zinc



## LME Lead



Data up to 31-03-23

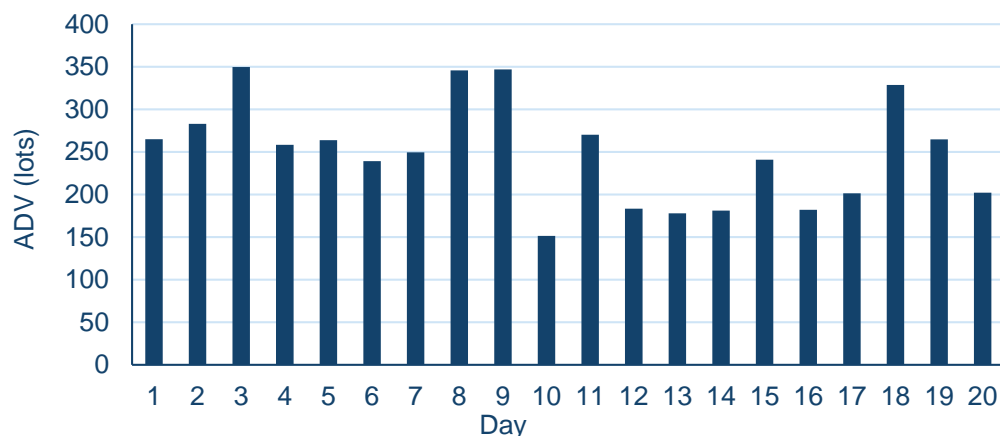
Data for 3rd Wednesday prompts; Q3 2023



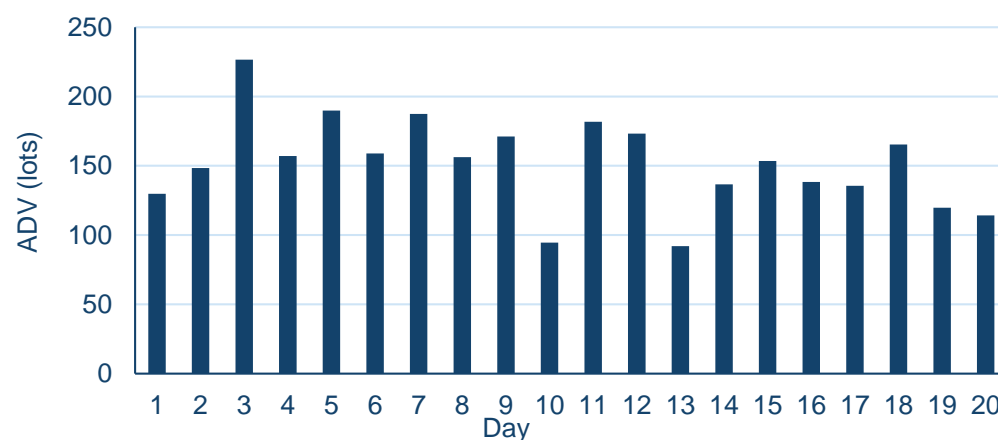
# LME monthly contracts – liquidity clusters (days)

On-screen liquidity for monthly (3<sup>rd</sup> Wed) contracts peaks around roll period days in the early part of the month

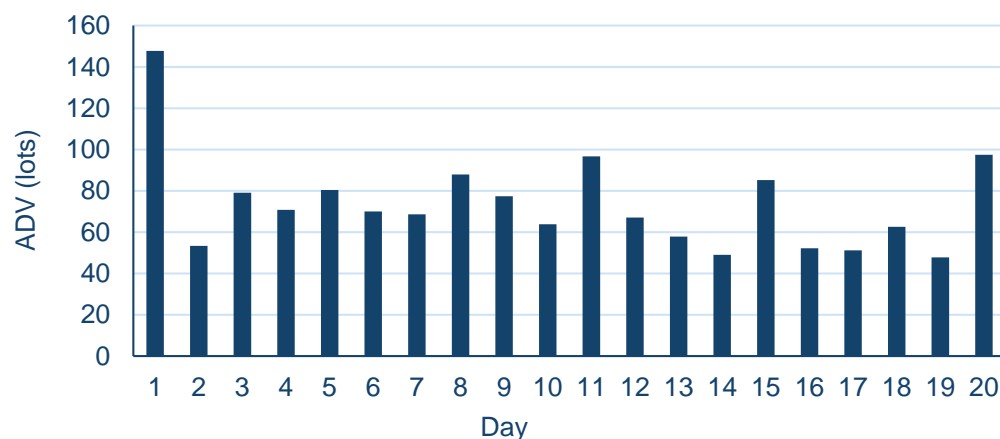
## LME Aluminium 3rd Wednesdays



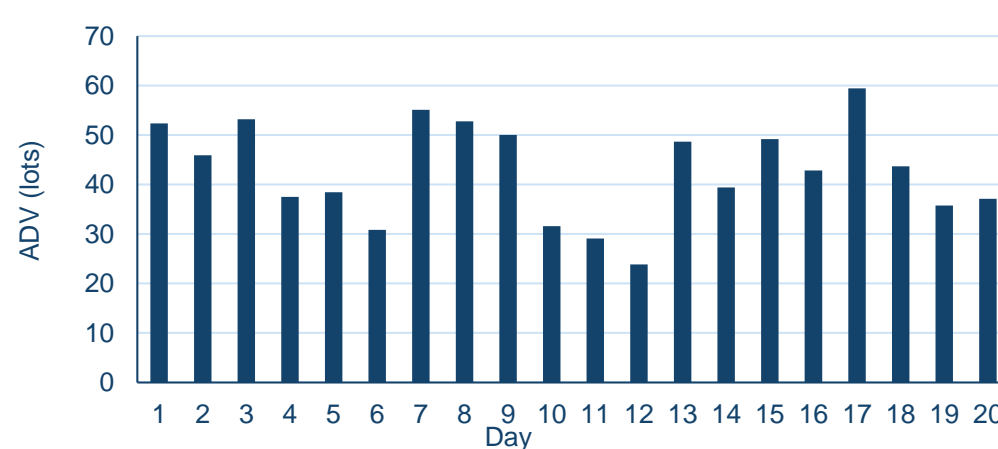
## LME Copper 3rd Wednesdays



## LME Zinc 3rd Wednesdays



## LME Lead 3rd Wednesdays



Data up to 31-03-23

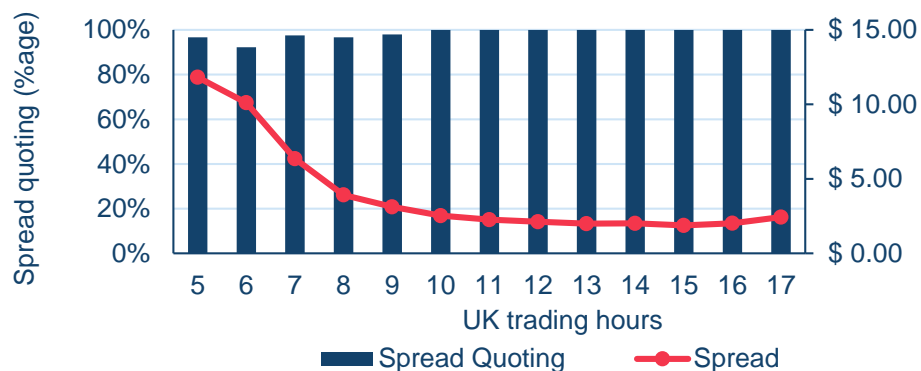
Source LME, average daily volume per day (implied in sides, non-implied lots) over the past 12 months



# LME monthly contracts – quoted periods

Monthly (3<sup>rd</sup> Wed) markets are actively quoted throughout UK trading hours

