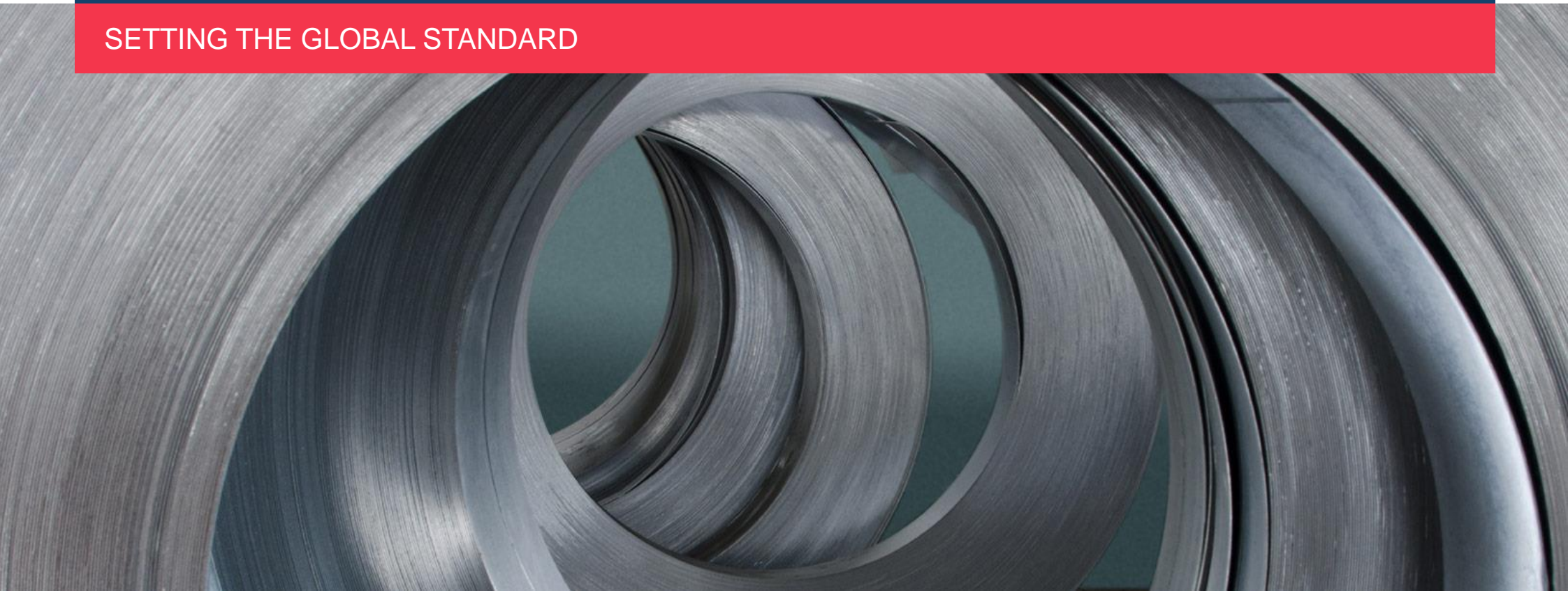


LME Q4 2022 Update



SETTING THE GLOBAL STANDARD



Agenda

Section	Title
1.	Topical updates
2.	Market overview
3.	Ferrous markets
4.	LME electronic liquidity
5.	LME trading volumes by venue
6.	LME options
7.	Responsible sourcing & sustainability
8.	Upcoming events schedule



Topical updates

Topical updates

Nickel

- The LME Group welcomes the publication of the independent review by Oliver Wyman, published on 10 January 2023
- The report provides an in-depth analysis of the events in the nickel market leading up to 8 March 2022
- The report provides the LME and LME Clear with recommendations, in addition to the measures already taken to build market resilience
- All LME notices relating to measures taken in the LME Nickel market can be found [here](#)

Lead

- Following the annual reconstitution, Lead has been added to the Bloomberg Commodity (BCOM) Index for 2023
- Lead becomes the 24th exchange-traded commodity contract to be added to the benchmark
- Lead joins Aluminium, Zinc and Nickel, LME contracts which are existing components of the BCOM Index Industrial Metals Group



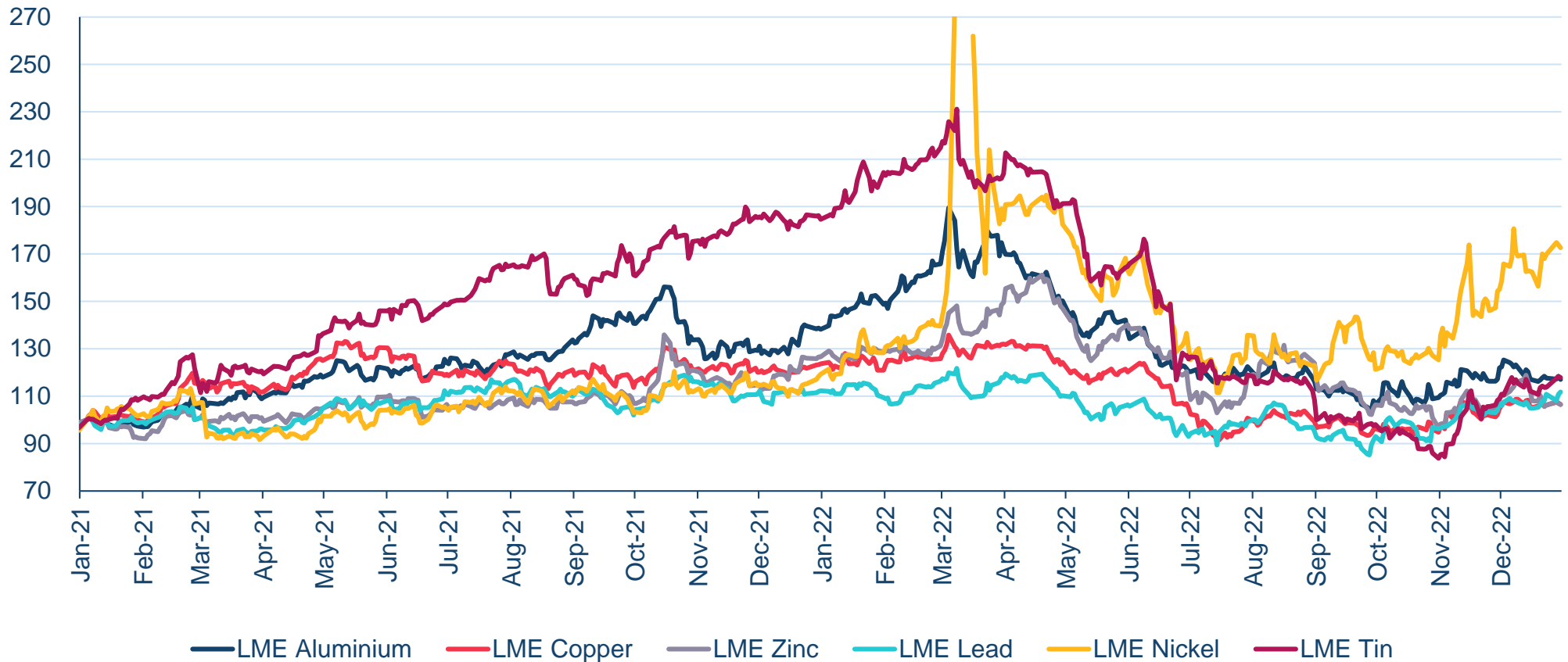
Market overview

LME Base Metals – price activity

Base metals trended lower in H2 2022

LME prices YTD

3M prices rebased to 100; 4 Jan 21



Data up to 30-12-2022

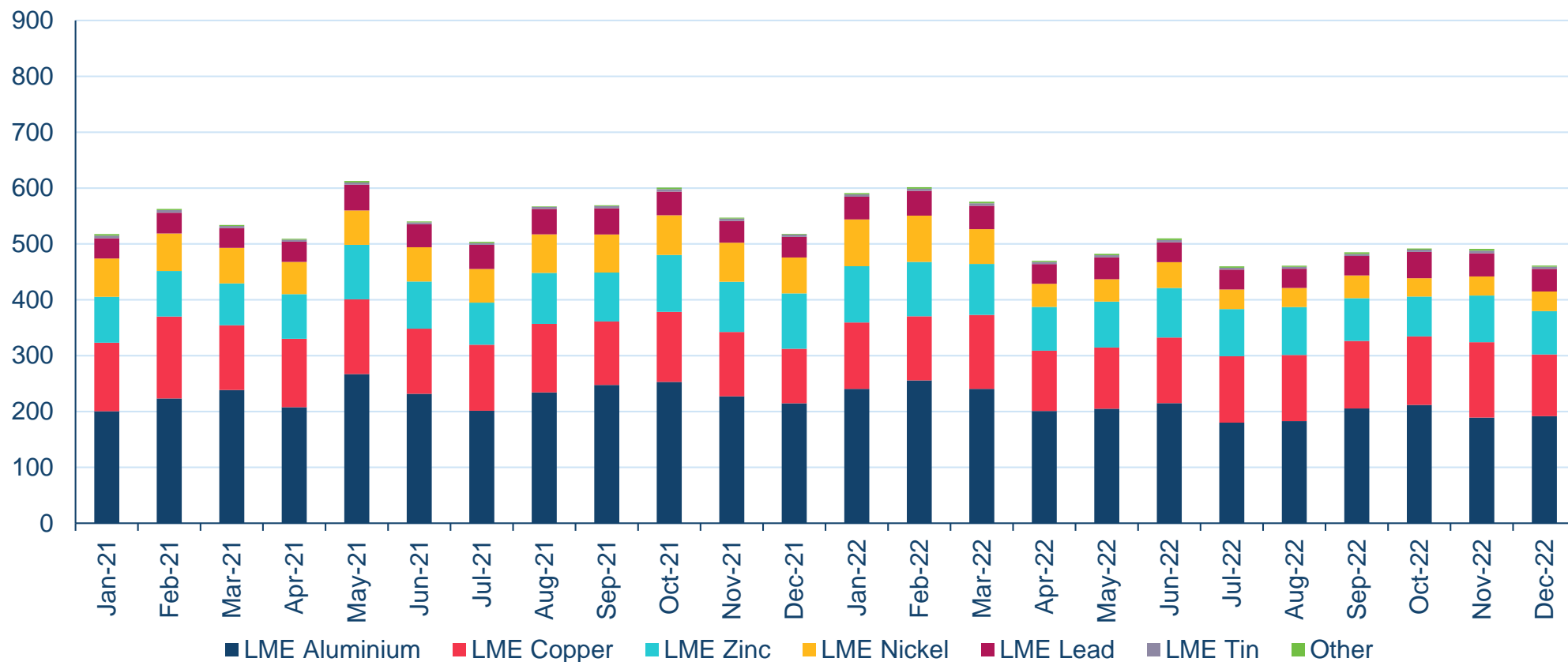


LME average daily monthly volume

Volumes remained in a stable range during H2 2022

LME average daily monthly volume

(Thousand lots per day)



