
Boliden – Metals for generations to come

Post Q1 2023 General Presentation



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This is Boliden

Our purpose

To provide the metals essential to improve society for generations to come

Our vision

To be the most climate friendly and respected metal provider in the world

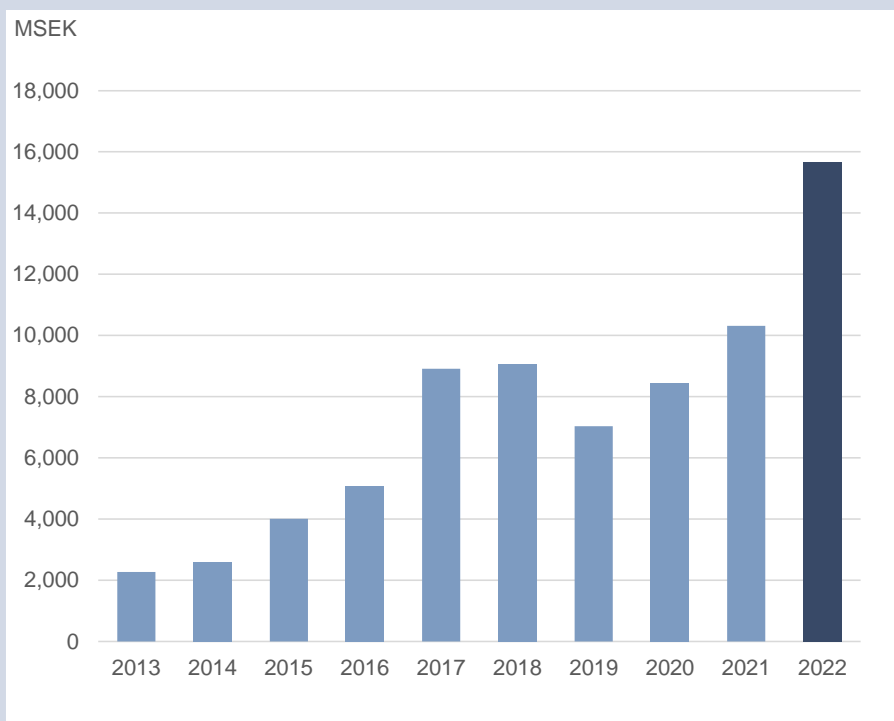
Our values

Care, courage and responsibility. These describe how we work together in our daily operations as well as combine different competencies and experiences in shaping our company culture



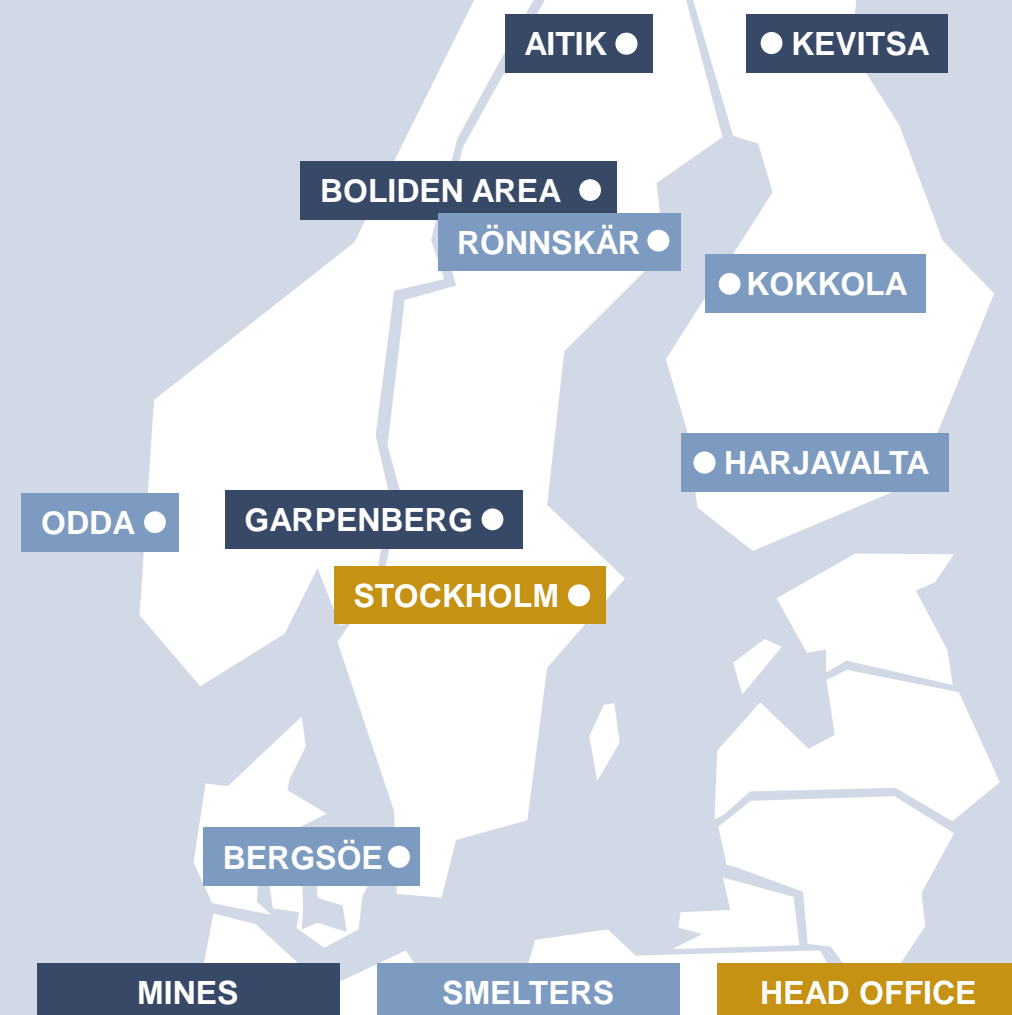
Boliden – Metals for generations to come