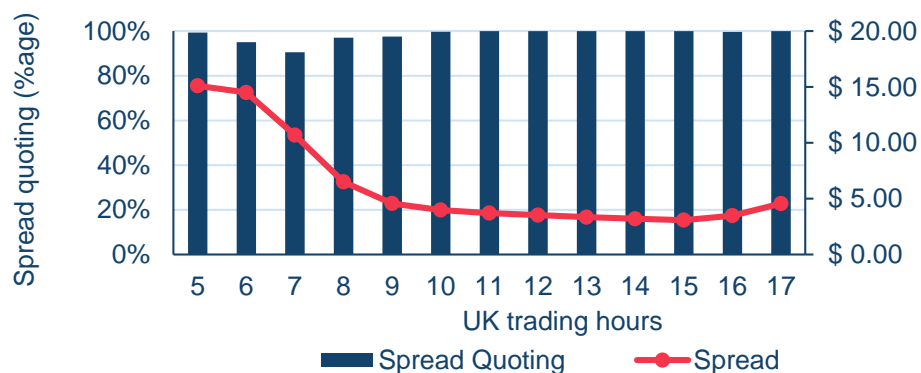
## LME Aluminium



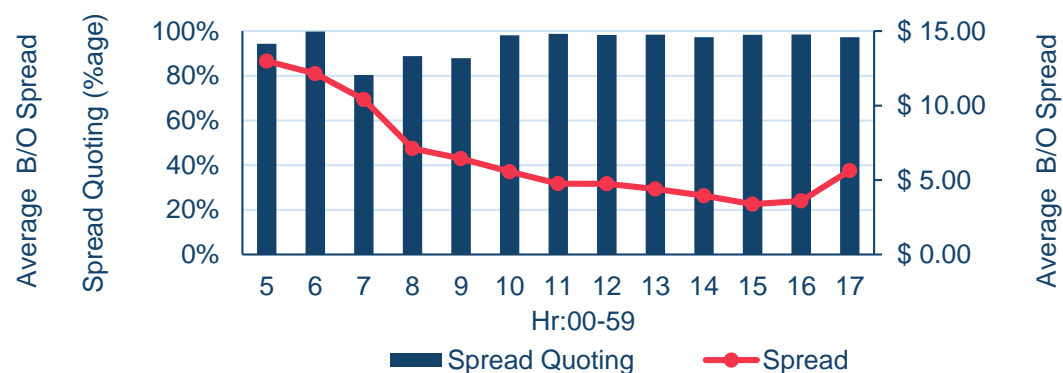
## LME Copper



## LME Zinc



## LME Lead



Data up to 31-03-23

Data for 3rd Wednesday prompt following the 3M contract; Q4 2022

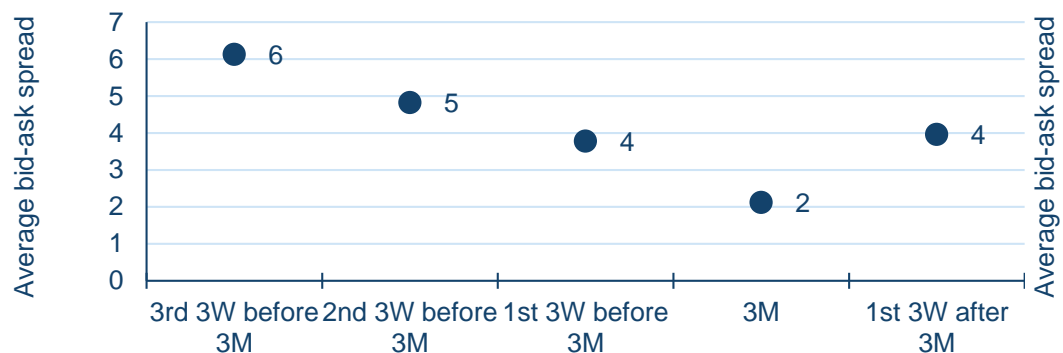




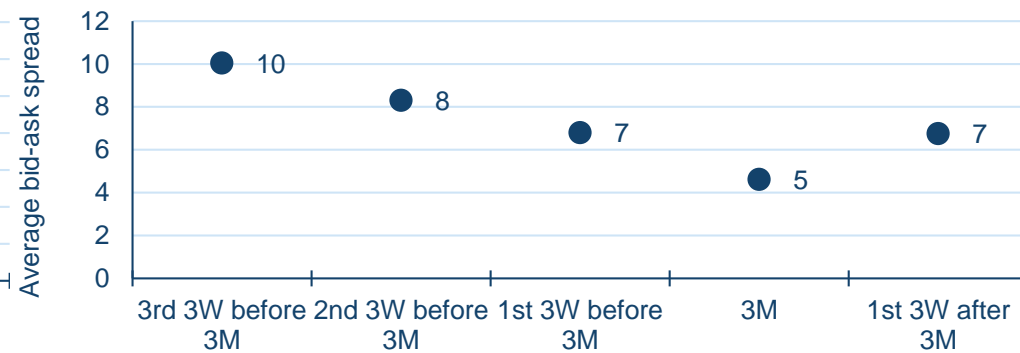
# LME monthly contracts – bid/offer spreads (ticks)

Monthly (3<sup>rd</sup> Wed) contracts have robust on-screen liquidity, combining implied pricing and direct bids and offers in the contracts