Data up to 30-12-2022

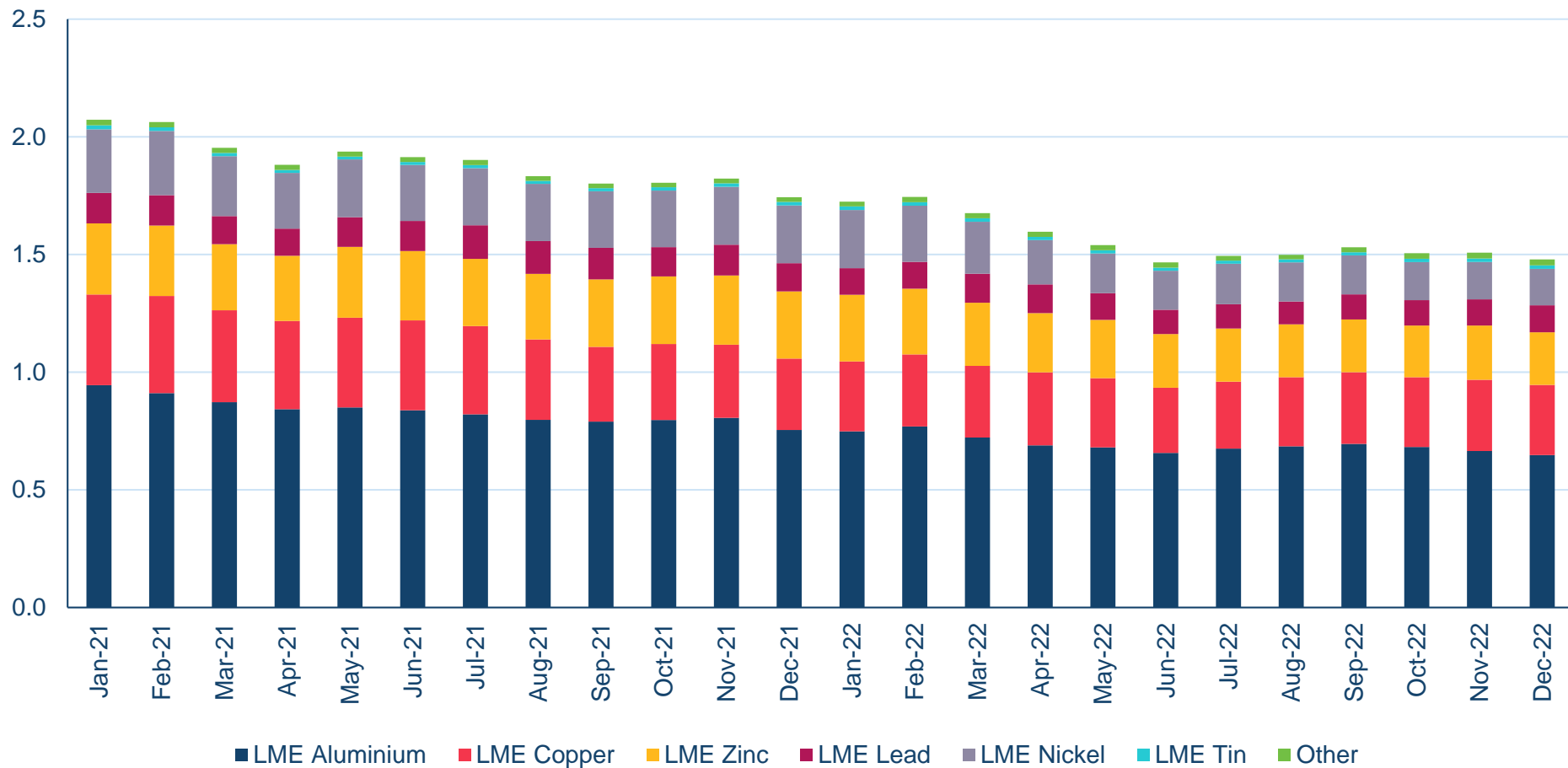


LME Futures open interest

Aluminium and Copper open interest combined fell 11 per cent YoY

Open interest

Average million lots per day; LME Futures



Data up to 30-12-22



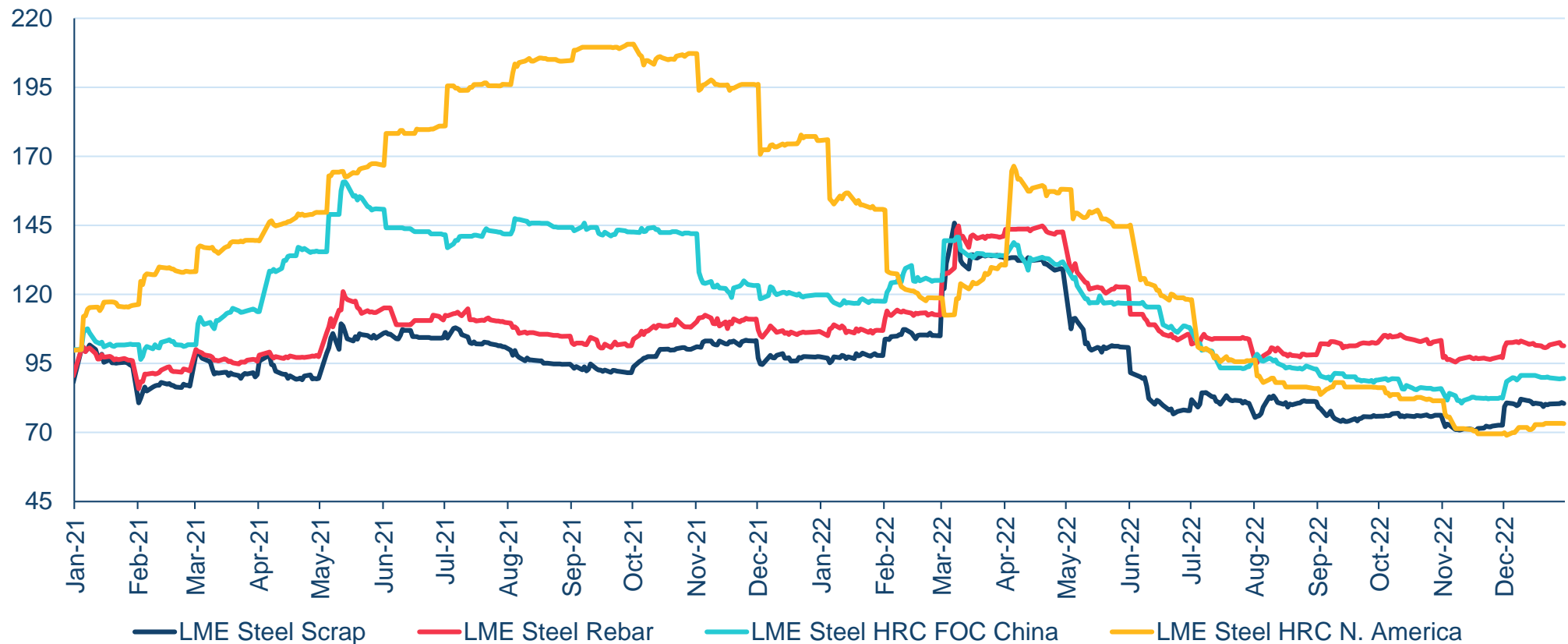
Ferrous markets

LME ferrous market price summary

Ferrous has trended lower in tandem with broader commodity market activity

LME prices YTD

Prices rebased to 100; 4 Jan 21



Data up to 30-12-2022

Month 2 prices

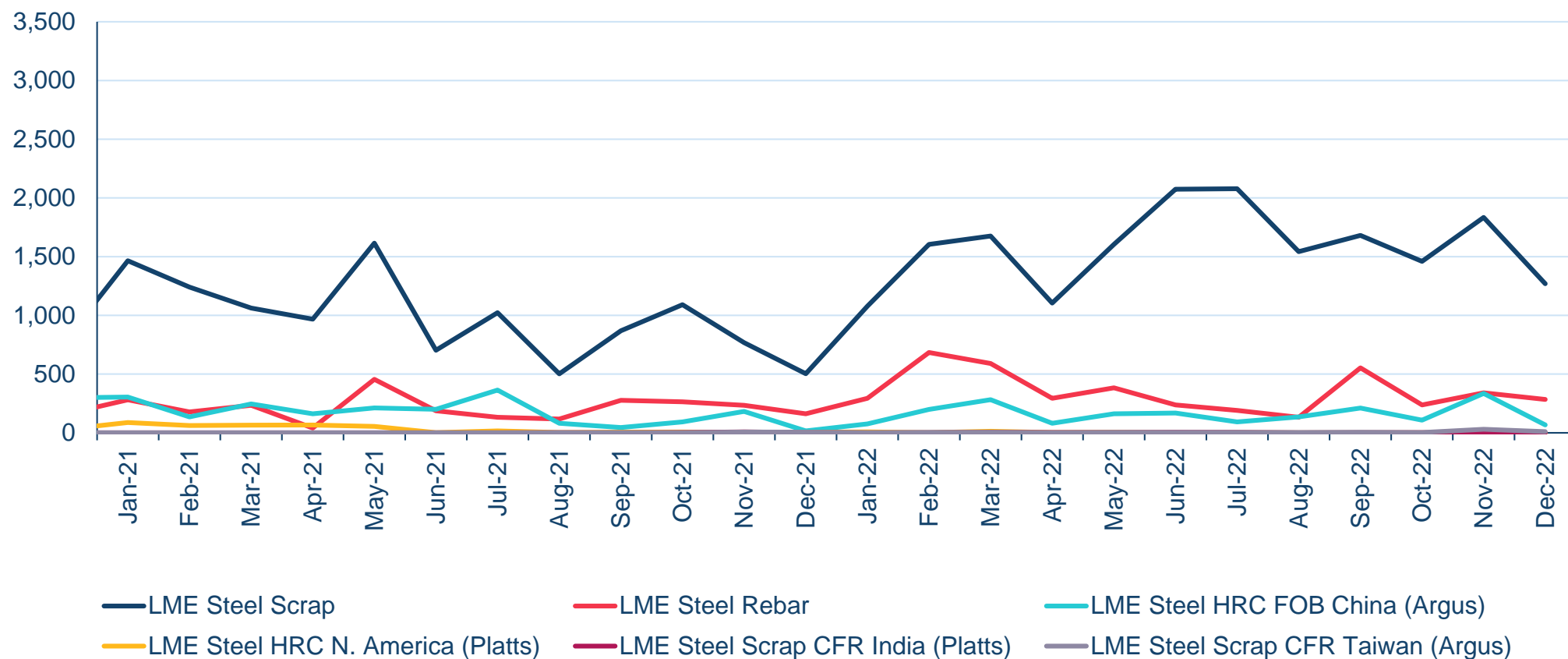


LME ferrous monthly volume

2022 was a record year for volumes with over 531kt traded, led by Turkish Steel Scrap

LME ferrous monthly volume

(Lots per day)



Source: LME

Data up to 30-12-22

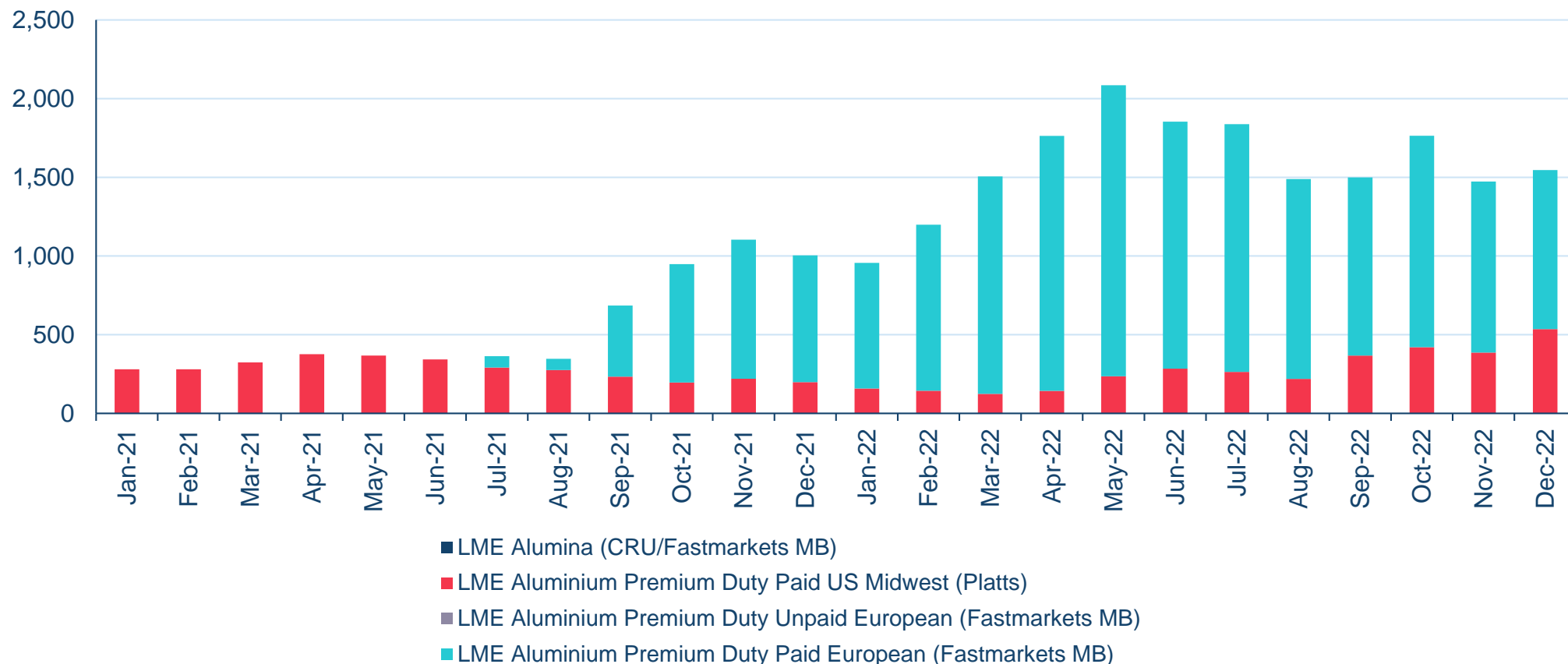


LME Aluminium cash-settled products open interest

Aggregate Premium Open Interest significantly increased YoY

Open interest

Lots, last business day per month



Source: LME EOI

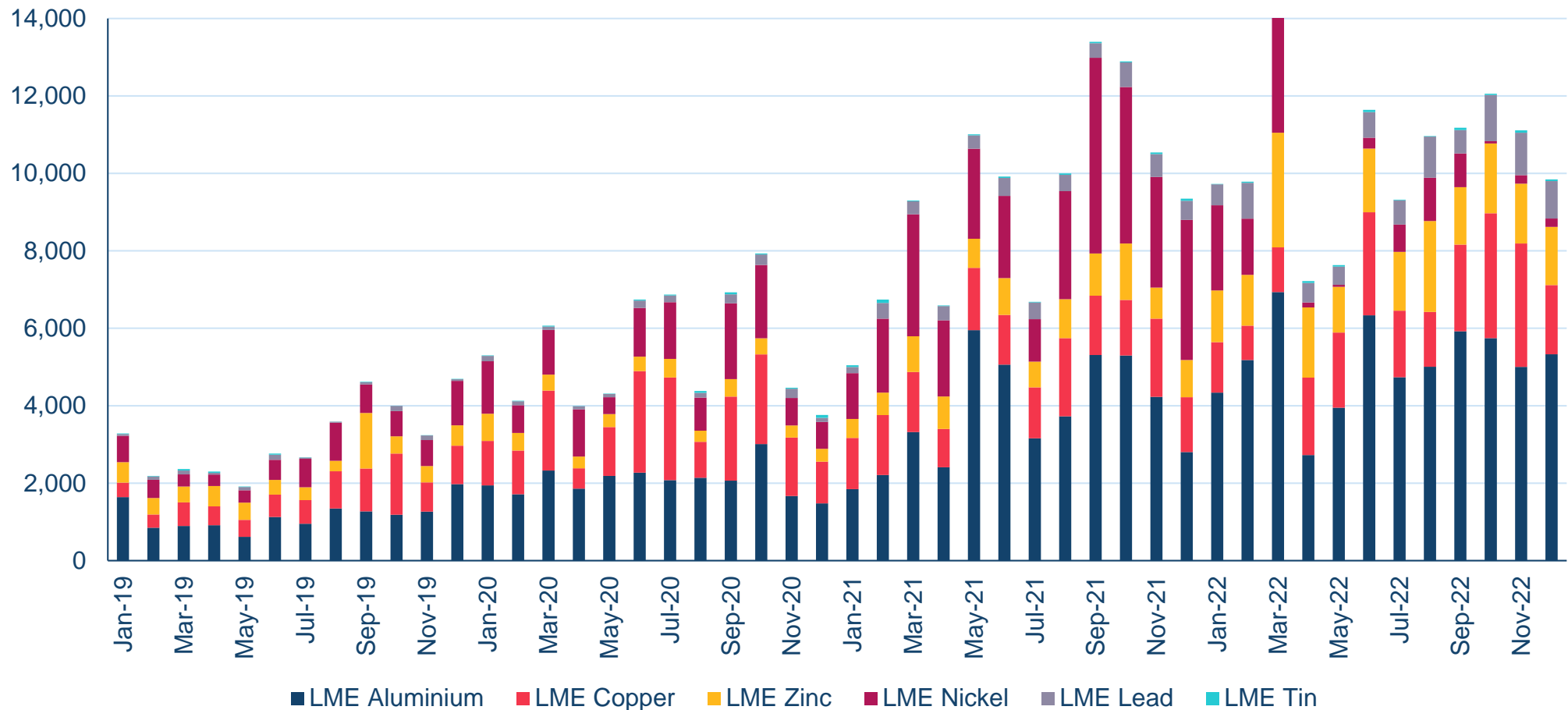
Data up to 30-12-22



LME electronic liquidity

LME monthly (3rd Wednesday) electronic volumes

LME 3rd Wednesday volume
(Volume per month)



