

Nickel: Breakthrough technology may be a game-changer

The nickel industry has always been on the cusp of change, and the latest news that Tsingshan will mass-produce nickel matte could be a game-changer. The risks of battery-grade nickel supply are much reduced. Until a new market equilibrium is found, exchange-traded nickel looks bearish in the short term



Nickel's poor performance in 2023 has been driven by a supply surge from Indonesia

From bifurcation to 're-marriage' within the nickel value chain

The nickel industry has always been on the cusp of change due to evolving technology in producing different types of nickel products, as well as developing new applications such as nickel batteries used in the booming electric vehicle industry. However, the pricing of exchange-traded nickel has been chaotic thanks to industry changes.

1. The bifurcation of the value chain

News that Tsingshan had found a way to convert nickel laterite ores to nickel pig iron (NPI, 2-4% Ni) and feed China's fast-growing stainless steel production triggered a bifurcation in the nickel market. Class 1 nickel, which is called refined nickel, usually has nickel content of over 99%, and this can come in many forms of finished products, including cathode plate, briquette and powders.

Exchange-traded nickel (LME, ShFE) is also treated as Class 1 nickel but further specifies delivery standards. Meanwhile, Class 2 nickel has been growing fast along with stainless steel, and the NPI has been dominating the Ni supply in recent years.

The bifurcation of the Class 1 and Class 2 nickel market in the nickel value chain, and the fact that global exchange-traded nickel is only less than a quarter of the total finished nickel supply has caused difficulties in nickel pricing.

2. The 're-marriage' of Class 1 and Class 2

In the past, the main challenges for nickel sulphate were in having enough high-quality feedstock material like intermediary nickel products, briquettes and powders. There have also been concerns over the viability of mass-produced nickel sulphate via existing methods (pyrometallurgical/hydrometallurgical) to meet future demand from the EV industry.

It seems that Tsingshan has roiled the industry again having just announced a breakthrough in making nickel sulphate by converting nickel laterite ores to NPI and then further to nickel matte. This could mark the 're-marriage' (re-connecting) between Class 1 and Class 2 value chain.

That may be a big relief to Elon Musk!

What are the main implications to markets?

The underlying dynamics between the Class 1 and Class 2 markets have been driving price differentials among different products. The fast-growing NPI capacity, mainly from Indonesia, has been driving strong supply of Class 2 nickel, while there is a shortage of nickel sulphate due to strong demand from the battery sector. As a result, nickel sulphate has been trading at a premium versus both NPI and refined nickel.

However, if the new methods that Tsingshan developed can be widely applied to produce matte and further convert to sulphate, we could see a convergence of Class 1 and Class 2 pricing (based on Ni content). However, there is less clarity about production costs compared to traditional technologies such as using briquettes to produce sulphate.

For now, the message to the market is that the premium within exchanged-traded nickel (part of the Class 1 family) should largely disappear due to this new technology. Or at least the initial knee-jerk reaction is that briquette (part of the LME-traded Class 1 nickel family) has become less critical to producing sulphate given the new way of making feeding stocks (nickel matte). Until a new market equilibrium is found, exchange-traded nickel looks bearish in the short term.

Author

Alissa Lefebvre

Economist

alissa.lefebvre@ing.com

Deepali Bhargava

Regional Head of Research, Asia-Pacific

Deepali.Bhargava@ing.com

Ruben Dewitte

Economist

+32495364780

ruben.dewitte@ing.com

Kinga Havasi

Economic research trainee

kinga.havasi@ing.com

Marten van Garderen

Consumer Economist, Netherlands

marten.van.garderen@ing.com

David Havrlant

Chief Economist, Czech Republic

420 770 321 486

david.havrlant@ing.com

Sander Burgers

Senior Economist, Dutch Housing

sander.burgers@ing.com

Lynn Song

Chief Economist, Greater China

lynn.song@asia.ing.com

Michiel Tukker

Senior European Rates Strategist

michiel.tukker@ing.com

Michal Rubaszek

Senior Economist, Poland

michal.rubaszek@ing.pl

This is a test author

Stefan Posea

Economist, Romania

tiberiu-stefan.posea@ing.com

Marine Leleux

Sector Strategist, Financials

marine.leleux2@ing.com

Jesse Norcross

Senior Sector Strategist, Real Estate

jesse.norcross@ing.com

Teise Stellema

Research Assistant, Energy Transition

teise.stellema@ing.com

Diederik Stadig

Sector Economist, TMT & Healthcare

diederik.stadig@ing.com

Diogo Gouveia

Sector Economist

diogo.duarte.vieira.de.gouveia@ing.com

Marine Leleux

Sector Strategist, Financials

marine.leleux2@ing.com

Ewa Manthey

Commodities Strategist

ewa.manthey@ing.com

ING Analysts

James Wilson

EM Sovereign Strategist

James.wilson@ing.com

Sophie Smith

Digital Editor

sophie.smith@ing.com

Frantisek Taborsky

EMEA FX & FI Strategist

frantisek.taborsky@ing.com

Adam Antoniak

Senior Economist, Poland

adam.antoniak@ing.pl

Min Joo Kang

Senior Economist, South Korea and Japan

min.joo.kang@asia.ing.com

Coco Zhang

ESG Research

coco.zhang@ing.com

Jan Frederik Slijkerman

Senior Sector Strategist, TMT
jan.frederik.slijkerman@ing.com

Katinka Jongkind
Senior Economist, Services and Leisure
Katinka.Jongkind@ing.com

Marina Le Blanc
Sector Strategist, Financials
Marina.Le.Blanc@ing.com

Samuel Abettan
Junior Economist
samuel.abettan@ing.com

Franziska Biehl
Economist, Germany
Franziska.Marie.Biehl@ing.de

Rebecca Byrne
Senior Editor and Supervisory Analyst
rebecca.byrne@ing.com

Mirjam Bani
Sector Economist, Commercial Real Estate & Public Sector (Netherlands)
mirjam.bani@ing.com