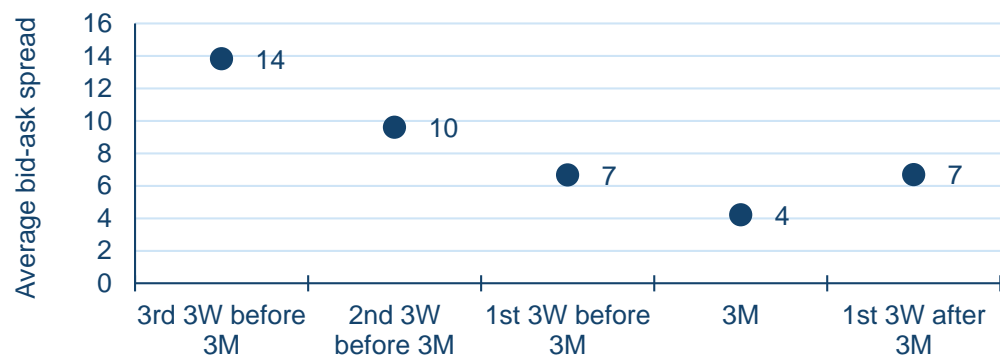
## LME Aluminium 3rd Wednesdays



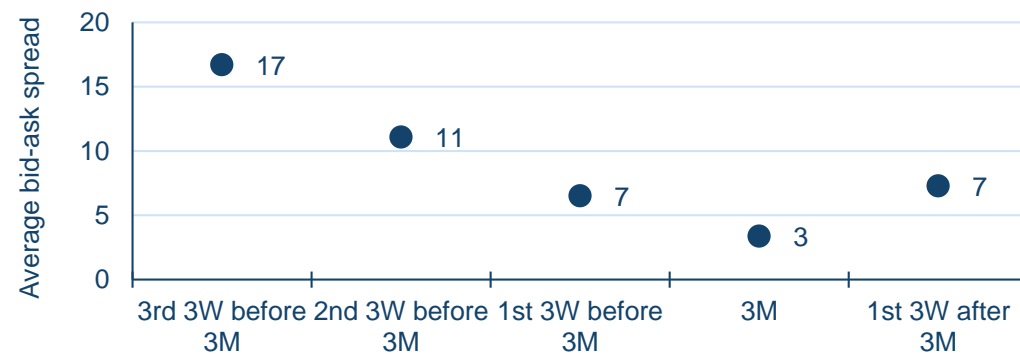
## LME Copper 3rd Wednesdays



## LME Zinc 3rd Wednesdays



## LME Lead 3rd Wednesdays



Data up to 31-03-23

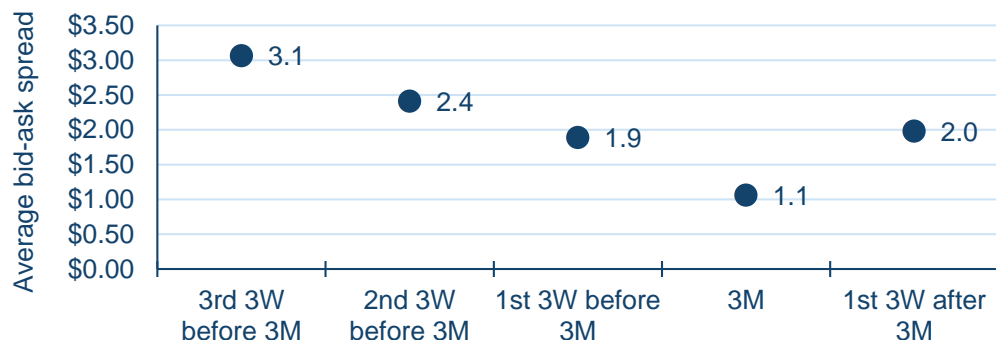
Source LME, Q1 2023 median of daily average achieved spread between 9am-5pm UK



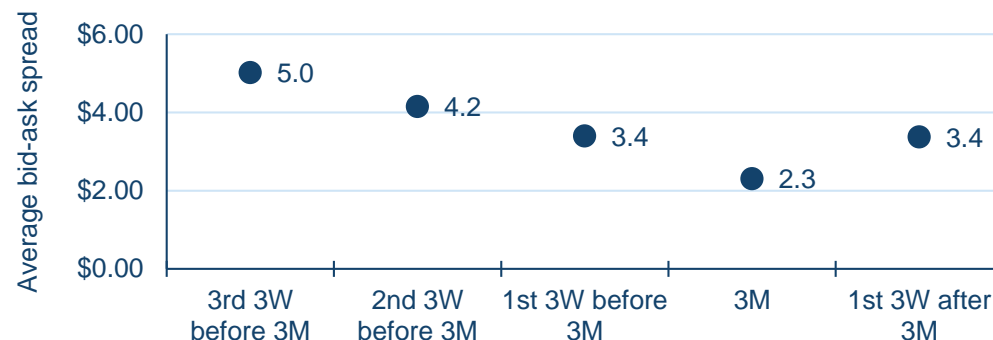
# LME monthly contracts – bid/offer spreads (\$)

Monthly (3<sup>rd</sup> Wed) contracts have robust on-screen liquidity, combining implied pricing and direct bids and offers in the contracts