- 3rd Wednesday volumes include implied (counted in sides) and non implied trades (counted in lots)

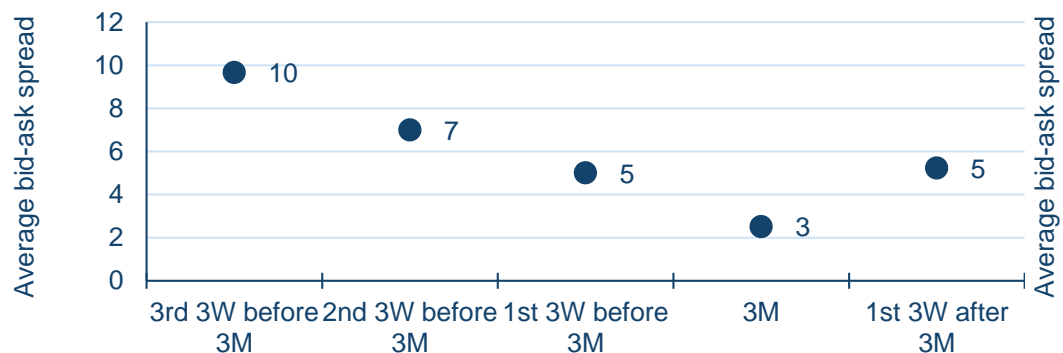
Data up to 30-12-22



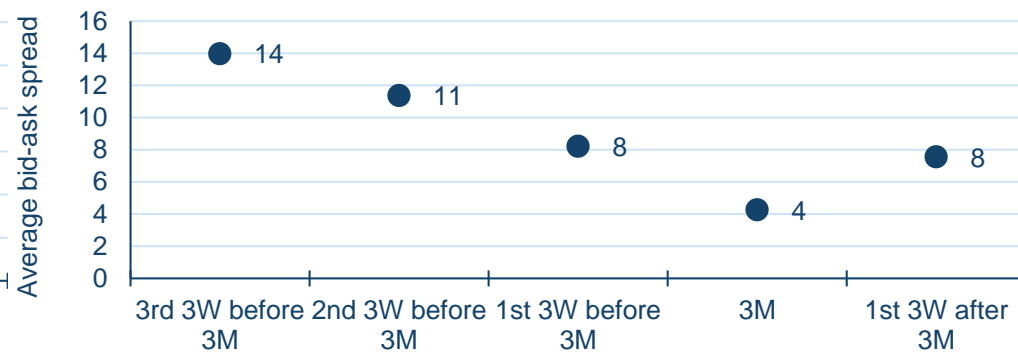
LME monthly contracts – bid/offer spreads (ticks)

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

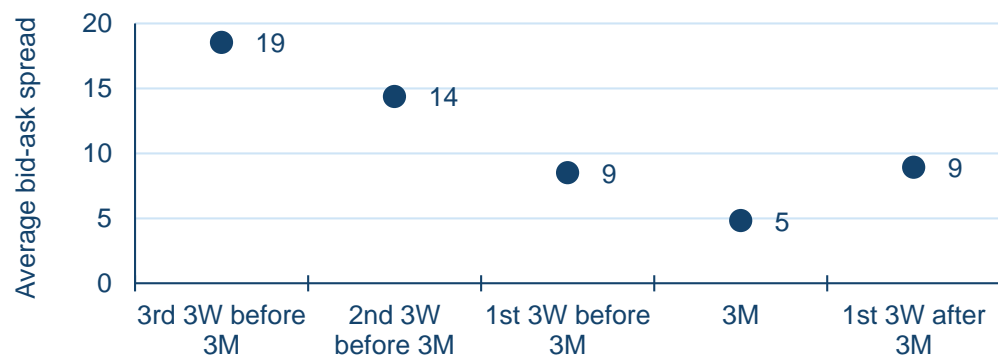
LME Aluminium 3rd Wednesdays



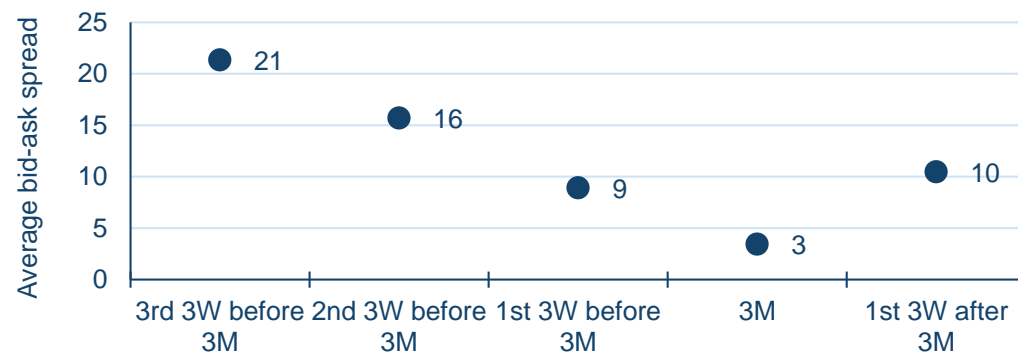
LME Copper 3rd Wednesdays



LME Zinc 3rd Wednesdays



LME Lead 3rd Wednesdays



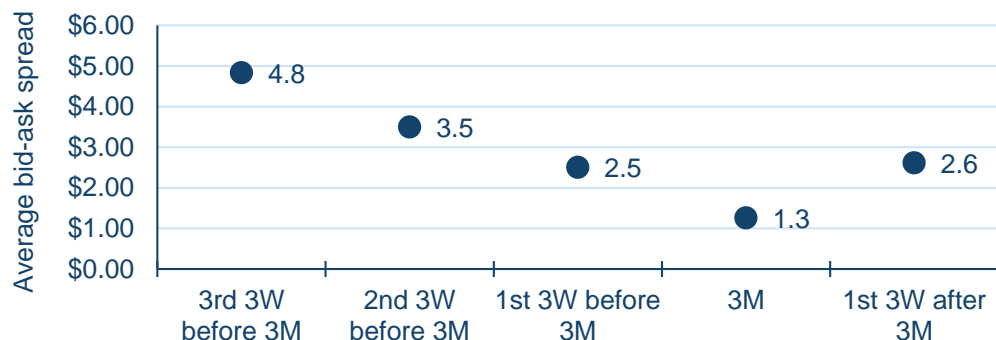
Source LME, Q4 2022 median of daily average achieved spread between 9am-5pm UK
Data up to 30-12-22



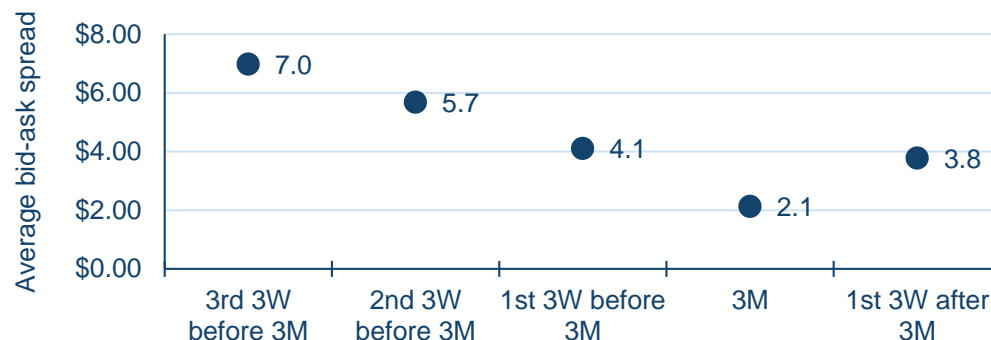
LME monthly contracts – bid/offer spreads (\$)

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

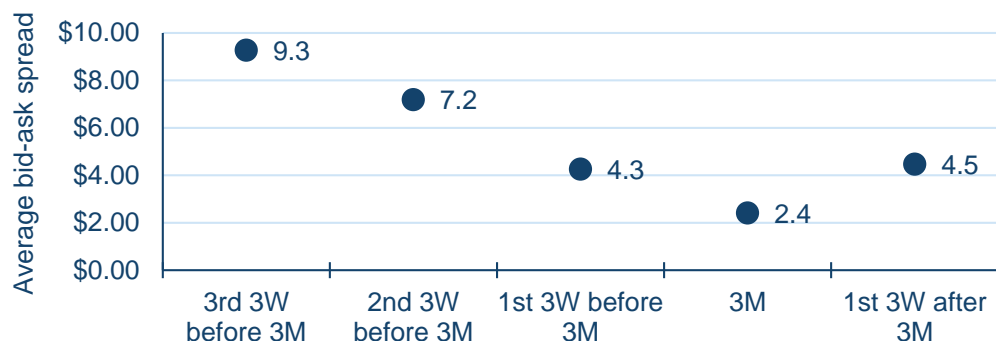
LME Aluminium 3rd Wednesdays



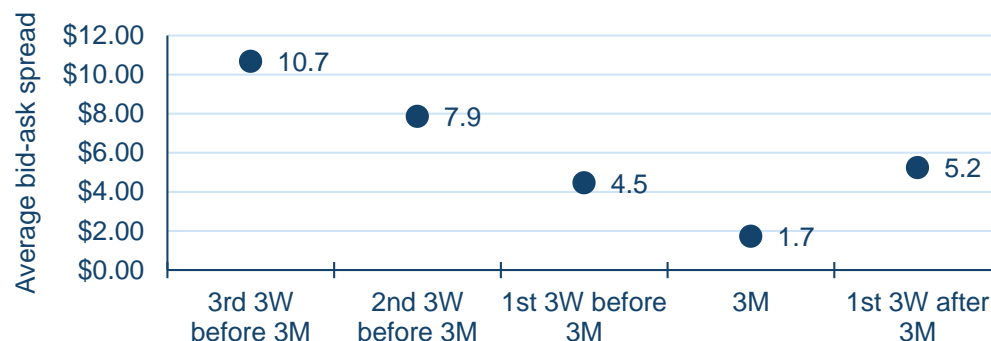
LME Copper 3rd Wednesdays



LME Zinc 3rd Wednesdays



LME Lead 3rd Wednesdays

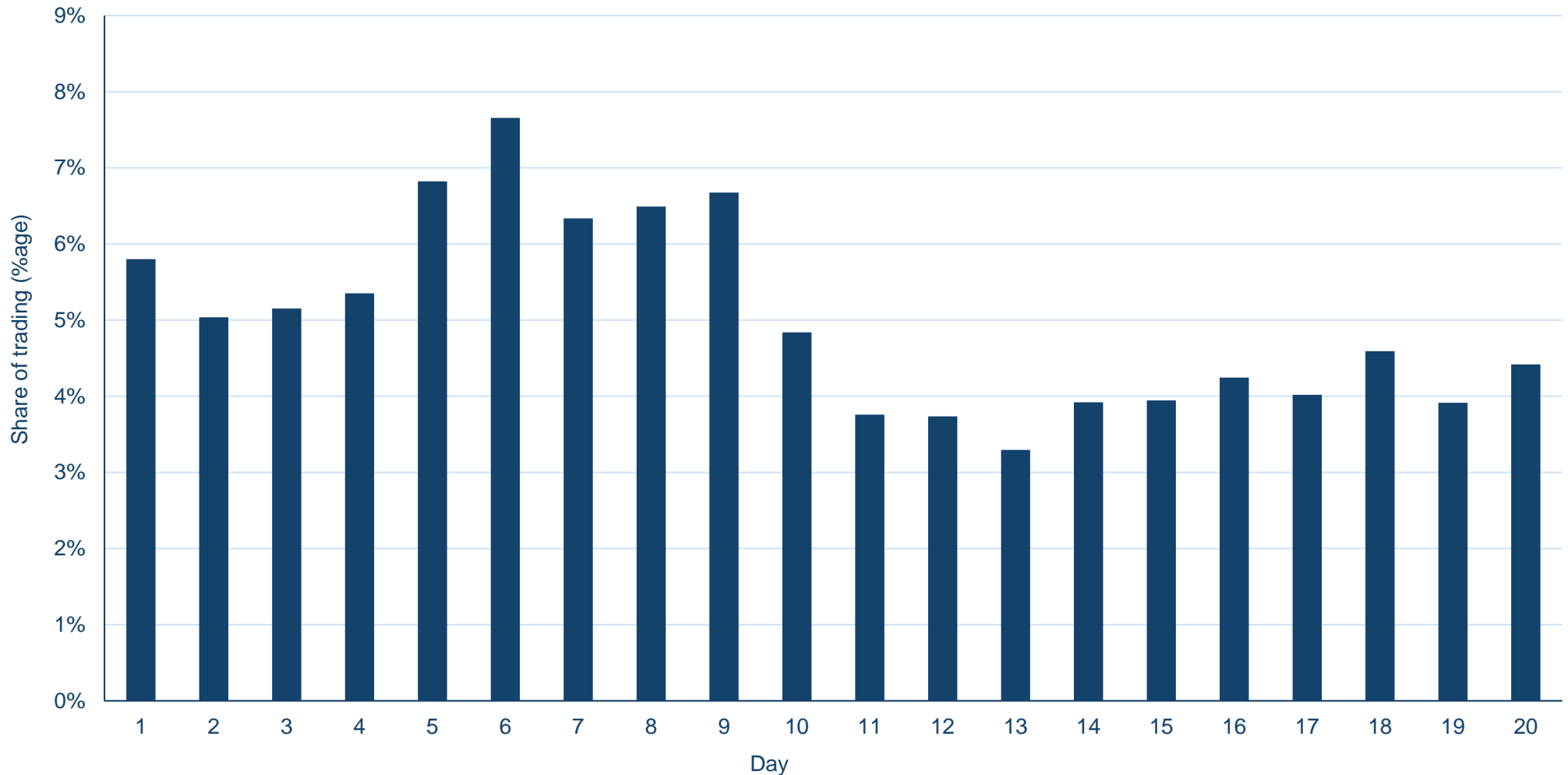


Source LME, Q4 2022 median of daily average achieved spread between 9am-5pm UK
Data up to 30-12-22