Timothy Rahill
Credit Strategist
timothy.rahill@ing.com

Leszek Kasek
Senior Economist, Poland
leszek.kasek@ing.pl

Oleksiy Soroka, CFA
Senior High Yield Credit Strategist
oleksiy.soroka@ing.com

Antoine Bouvet
Head of European Rates Strategy
antoine.bouvet@ing.com

Jeroen van den Broek
Global Head of Sector Research
jeroen.van.den.broek@ing.com

Edse Dantuma

Senior Sector Economist, Industry and Healthcare
edse.dantuma@ing.com

Francesco Pesole
FX Strategist
francesco.pesole@ing.com

Rico Luman
Senior Sector Economist, Transport and Logistics
Rico.Luman@ing.com

Jurjen Witteveen
Sector Economist
jurjen.witteveen@ing.com

Dmitry Dolgin
Chief Economist, CIS
dmitry.dolgin@ing.de

Nicholas Mapa
Senior Economist, Philippines
nicholas.antonio.mapa@asia.ing.com

Egor Fedorov
Senior Credit Analyst
egor.fedorov@ing.com

Sebastian Franke
Consumer Economist
sebastian.franke@ing.de

Gerben Hieminga
Senior Sector Economist, Energy
gerben.hieminga@ing.com

Nadège Tillier
Head of Corporates Sector Strategy
nadege.tillier@ing.com

Charlotte de Montpellier
Senior Economist, France and Switzerland
charlotte.de.montpellier@ing.com

Laura Straeter
Behavioural Scientist
+31(0)611172684
laura.Straeter@ing.com

Valentin Tataru

Chief Economist, Romania

valentin.tataru@ing.com

James Smith

Developed Markets Economist, UK

james.smith@ing.com

Suvi Platerink Kosonen

Senior Sector Strategist, Financials

suvi.platerink-kosonen@ing.com

Thijs Geijer

Senior Sector Economist, Food & Agri

thijs.geijer@ing.com

Maurice van Sante

Senior Economist Construction & Team Lead Sectors

maurice.van.sante@ing.com

Marcel Klok

Senior Economist, Netherlands

marcel.klok@ing.com

Piotr Poplawski

Senior Economist, Poland

piotr.poplawski@ing.pl

Paolo Pizzoli

Senior Economist, Italy, Greece

paolo.pizzoli@ing.com

Marieke Blom

Chief Economist and Global Head of Research

marieke.blom@ing.com

Raoul Leering

Senior Macro Economist

raoul.leering@ing.com

Maarten Leen

Head of Global IFRS9 ME Scenarios

maarten.leen@ing.com

Maureen Schuller

Head of Financials Sector Strategy

Maureen.Schuller@ing.com

Warren Patterson

Head of Commodities Strategy

Warren.Patterson@asia.ing.com

Rafal Benecki

Chief Economist, Poland

rafal.benecki@ing.pl

Philippe Ledent

Senior Economist, Belgium, Luxembourg

philippe.ledent@ing.com

Peter Virovacz

Senior Economist, Hungary

peter.virovacz@ing.com

Inga Fechner

Senior Economist, Germany, Global Trade

inga.fechner@ing.de

Dimitry Fleming

Senior Data Analyst, Netherlands

Dimitry.Fleming@ing.com

Ciprian Dascalu

Chief Economist, Romania

+40 31 406 8990

ciprian.dascalu@ing.com

Muhammet Mercan

Chief Economist, Turkey

muhammet.mercan@ingbank.com.tr

Iris Pang

Chief Economist, Greater China

iris.pang@asia.ing.com

Sophie Freeman

Writer, Group Research

+44 20 7767 6209

Sophie.Freeman@uk.ing.com

Padhraic Garvey, CFA

Regional Head of Research, Americas

padhraic.garvey@ing.com

James Knightley

Chief International Economist, US

james.knightley@ing.com

Tim Condon

Asia Chief Economist
+65 6232-6020

Martin van Vliet

Senior Interest Rate Strategist
+31 20 563 8801
martin.van.vliet@ing.com

Karol Pogorzelski

Senior Economist, Poland
Karol.Pogorzelski@ing.pl

Carsten Brzeski

Global Head of Macro
carsten.brzeski@ing.de

Viraj Patel

Foreign Exchange Strategist
+44 20 7767 6405
viraj.patel@ing.com

Owen Thomas

Global Head of Editorial Content
+44 (0) 207 767 5331
owen.thomas@ing.com

Bert Colijn

Chief Economist, Netherlands
bert.colijn@ing.com

Peter Vanden Houte

Chief Economist, Belgium, Luxembourg, Eurozone
peter.vandenhoute@ing.com

Benjamin Schroeder

Senior Rates Strategist
benjamin.schroeder@ing.com

Chris Turner

Global Head of Markets and Regional Head of Research for UK & CEE
chris.turner@ing.com

Gustavo Rangel

Chief Economist, LATAM
+1 646 424 6464

gustavo.rangel@ing.com

Carlo Cocuzzo

Economist, Digital Finance

+44 20 7767 5306

carlo.cocuzzo@ing.com