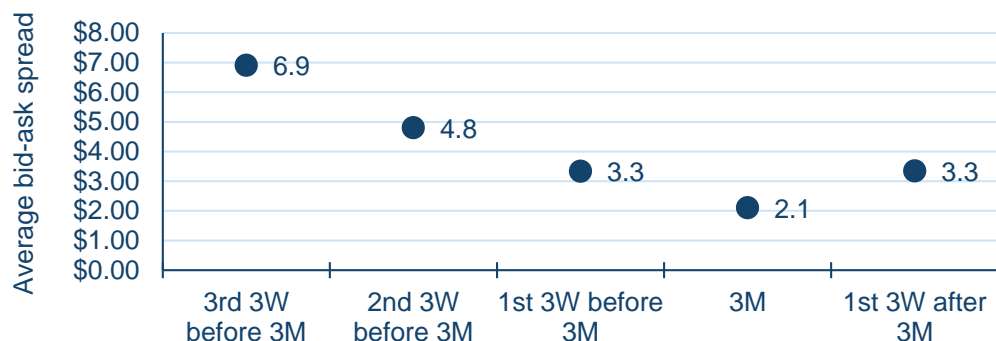
## LME Aluminium 3rd Wednesdays



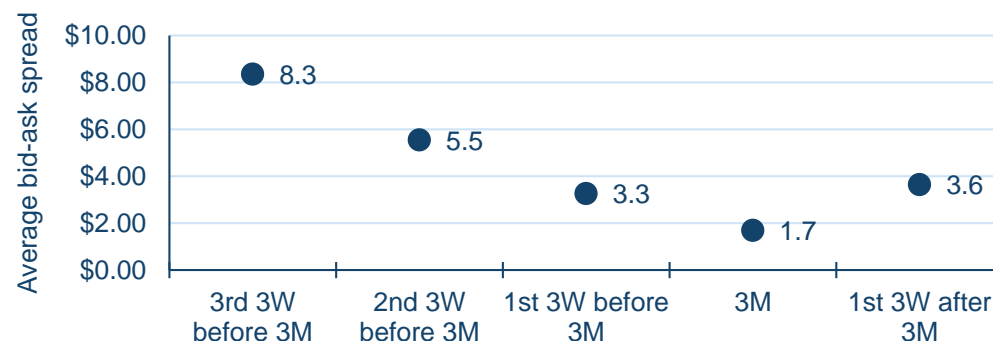
## LME Copper 3rd Wednesdays



## LME Zinc 3rd Wednesdays



## LME Lead 3rd Wednesdays



Data up to 31-03-23

Source LME, Q4 2022 median of daily average achieved spread between 9am-5pm UK



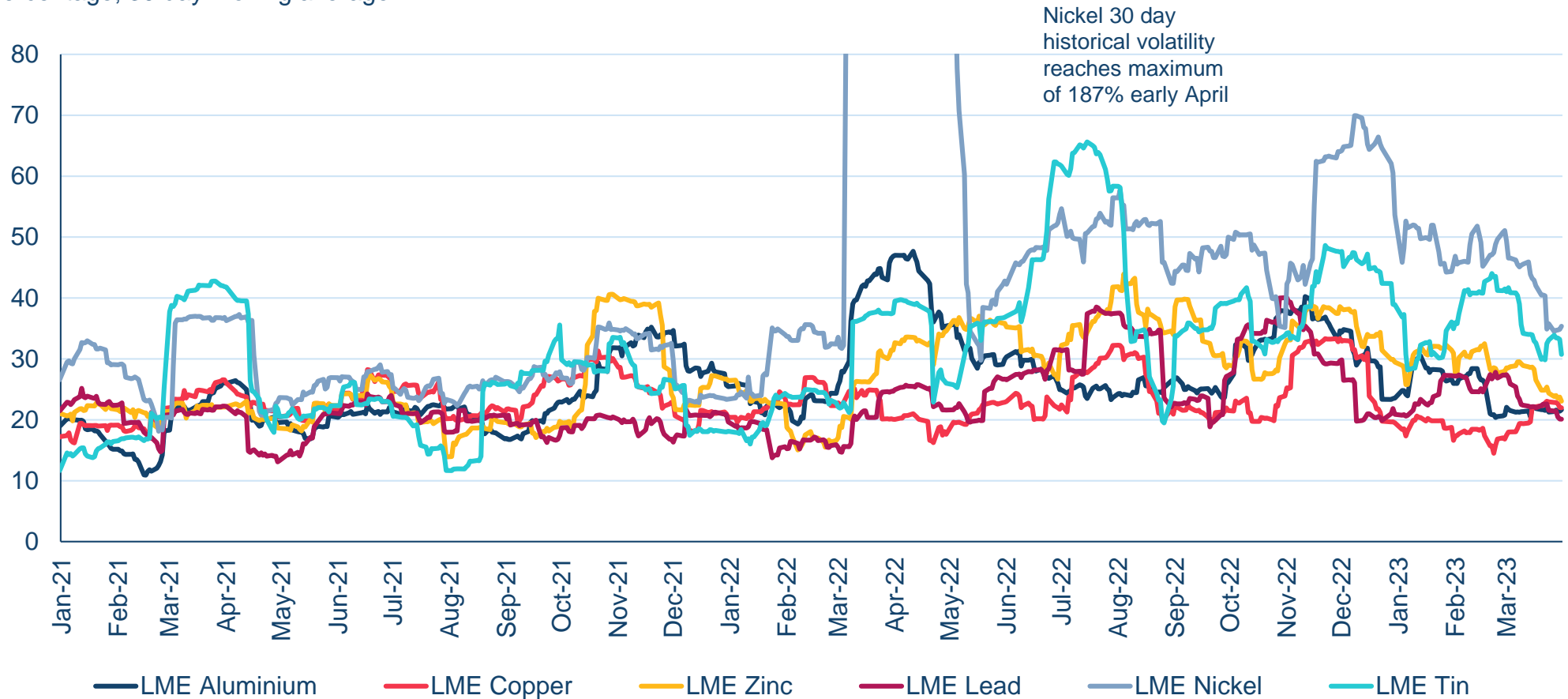
# LME options

# LME prices historic volatility

Volatility trended lower in Q1, with the exception of Copper

## LME 3M prices historic volatility

Percentage; 30 day moving average



Data up to 31-03-23

Note LME Nickel suspended 8-16 Mar 22

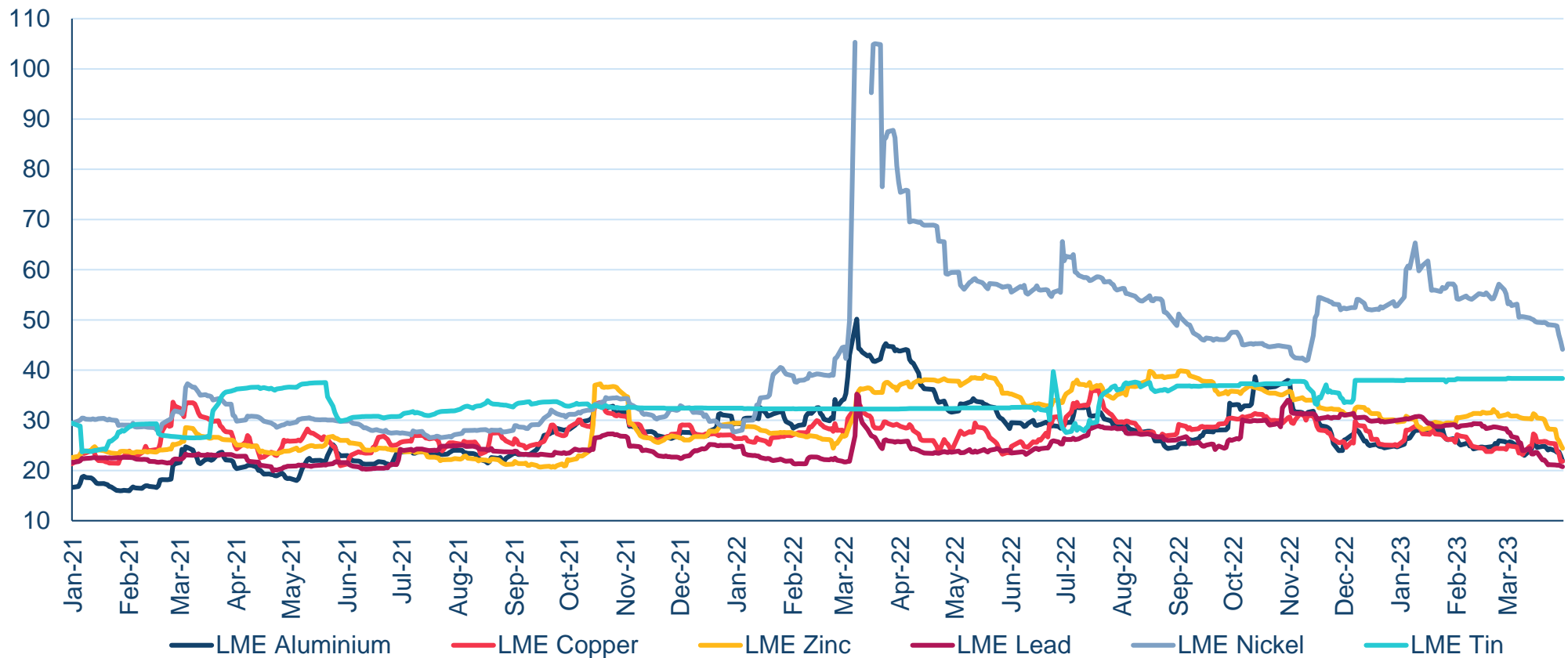


# LME base ATM volatility

ATM Vol (ex Nickel) has traded in a broad 20-40 range for the past two years

## ATM Volatility

Percentage; Second forward month



Data up to 31-03-23

Note LME Nickel suspended 8-16 Mar 22

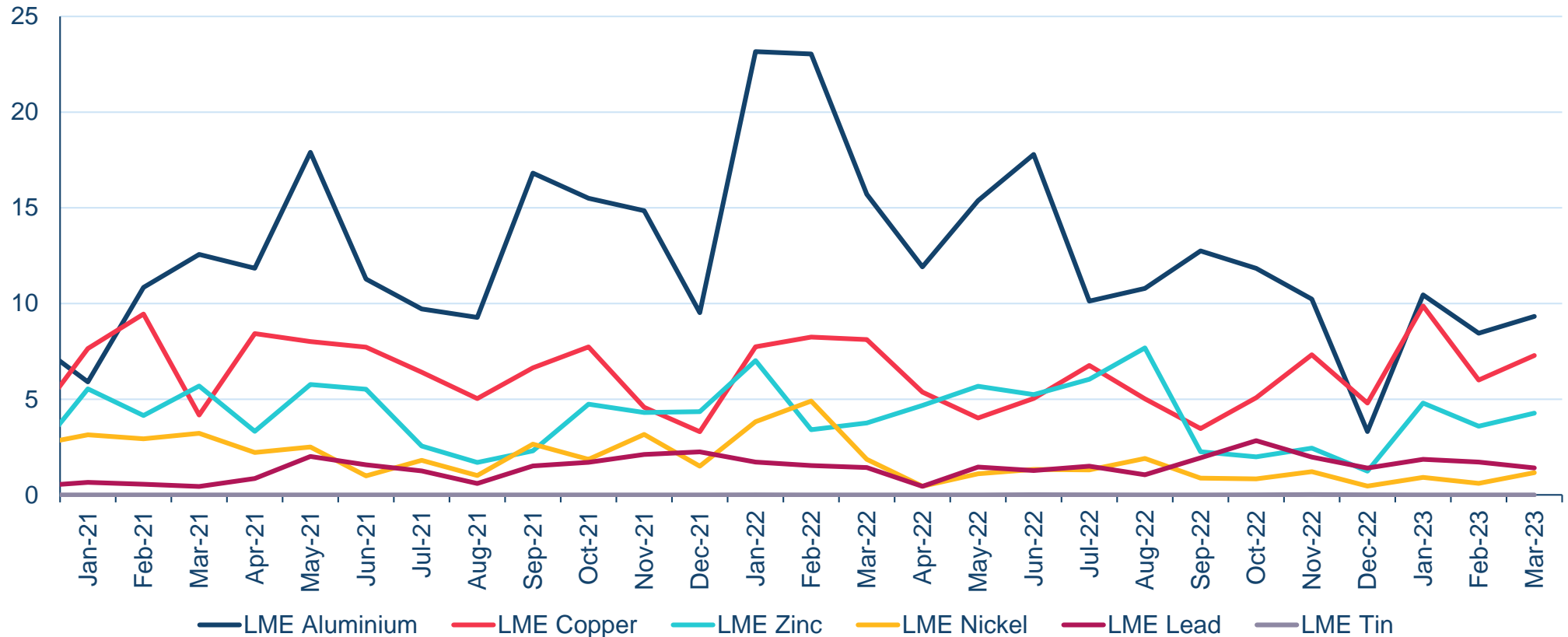


# Average daily monthly volumes

Aluminium and Copper led a moderate uptick in volumes during Q1

## Average daily monthly volume

(Thousand lots per day); LME Options and TAPOs