LME electronic liquidity

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



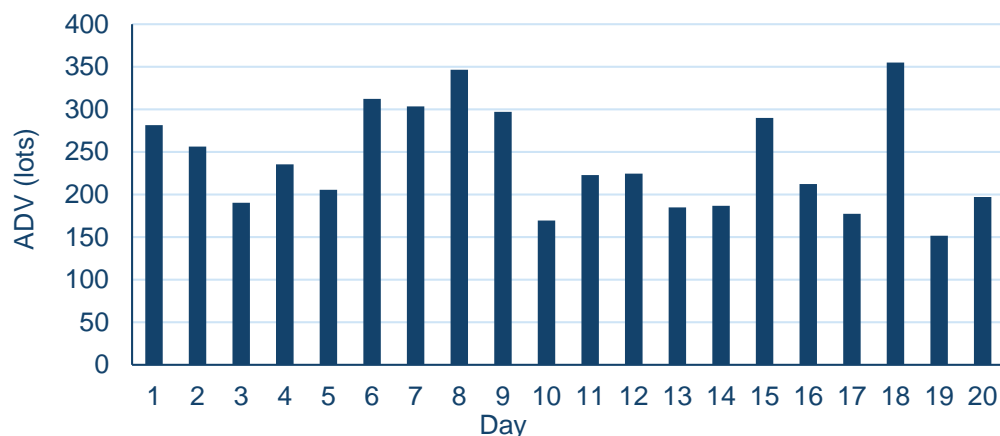
Source LME, 2022 average daily volume per day (implied in sides, non-implied lots, Month 1-4, Spreads M1-M2, M2-M3 & M1-M3, LME Base metals)
Data up to 30-12-22



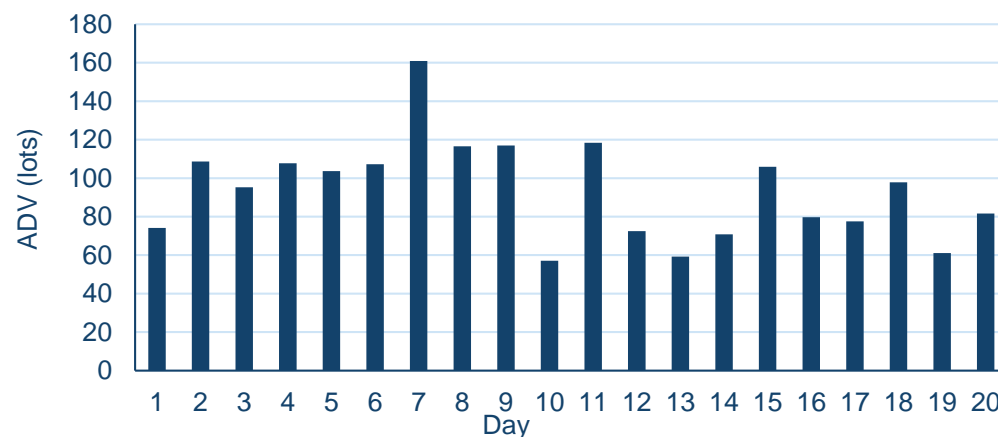
LME electronic liquidity – monthly contracts

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

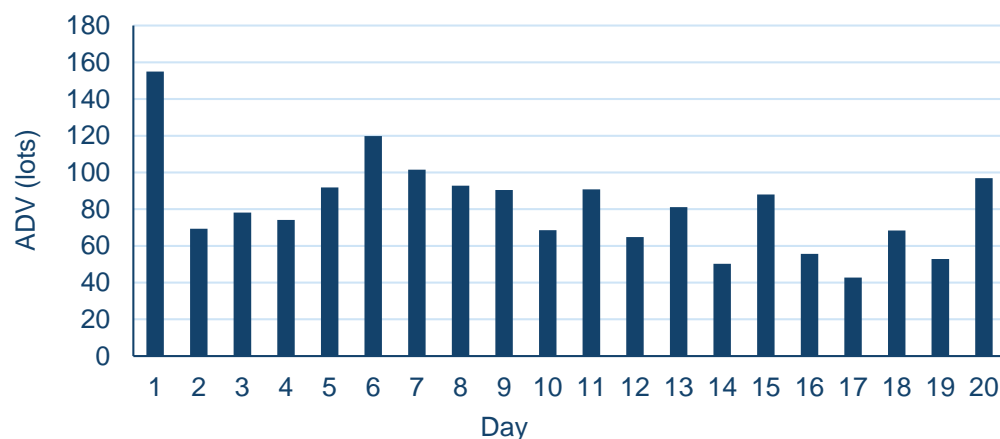
LME Aluminium 3rd Wednesdays



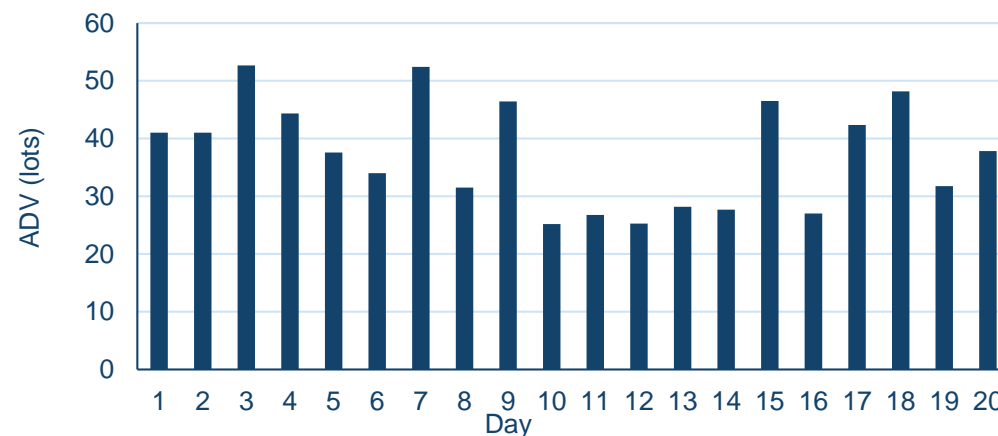
LME Copper 3rd Wednesdays



LME Zinc 3rd Wednesdays



LME Lead 3rd Wednesdays



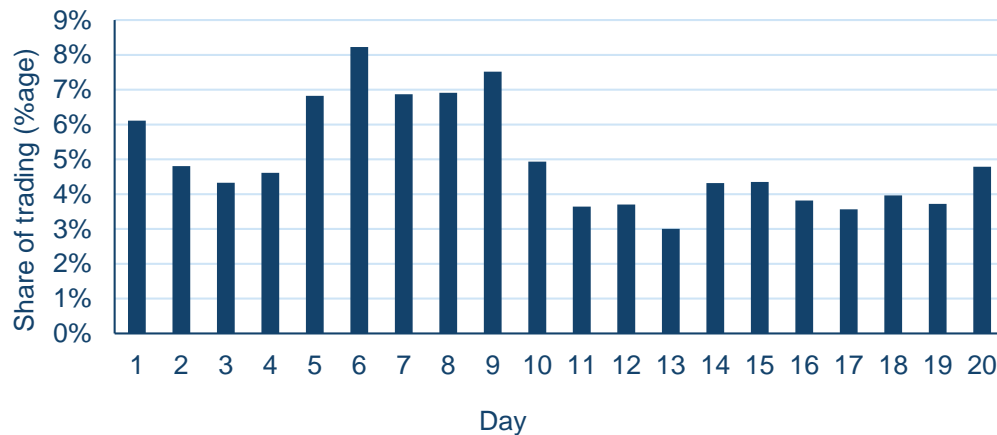
Source LME, 2022 average daily volume per day (implied in sides, non-implied lots)
Data up to 30-12-22



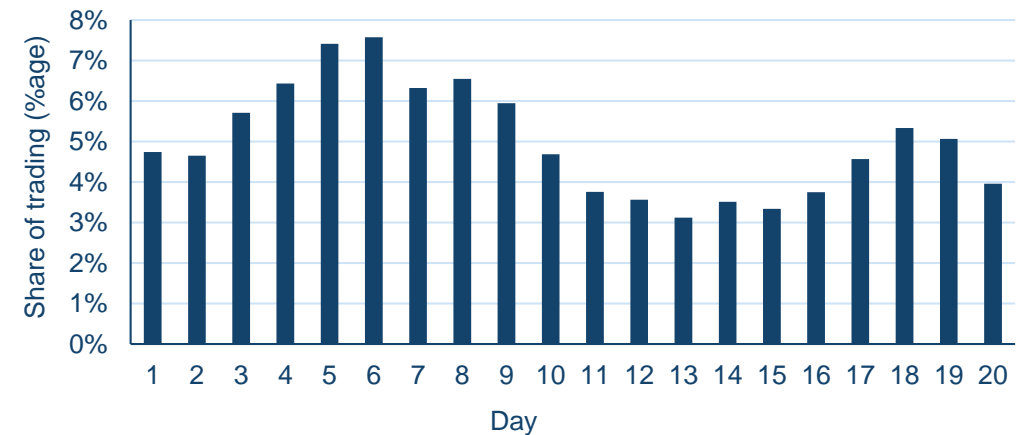
LME electronic liquidity – spread contracts