EBIT ex. PIR*



- Founded in 1924
- ~6,000 employees
- Mines & Smelters
- Most exposure to Zn and Cu
- Industrial customer base in northern Europe

● TARA



Boliden's contradictions are key to our success...

Small

~6,000 employees

Local

Strong link to local communities

Conservative

Preserving and valuing its culture



Co-worker at the Boliden mine in 1936

Large

Listed on OMX Large Cap

Global

Global network and smelter sourcing

Cutting edge in technology

Highly automated



Present electric trolley at the Aitik mine

... along decentralized management*



Thomas Sundqvist,
Boliden Aitik



Jenny Gotthardsson,
Boliden Garpenberg



Peter Bergman,
Boliden Area



Henrik Grind,
Boliden Kevitsa



Gunnar Nyström,
Boliden Tara



Linn Andersson,
Boliden Rönnskär



Timo Rautalahti,
Boliden Harjavalta



Antti Kontiainen,
Boliden Kokkola



Helen Seim,
Boliden Odda



Fredrik Kanth
Boliden Bergsöe

* On average our 10 General managers have 30 years of work experience from the Metals & Mining industry, whereof 16 years as Boliden employees.

Q1 2023 – Lower metal prices and lower mine production

KEY HIGHLIGHTS

- Lower grades and production disruptions in Mines
- Improved terms and stable production in Smelters
- Inflation pressure

FINANCIAL PERFORMANCE

- EBIT excl. PIR* 3,020 (4,466) MSEK
- Free cash flow -46 (674) MSEK
- Capex 2,918 (1,537) MSEK

PROJECTS

- The projects in Odda, Kristineberg and Aitik are proceeding according to plan

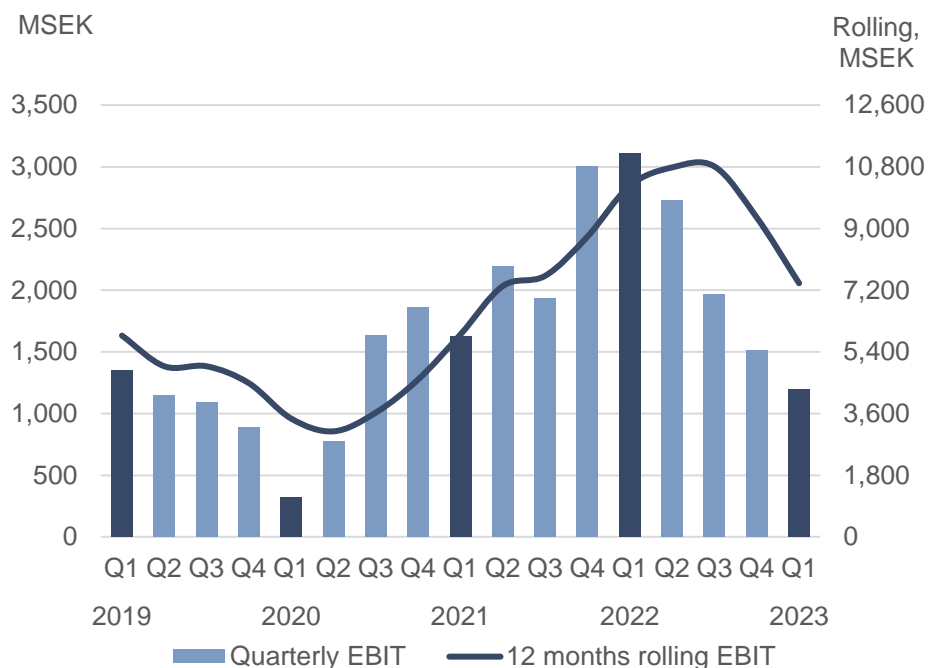


*PIR (Process Inventory Revaluation)