Data up to 31-03-23

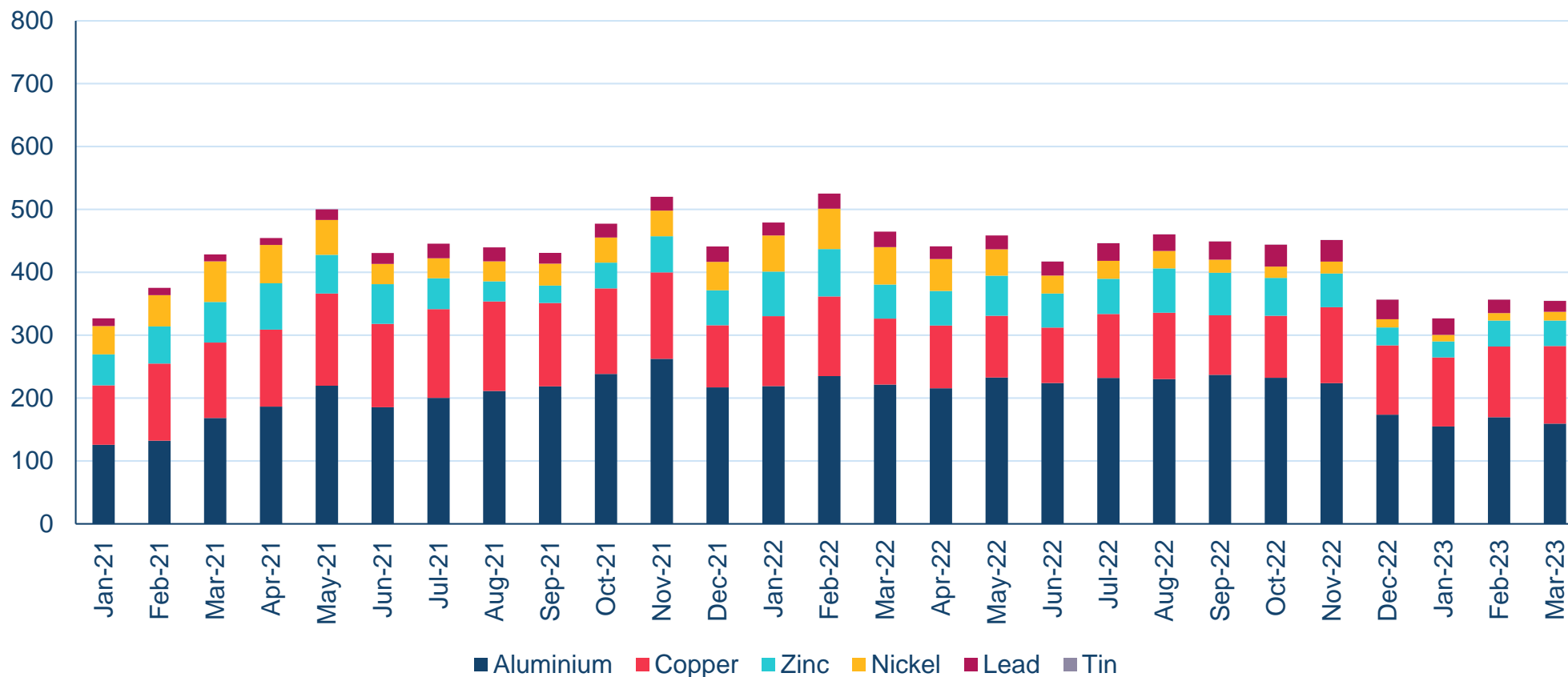


# LME Options and TAPOs open interest

Copper open interest rose to 12 month highs in Q1

## Open interest

Average thousand lots per day; LME Options and TAPOs

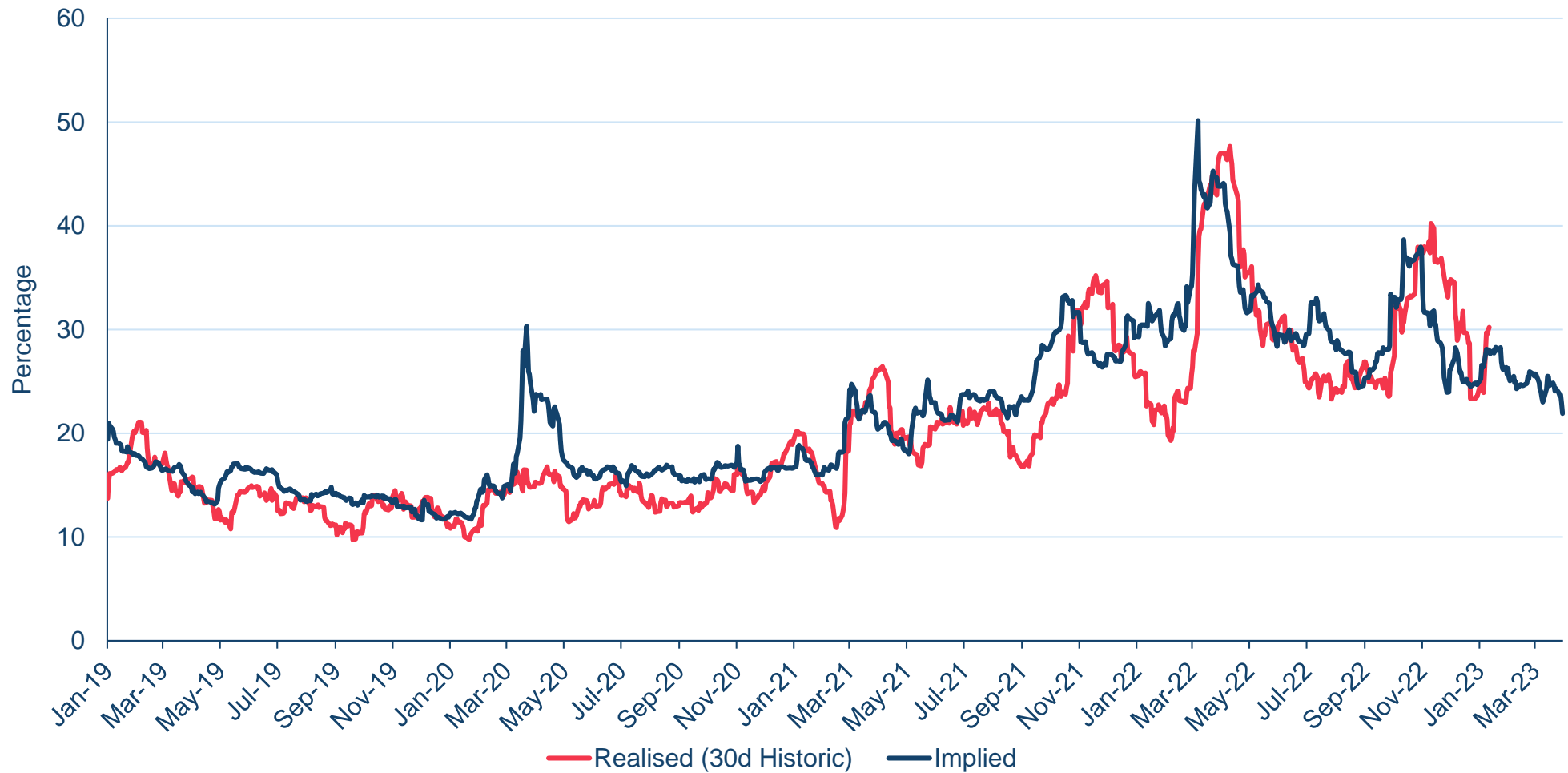


Data up to 31-03-23



# LME Realised vs Implied Volatility

## Aluminium



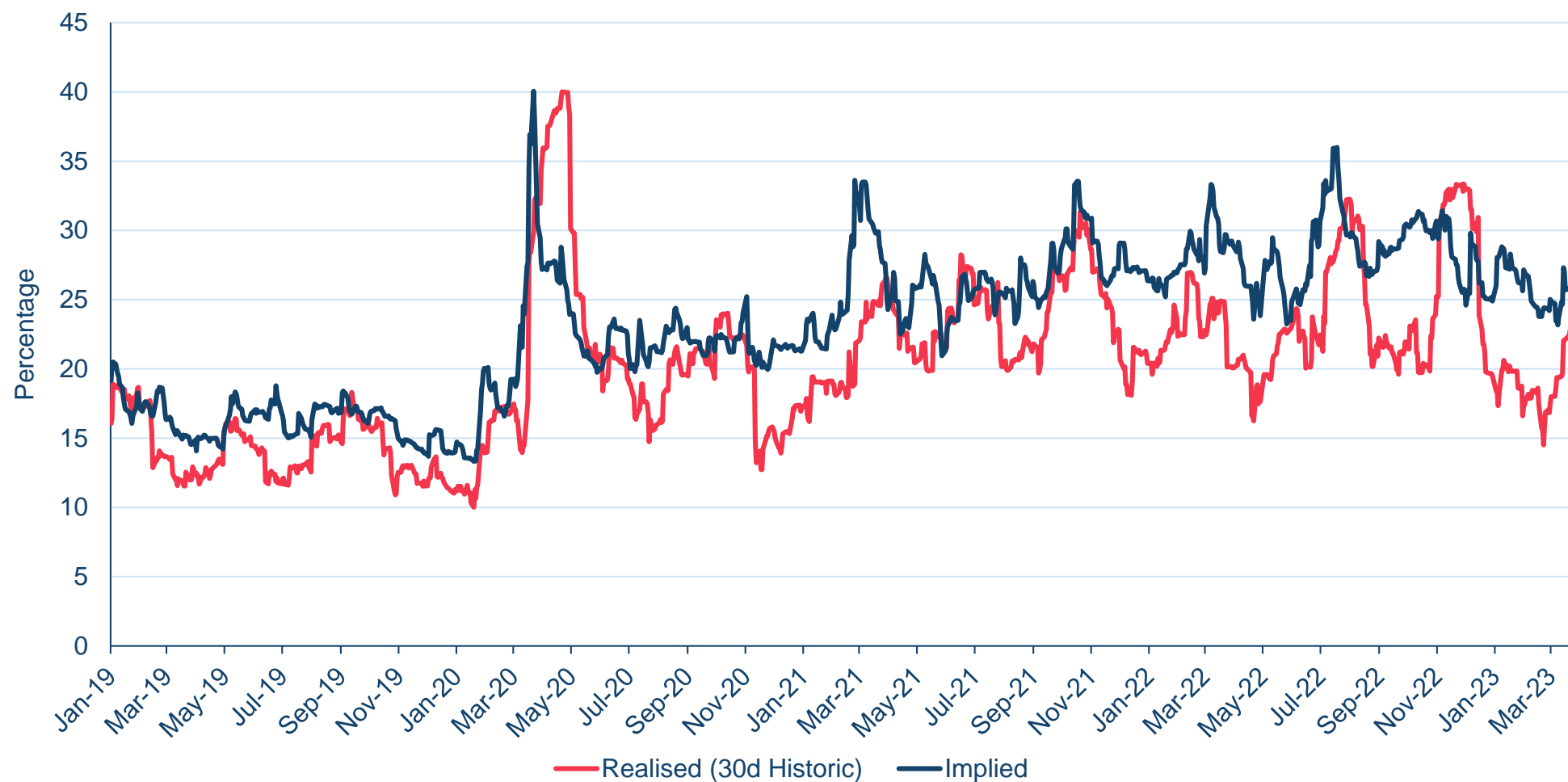
Data up to 31-03-23





# LME Realised vs Implied Volatility

Copper

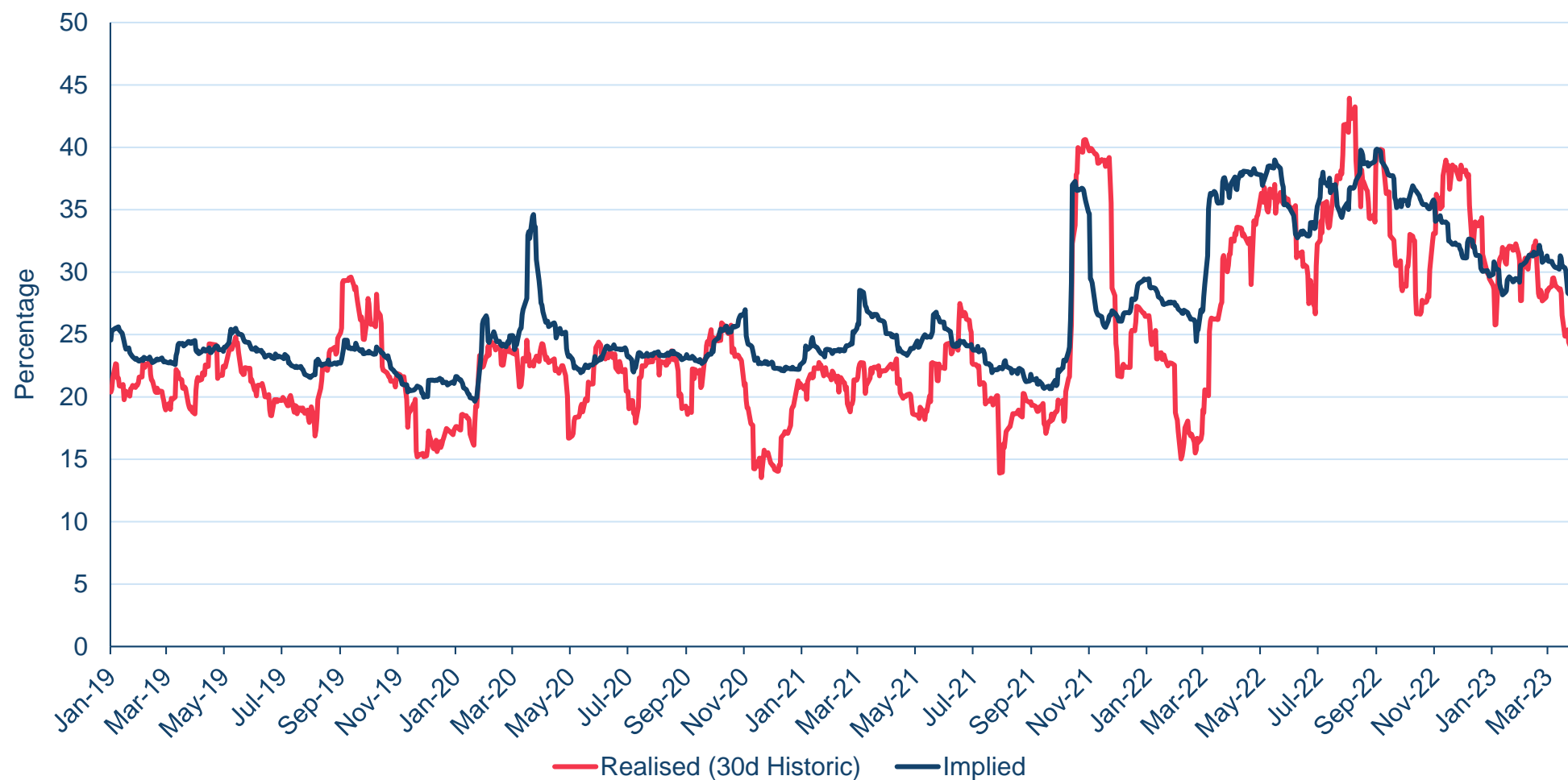


Data up to 31-03-23



# LME Realised vs Implied Volatility

Zinc

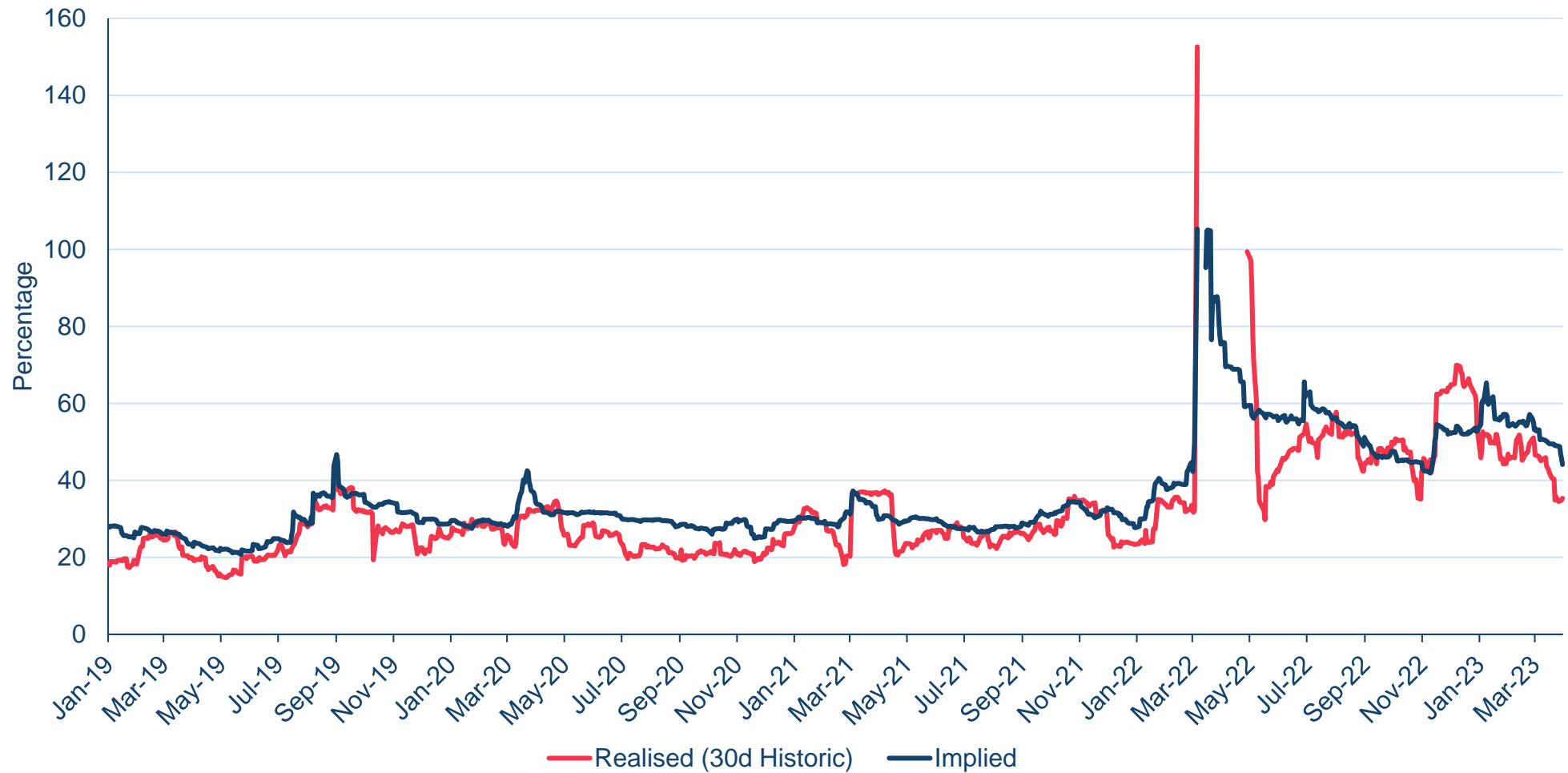


Data up to 31-03-23



# LME Realised vs Implied Volatility

Nickel

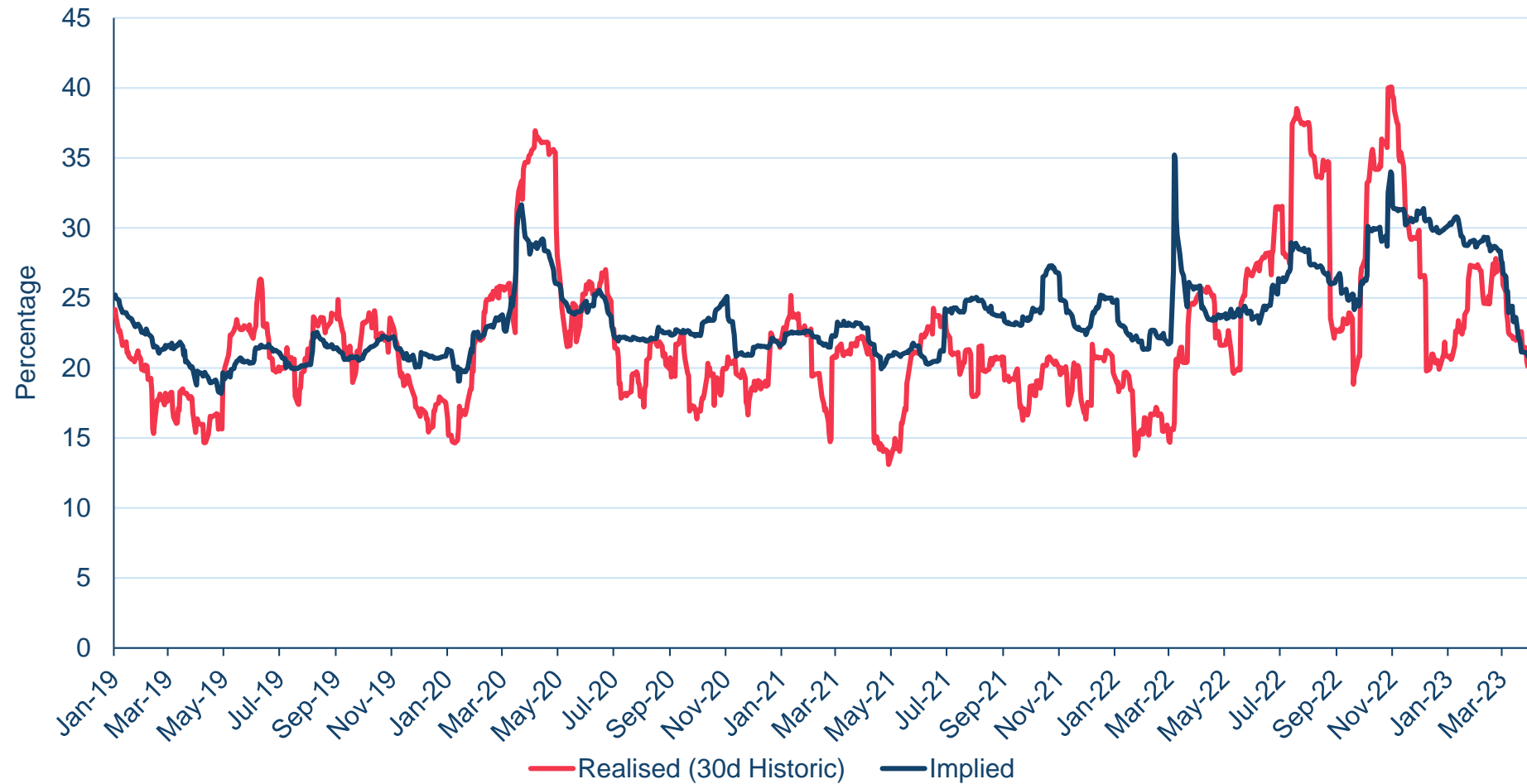


Data up to 31-03-23



# LME Realised vs Implied Volatility

Lead



Data up to 31-03-23



# Responsible sourcing & sustainability

# LME responsibility and sustainability initiatives

The LME has several initiatives underway to support these goals

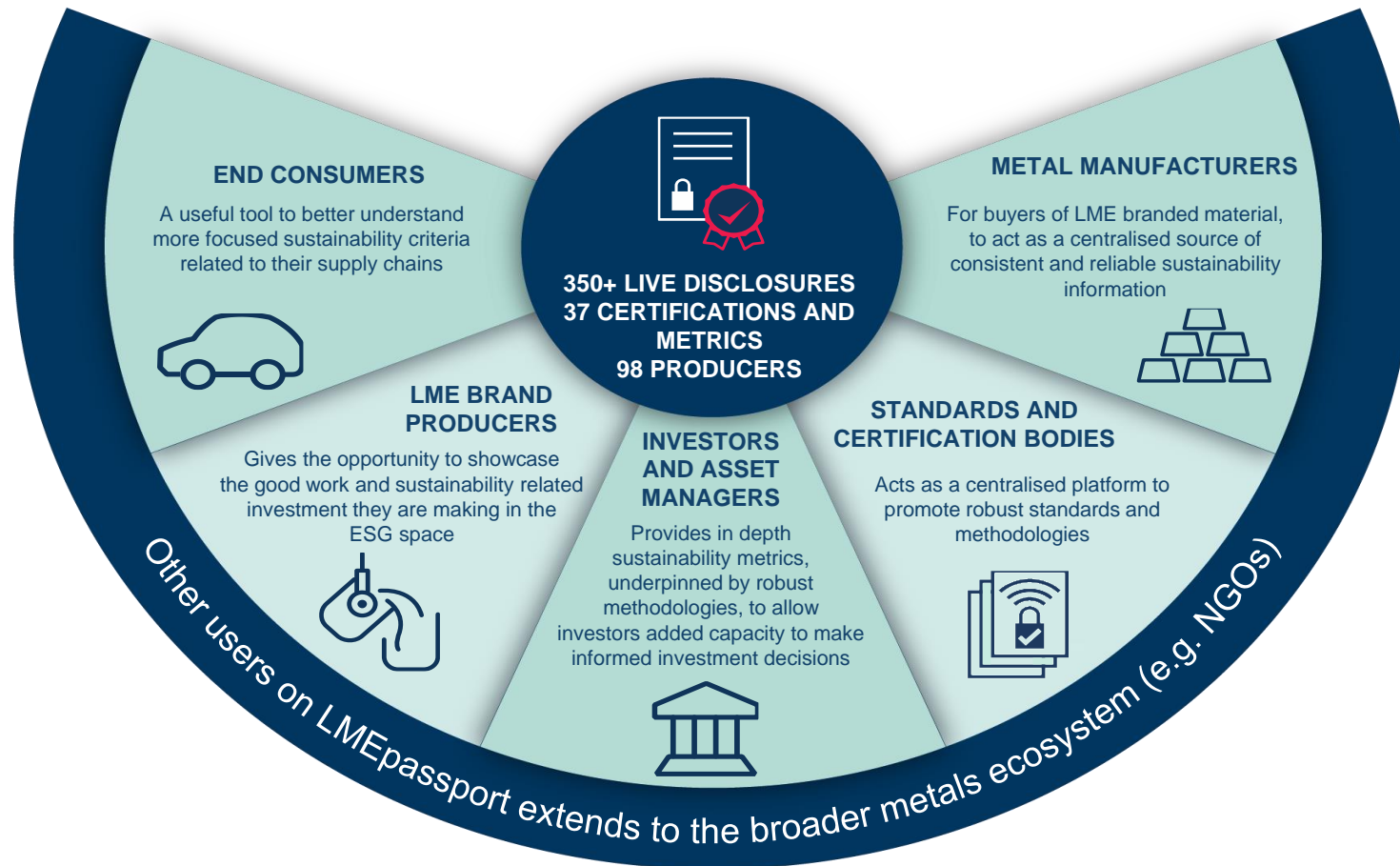