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

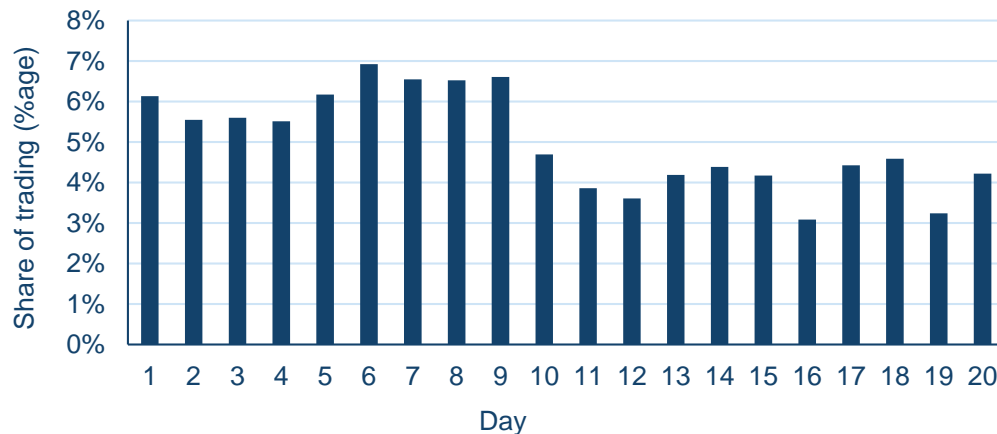
LME Aluminium



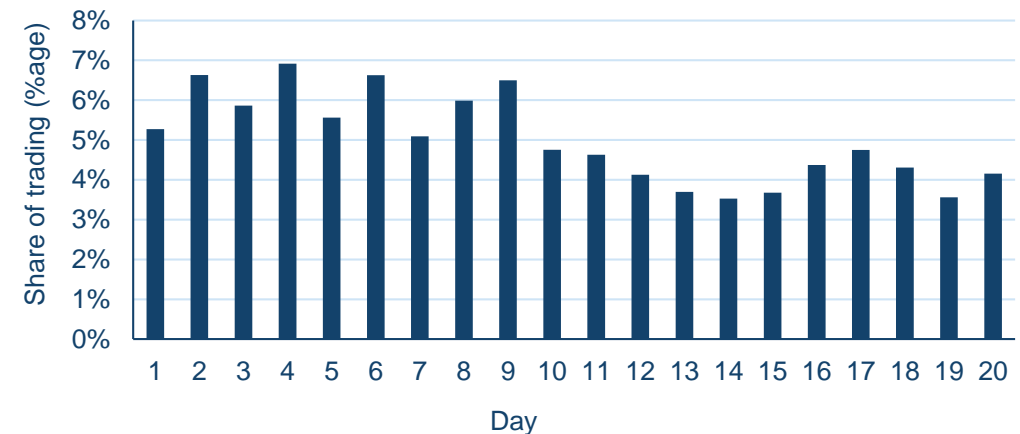
LME Copper



LME Zinc



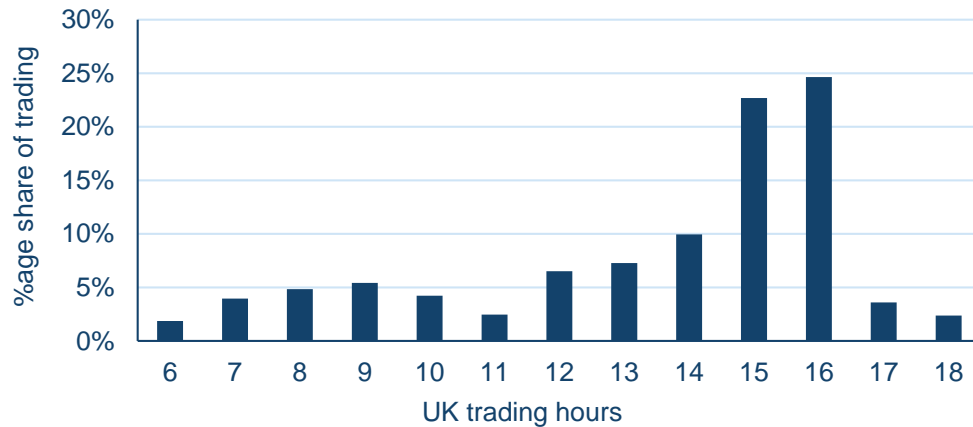
LME Lead



LME electronic liquidity – liquidity clusters

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

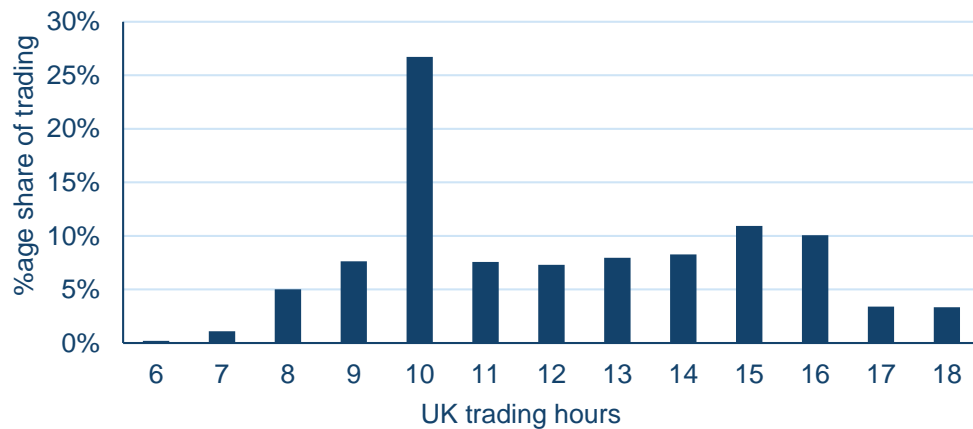
LME Aluminium



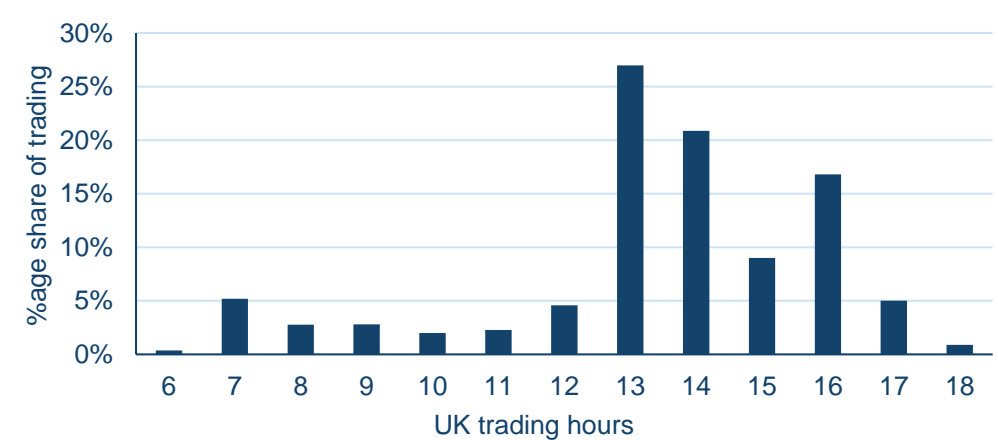
LME Copper



LME Zinc



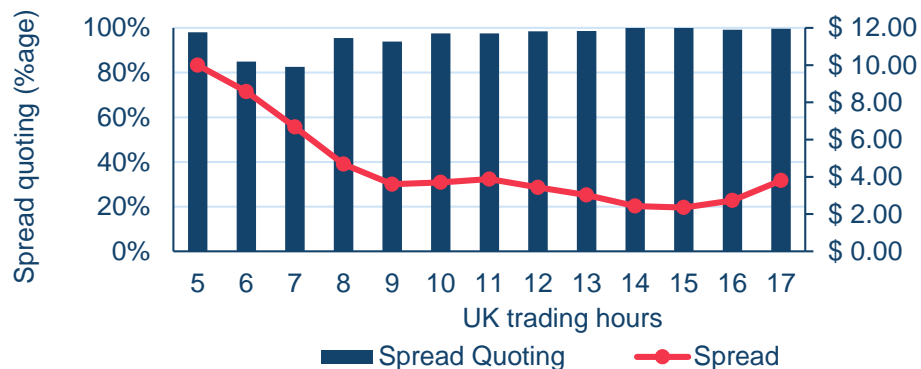
LME Lead



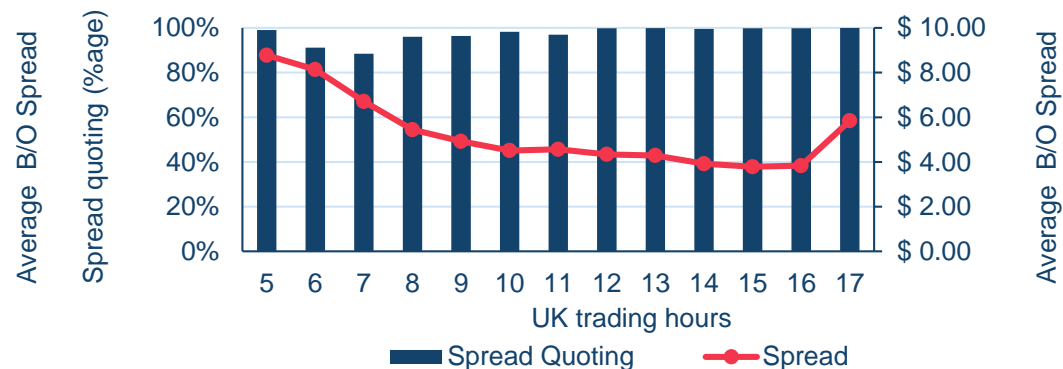
LME electronic liquidity – quoted periods