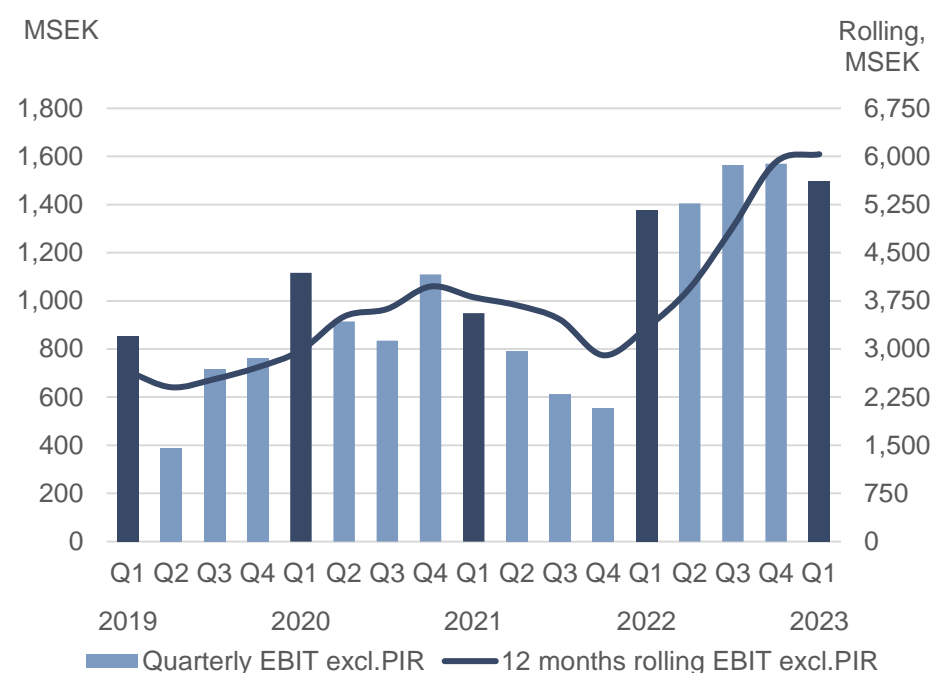
EBIT excl. PIR by Business Area

MSEK	Q1 2023	Q1 2022	Q4 2022
Mines	1,197	3,115	1,512
Smelters	1,497	1,378	1,570
Other/eliminations	326	-27	108
The Group	3,020	4,466	3,190