<b>Responsible Sourcing</b>	<ul style="list-style-type: none"><li>• In 2019, the LME introduced responsible sourcing requirements for all its listed brands, which include implementing the OECD Due Diligence Guidance, and maintaining ISO 14001 (environmental management system or equivalent) and ISO 45001 (occupational health and safety management system or equivalent)</li><li>• The LME requested feedback to proposed minor amendments to the LME Policy on Responsible Sourcing of LME-Listed Brands and associated compliance documents, including the Red Flag Assessment Template and Secondary Materials Sourcing Attestation Form</li><li>• The LME published its first summary statistics reporting on 79 LME-listed brands following Track C</li></ul>
<b>LMEpassport</b>	<ul style="list-style-type: none"><li>• LMEpassport allows LME-listed producers to upload a range of ESG credentials to the platform including emissions data. Information added can be at the Corporate and Brand level and can be linked to cast level</li><li>• All this sustainability data can be freely viewed <a href="#">here</a></li><li>• The LME recently expanded the public offering, adding a new tab called “producer profiles”, where any user can search for a specific producer to see their LME brands and any ESG credentials uploaded</li><li>• 226 brands (of ~440 LME-listed brands) and ~350 disclosures are now listed on LMEpassport across 25 ESG disclosure types</li></ul>
<b>LME Sustainability</b>	<ul style="list-style-type: none"><li>• Details regarding the LME’s sustainability initiatives can be found <a href="#">here</a></li><li>• Keep up to date on sustainability related initiatives by following the LME’s sustainability newsletter available <a href="#">here</a> (or email <a href="mailto:sustainability@LME.com">sustainability@LME.com</a> to be added to the distribution list)</li></ul>



# LMEpassport sustainability – who is it for?

LMEpassport sustainability data is available free of charge to all of our stakeholders on the LME website. The system is for everyone. However, more specifically:



# Upcoming events schedule



# The LME Team will attend the following events

Please contact [sales@lme.com](mailto:sales@lme.com) to set up a meeting at one of them

Date	Venue	Conference
17-19 April	Santiago	CRU World Copper Conference
20 Apr	Amsterdam	FOW Trading Amsterdam
24-25 Apr	Yokohama	Asia Pacific Galvanizing Conference
11 May	Singapore	Acuiti Proprietary Trading Manager's Meeting
15-17 May	London	CRU World Aluminium
<b>15-18 May</b>	<b>Hong Kong</b>	<b>LME Asia</b>
6-8 June	Chicago	15 <sup>th</sup> Harbor Aluminium Summit
19-21 June	London	FIA IDX
20-22 June	Las Vegas	Fastmarkets 15 <sup>th</sup> Lithium Supply and Battery Raw Materials
<b>23 June</b>	<b>London</b>	<b>LME Golf Day</b>



# Contacts

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**Head of Sales**

Extensive knowledge of global commodity and futures markets. Wealth of experience in risk management, operational and front office functions, specialised in all things LME

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**Alberto Xodo**  
**VP Sales**

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**Yang Liu**  
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