Monthly (3rd Wed) markets are actively quoted throughout UK trading hours

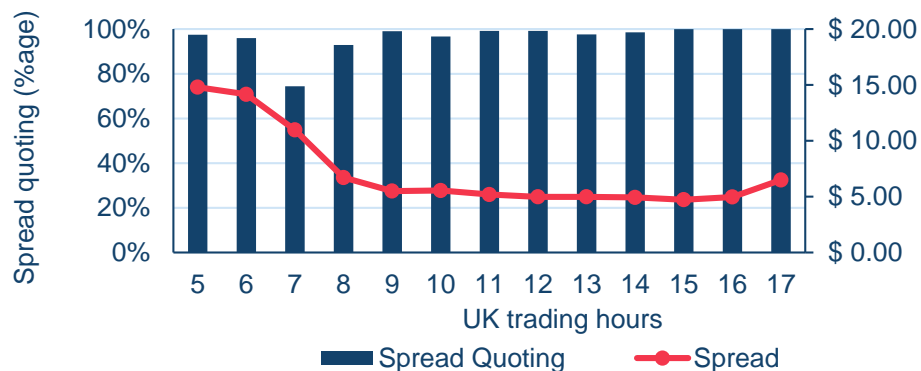
LME Aluminium



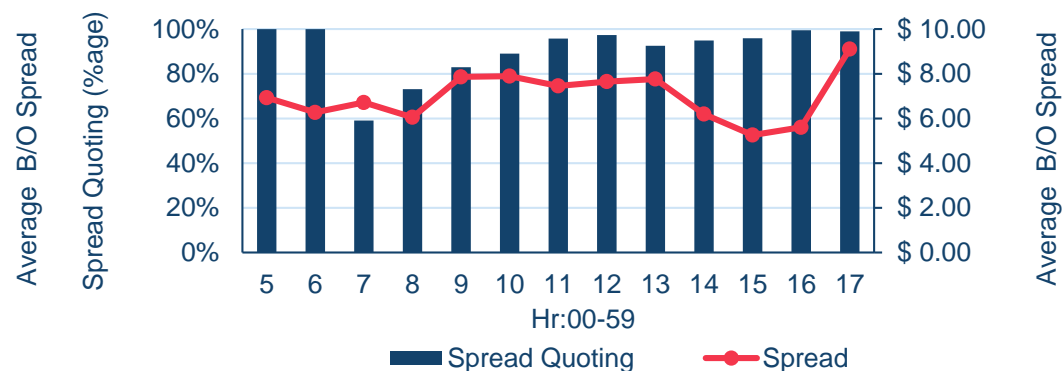
LME Copper



LME Zinc



LME Lead

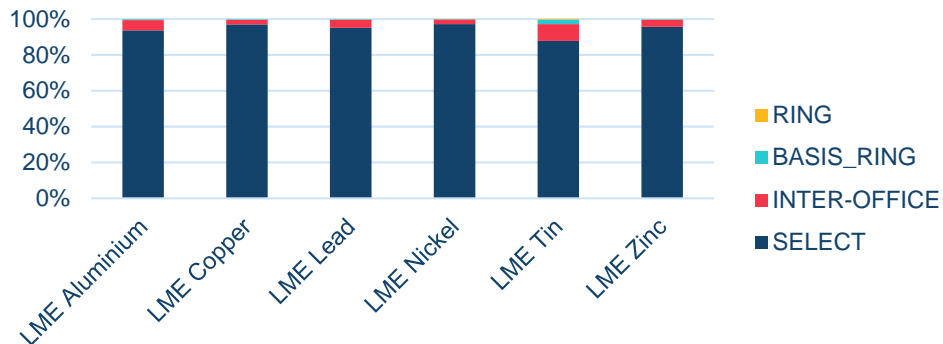


LME trading volumes by venue

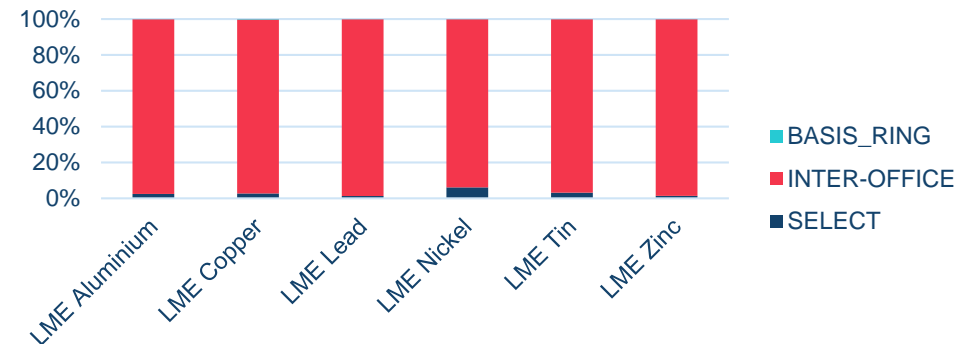
LME trading by venue

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

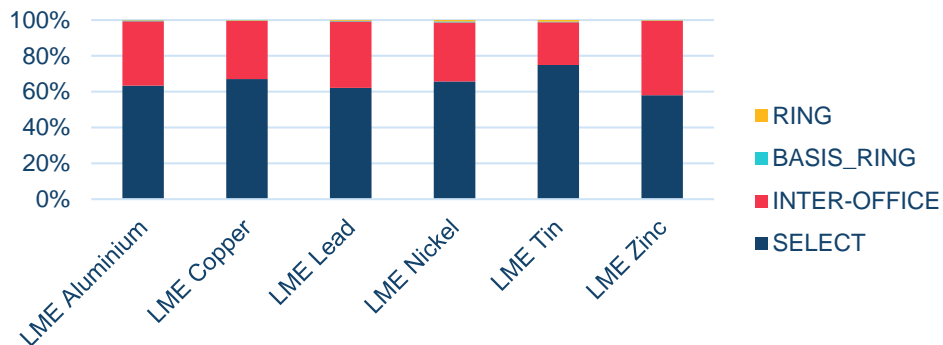
3M outright



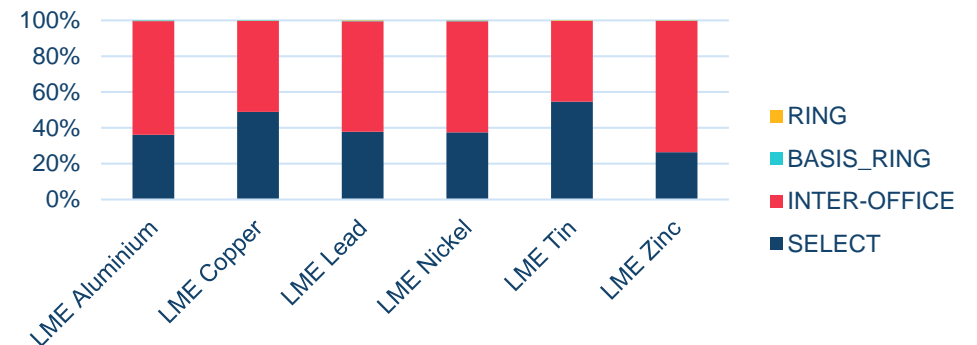
3rd Wednesday outright



Medium carries



Long carries



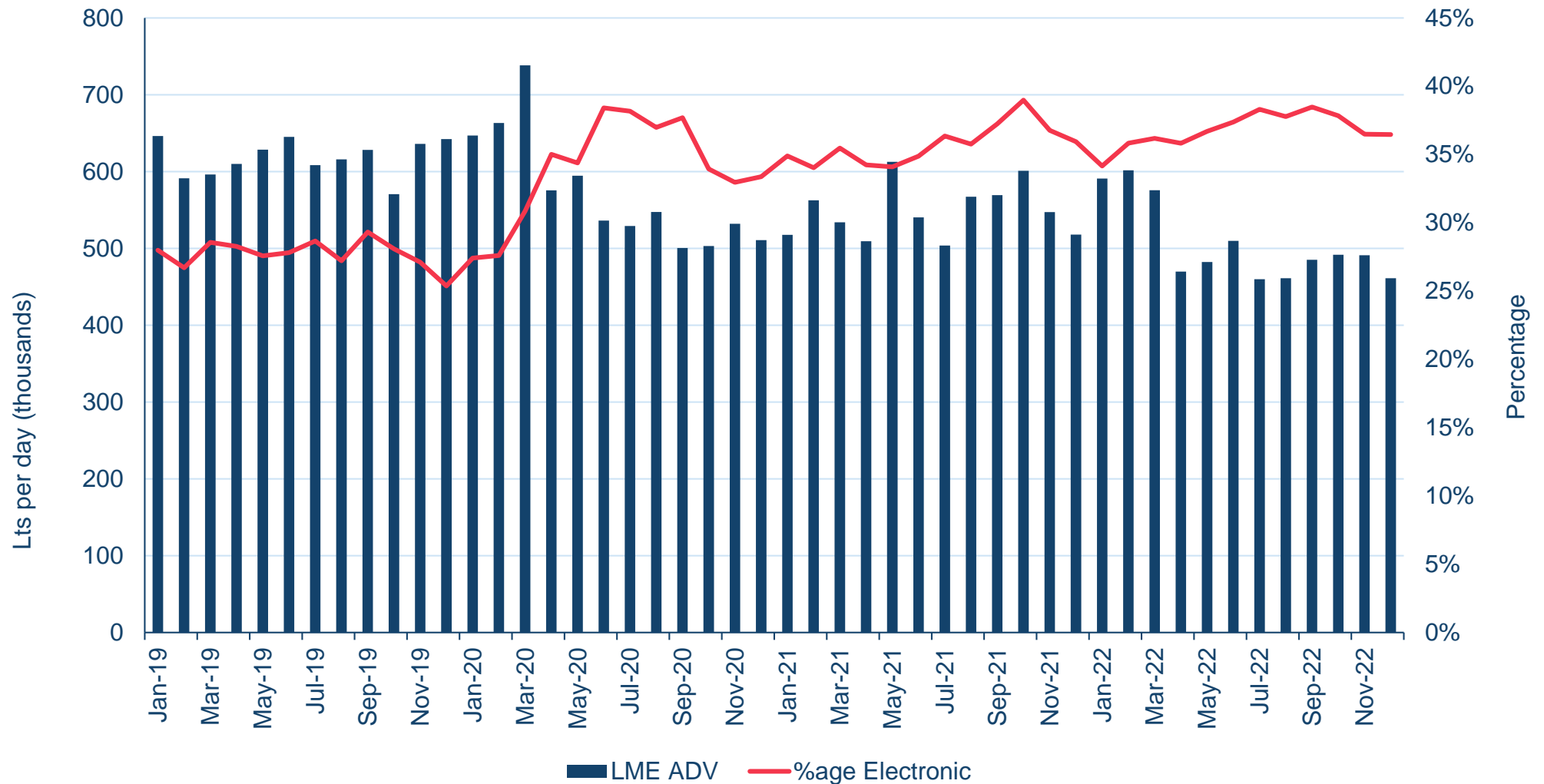
Source LME, Data for member trades excluding Give-ups and admin.

Data up to 30-12-22



LME trading by venue

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



Source LME. All metals and contracts, ex UNA trades.
Data up to 30-12-22



LME options

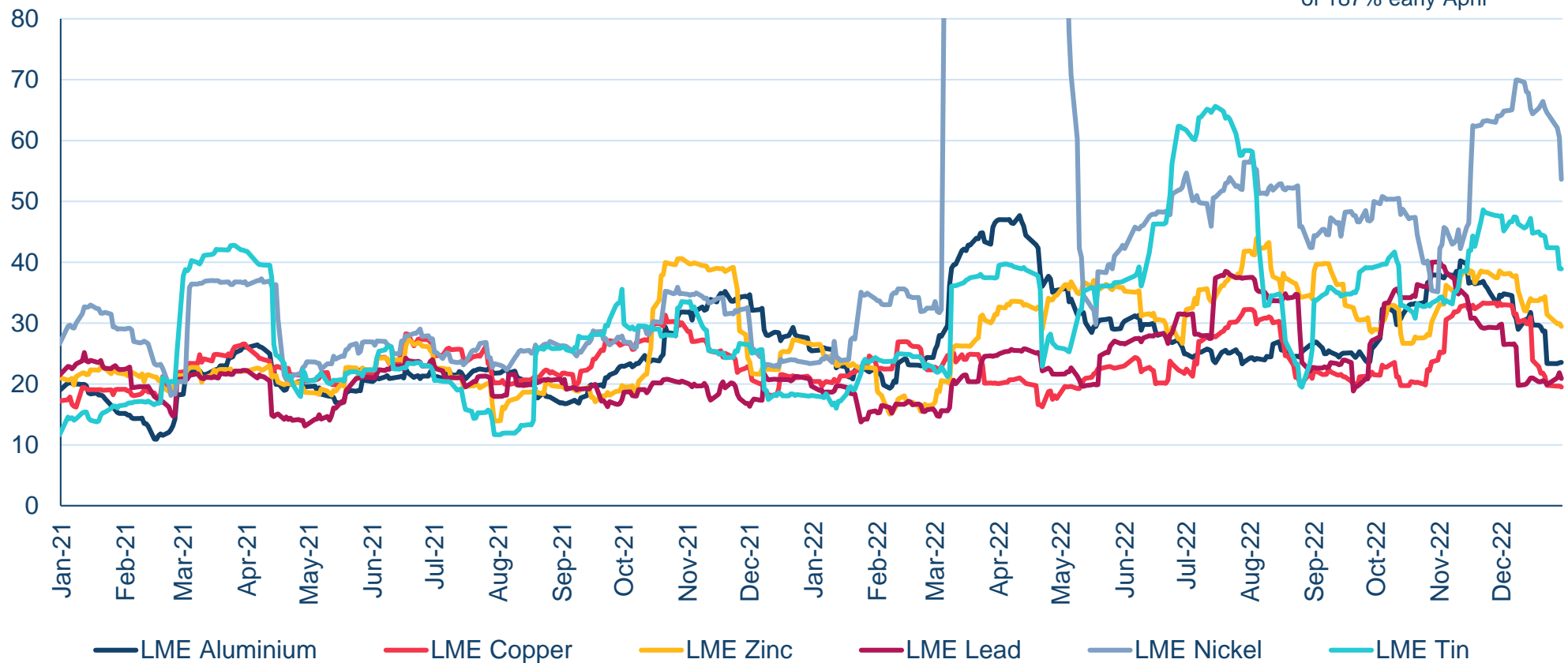
LME prices historic volatility

Volatility trended lower in Q4

LME 3M prices historic volatility

Percentage; 30 day moving average

Nickel 30 day
historical volatility
reaches maximum
of 187% early April



Data up to 30-12-22

Note LME Nickel suspended 8-16 Mar 22

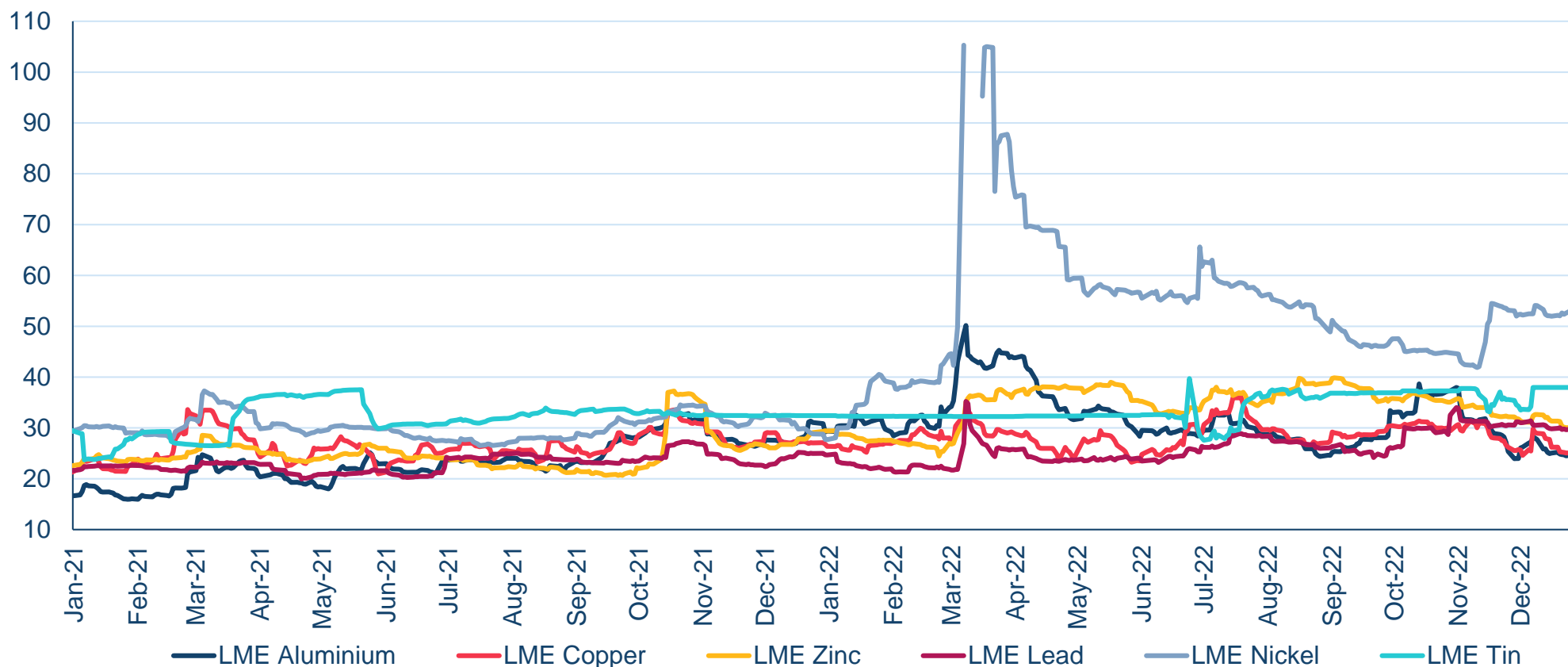


LME base ATM volatility

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 30-12-22

Note LME Nickel suspended 8-16 Mar 22

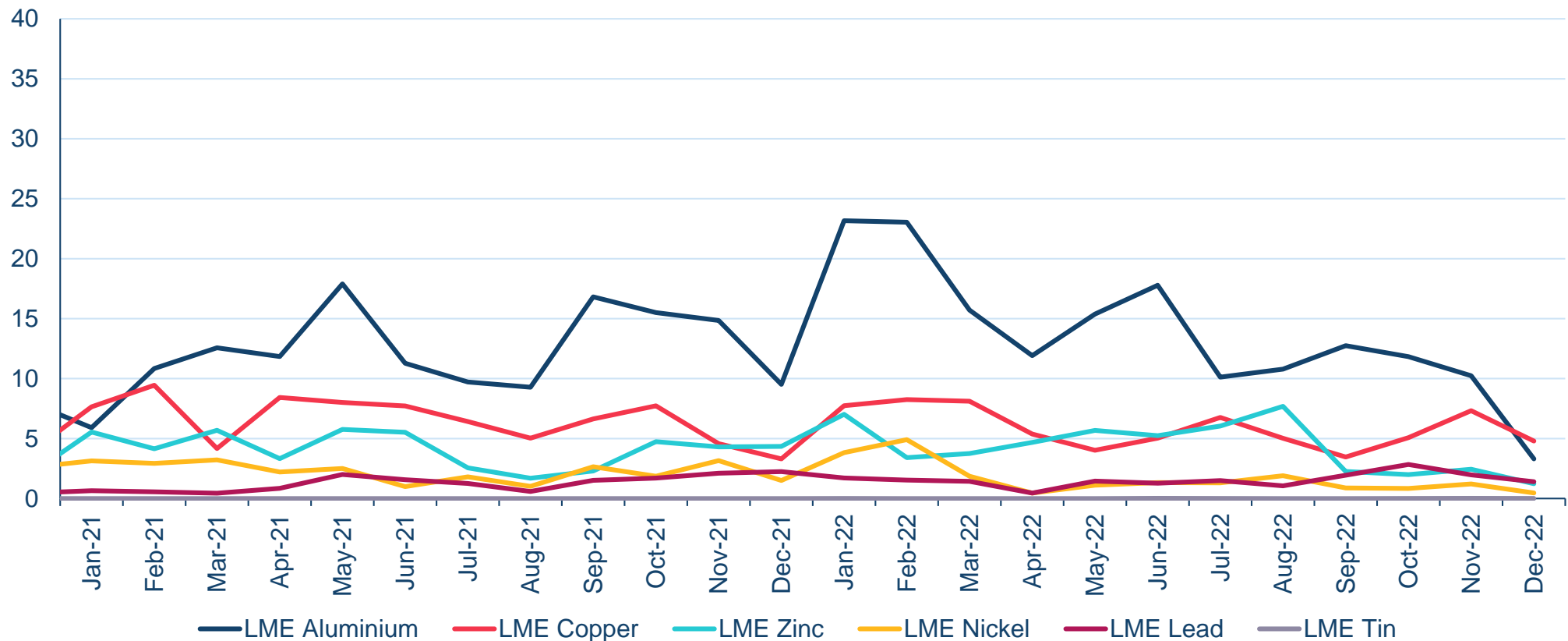


Average daily monthly volumes

Lower volumes mirrored the fall in volatility during Q4

Average daily monthly volume

(Thousand lots per day); LME Options and TAPOs



Data up to 30-12-22

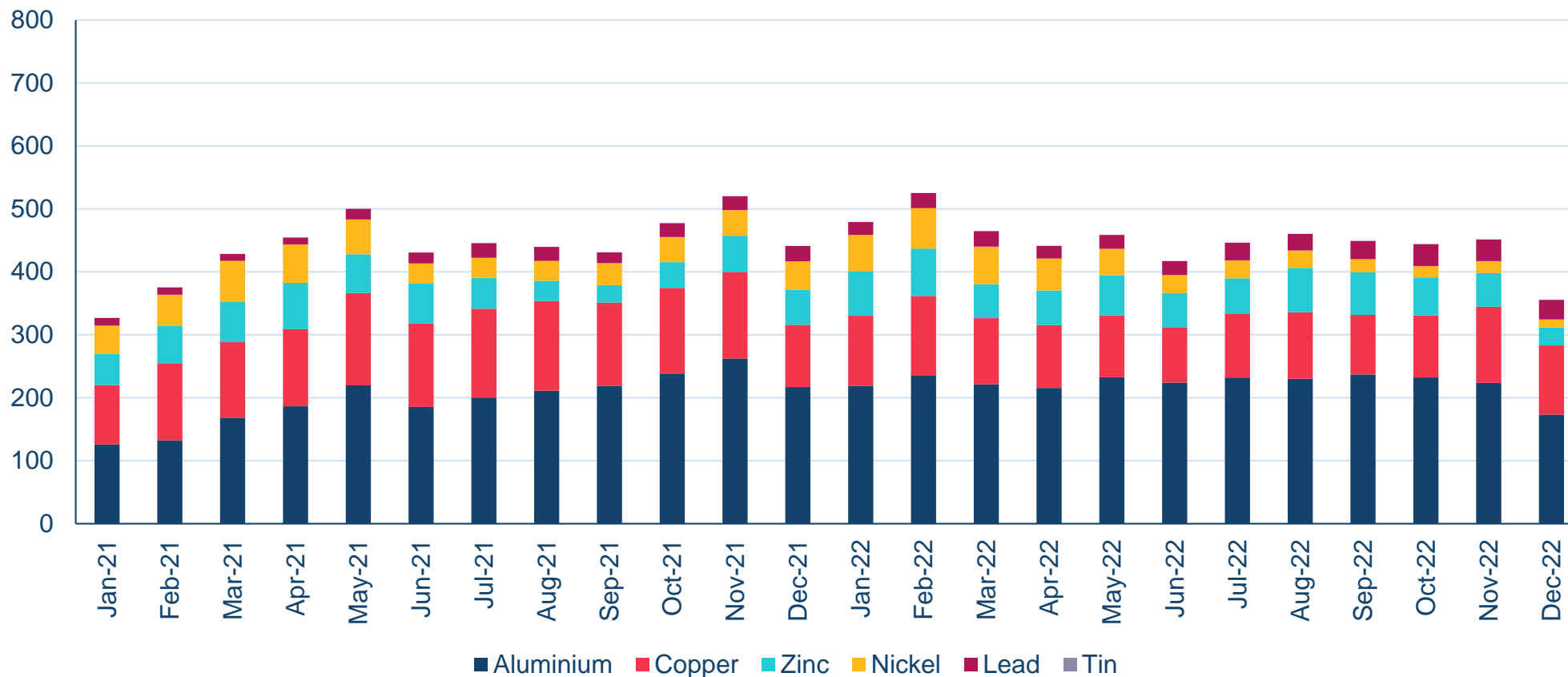


LME Options and TAPOs open interest

Copper open interest rebounded in Q4 after the fall in Q2 and Q3

Open interest

Average thousand lots per day; LME Options and TAPOs

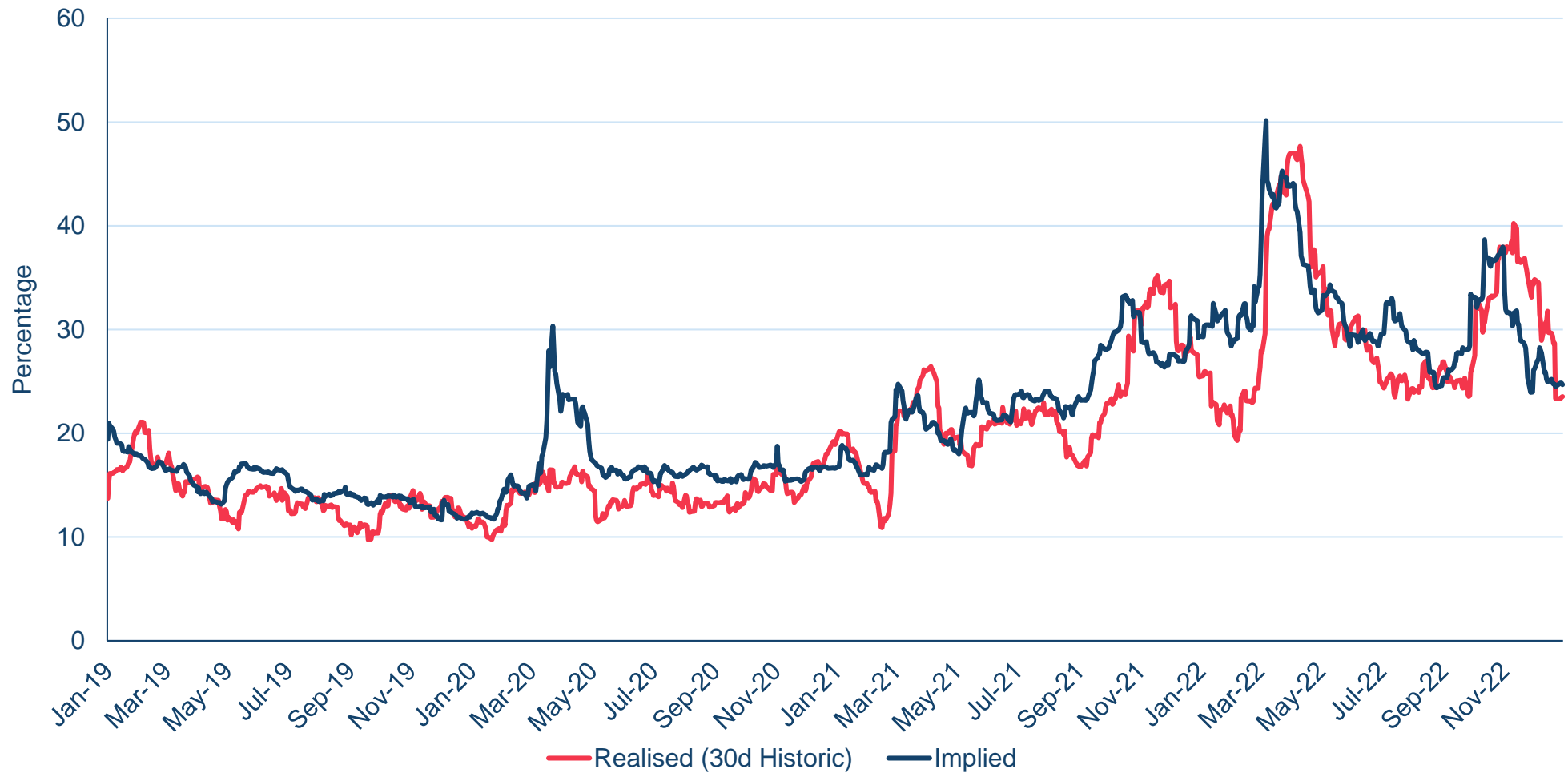


Data up to 30-12-22



LME Realised vs Implied Volatility

Aluminium

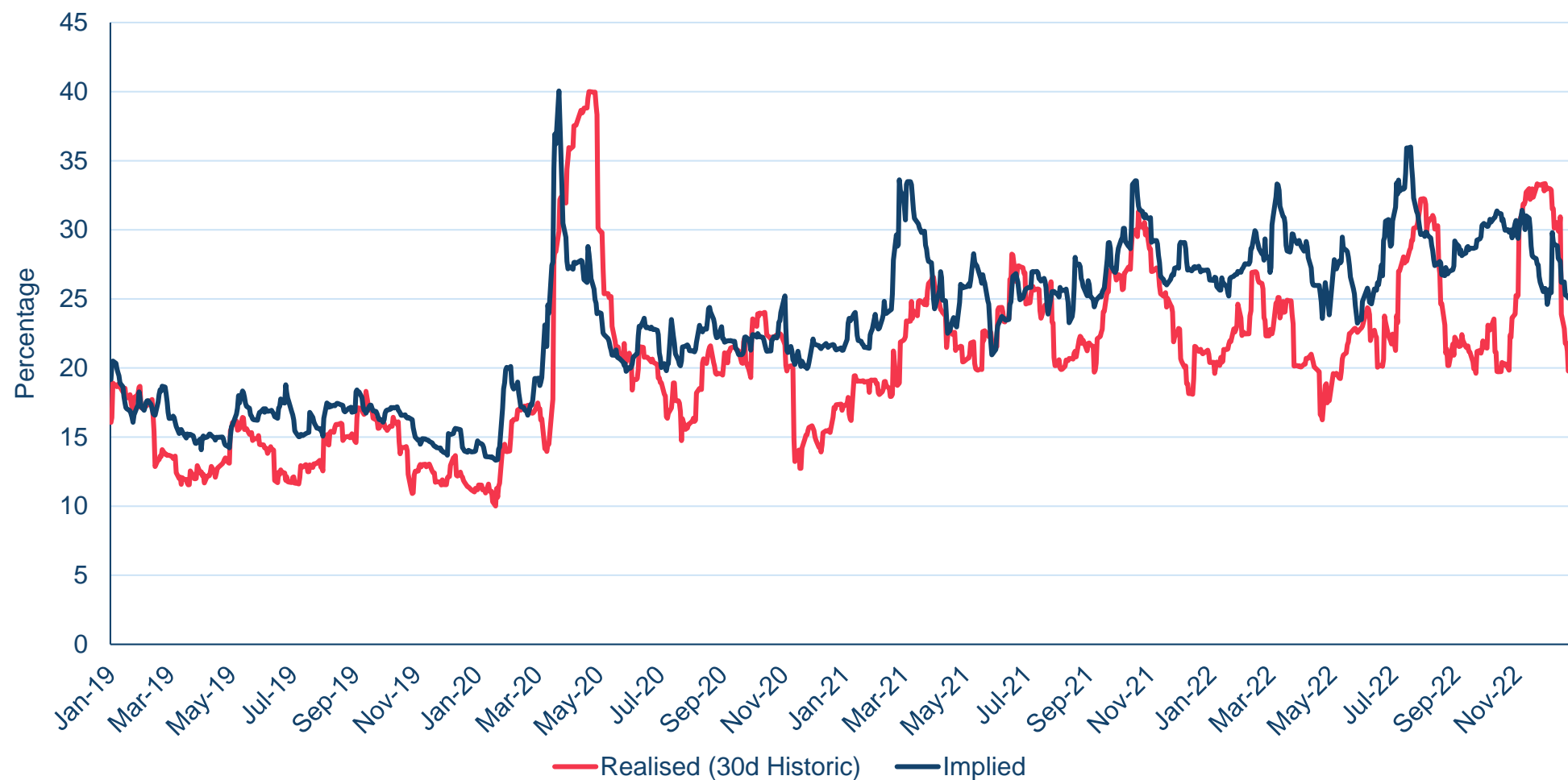


Data up to 30-12-22



LME Realised vs Implied Volatility

Copper

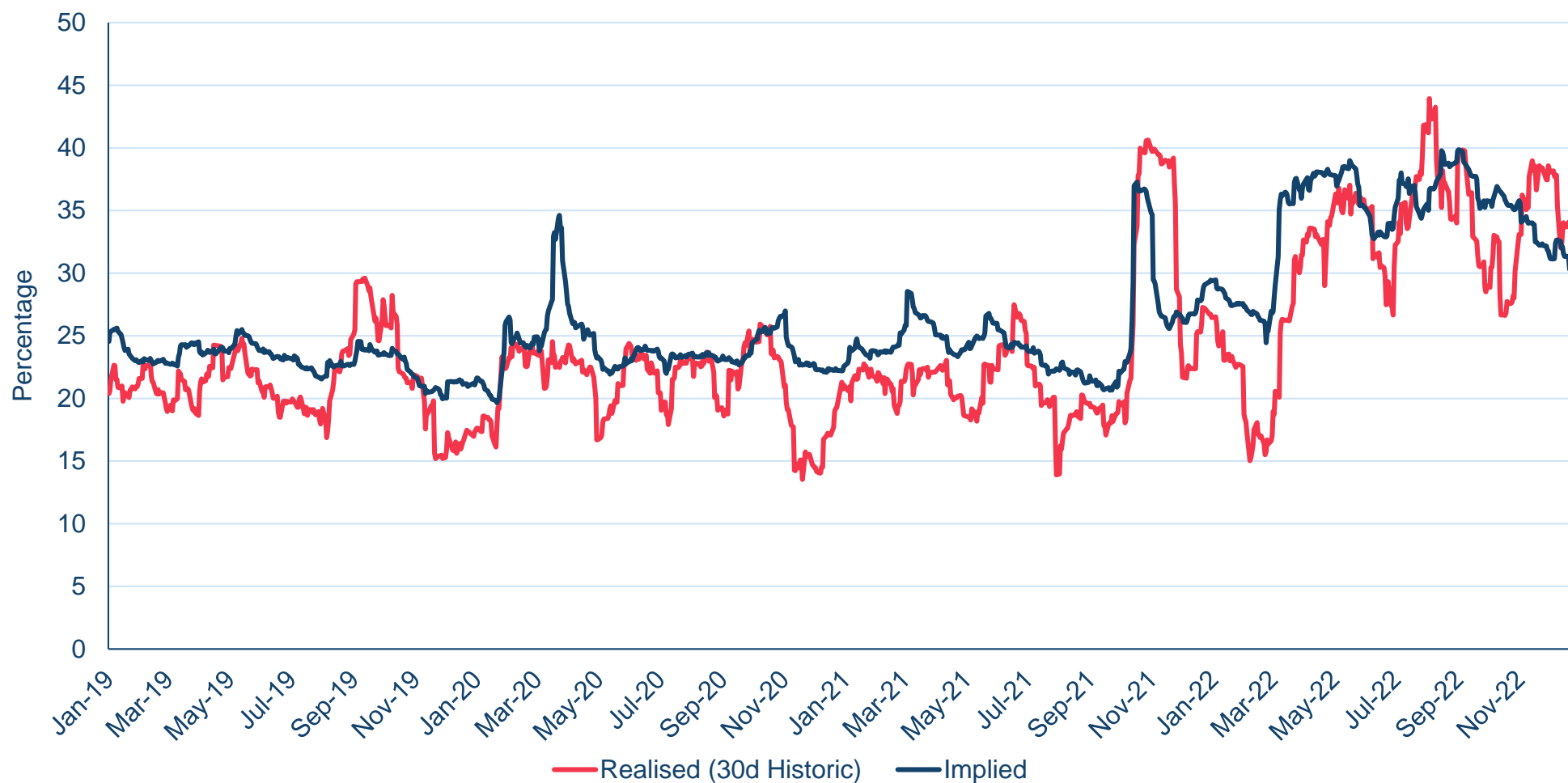


Data up to 30-12-22



LME Realised vs Implied Volatility

Zinc

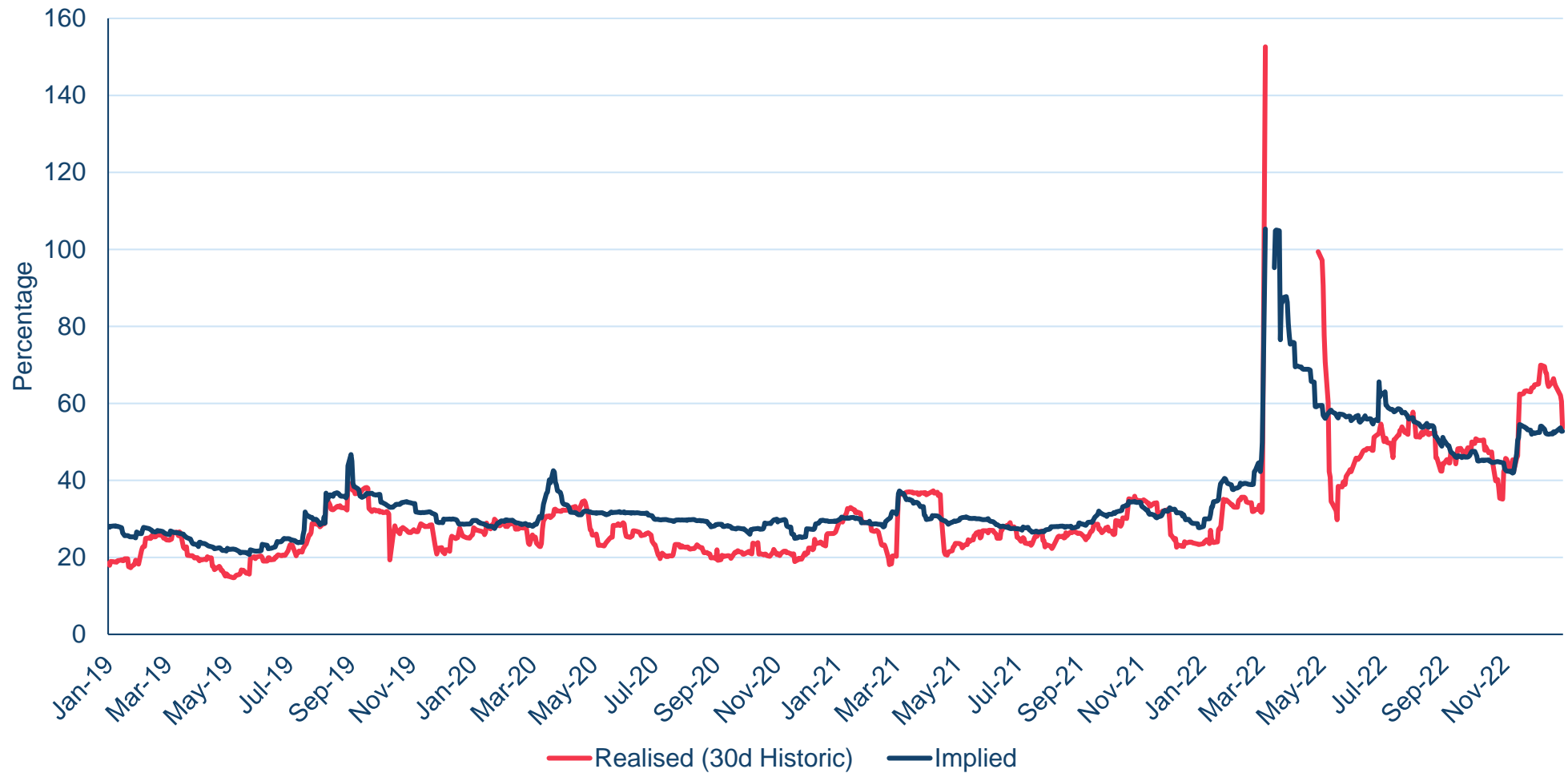


Data up to 30-12-22



LME Realised vs Implied Volatility

Nickel

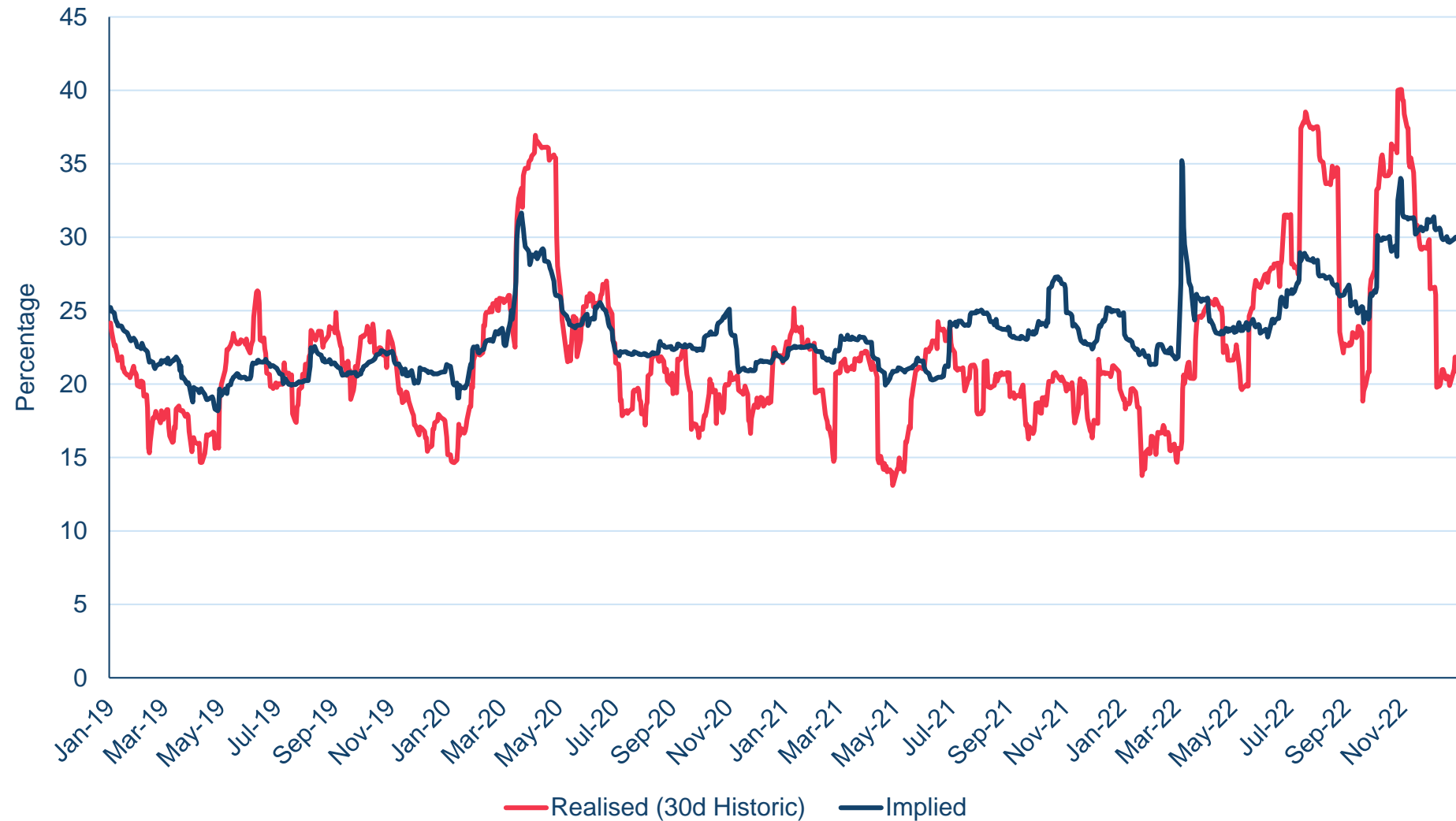


Data up to 30-12-22



LME Realised vs Implied Volatility

Lead



Data up to 30-12-22



Responsible sourcing & sustainability

LME responsibility and sustainability initiatives

The LME has several initiatives underway to support these goals

Initiatives

Responsible Sourcing

- The LME's responsible sourcing agenda was advanced by the announcement of the first artisanal mining (ASM) standard to be integrated into LMEpassport
- A consultation for feedback has been launched (open until 16 January) requesting feedback on the proposed minor amendments to the LME Policy on responsible sourcing and associated compliance documents

LMEpassport

- In October the LME announced new enhancements to LMEpassport
- The digital sustainability credentials register now includes emissions data comparability and disclosures related to non-LME grade metal
- Producers voluntarily add sustainability credentials to LMEpassport. Corporate and Brand level data disclosed and can be linked to cast level
- 220 brands (of ~450 LME-listed brands) and ~350 disclosures are now listed on LMEpassport across 25 ESG disclosure types

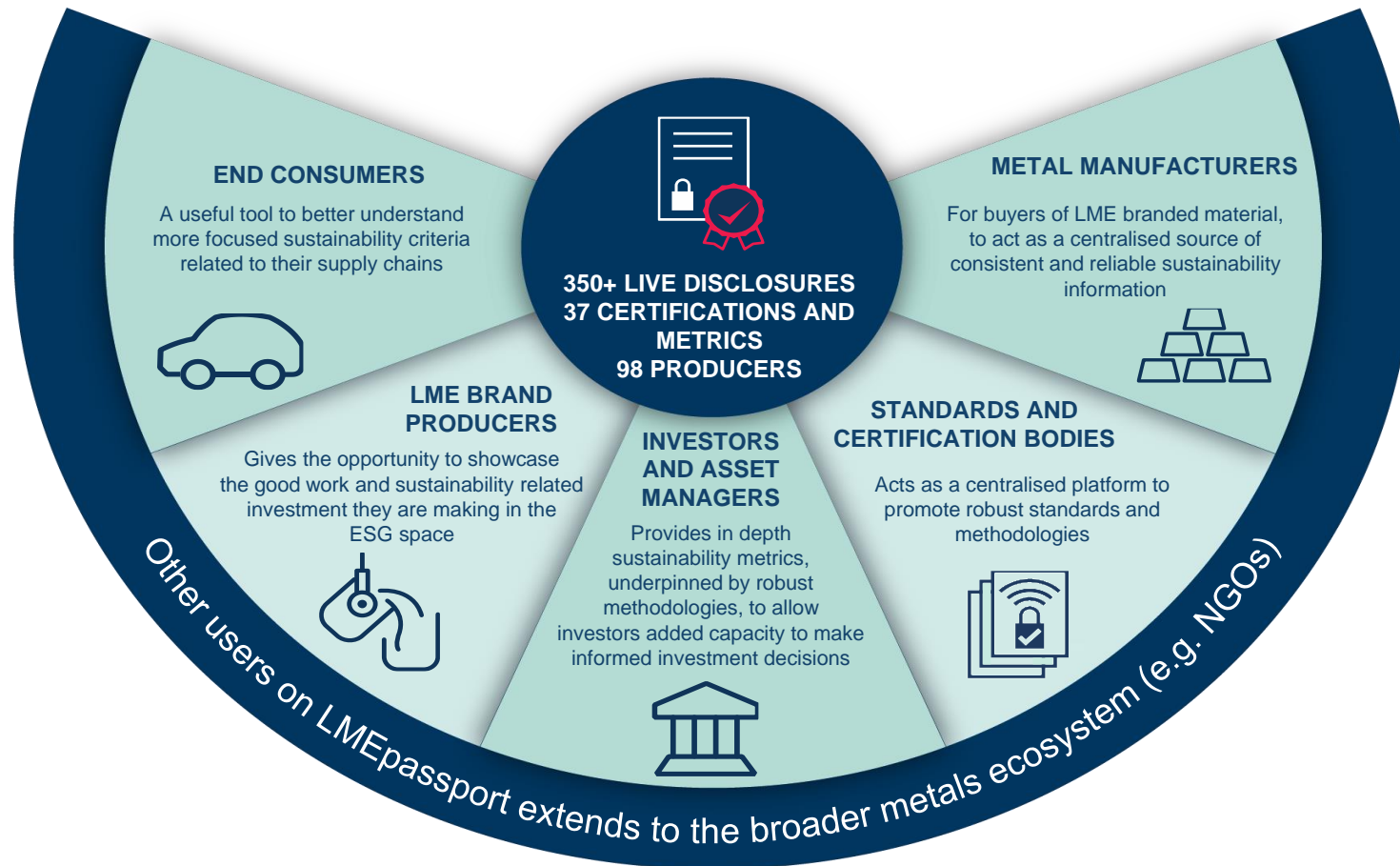
LME Sustainability

- Details regarding the LME's sustainability initiatives can be found [here](#)
- The LME announced a commitment to its own net-zero target of 2040, using the Science Based Target initiative (SBTi)



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 to set up a meeting at one of them

Date	Venue	Conference
2-4 Feb	Kerala	MRAI's 10th IMRC Conference
8-10 Feb	Dana Point	FIA Asset Management Derivatives Forum
9 Feb	Mumbai	LME Mumbai Forum
15 Feb	Singapore	MMSteel Club Steel and Raw Materials Conference
24 Feb	Dubai	Phillip Symposium
26 Feb-1 Mar	Scottsdale	International Zinc & Zinc Oxide Conference
14-16 Mar	Boca	FIA Boca
29-30 Mar	Ho Chi Minh City	Kallanish Asia Steel
17-19 April	Santiago	CRU World Copper Conference
20 Apr	Amsterdam	FOW Trading Amsterdam
24-25 Apr	Yokohama	Asia Pacific Galvanizing Conference



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VP Sales

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