Mines



Smelters



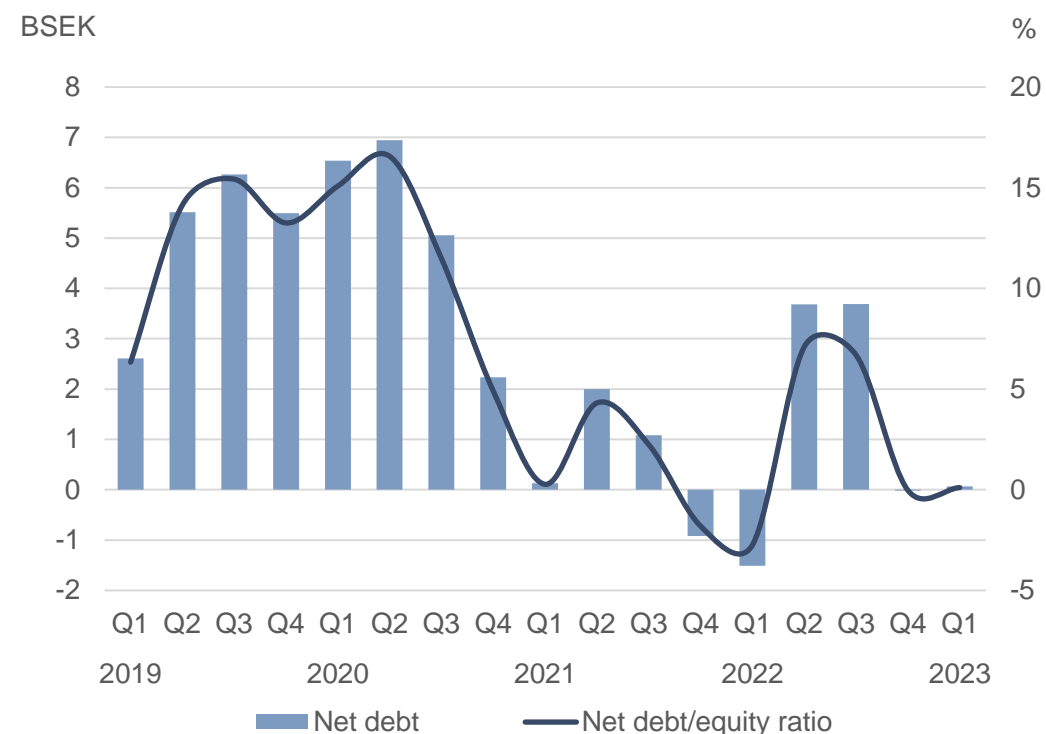
Cash flow

MSEK	Q1 2023	Q1 2022	Q4 2022
EBITDA excl. PIR	4,504	5,844	4,965
Cash flow from working capital	-260	-3,024	3,174
Cash flow from investments	-2,917	-1,536	-3,775
Financial items	-204	-46	-7
Tax paid	-1,036	-620	-1,028
Other	-133	57	191
Free cash flow	-46	674	3,520

Capital structure

BSEK	31 Mar 2023	31 Mar 2022	31 Dec 2022
Total Assets	102.3	88.0	96.4
Capital Employed	64.4	57.5	62.2
Equity	60.8	55.2	58.3
Net debt	0.1	-1.5	0.0
Net debt/equity, %	0	-3	0
Net reclamation liability/equity, %	5	5	5
Average interest rate, %	3.4	1.5	2.5
Net payment capacity	26.3	17.7	23.0
Net reclamation liability	3.0	2.5	2.9

Net debt & Gearing



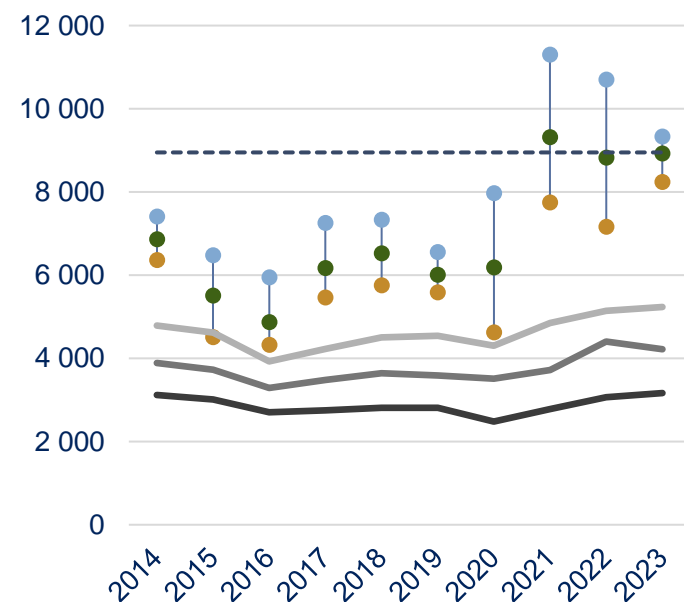
Loan structure

MSEK	Reported value	of which utilized	Maturity		
			< 1 year	1-5 years	> 5 years
Revolving credit facility	13,050	-	-	-	-
Bilateral loans	8,205	8,205	354	6,425	1,426
Bonds	4,450	4,450	-	4,450	-
Commercial papers	-	-	-	-	-
Leases, other	189	189	73	116	-
Total		12,844	427	10,991	1,426

Copper, zinc and nickel prices relative to cash cost

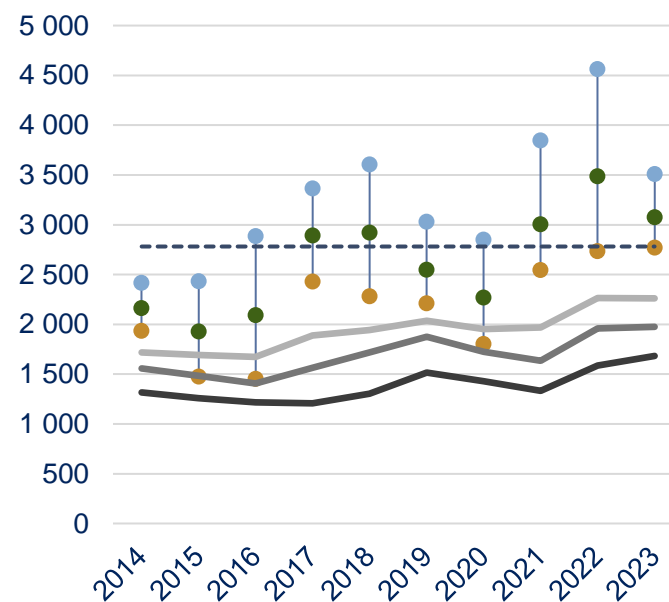
Copper

USD/tonne



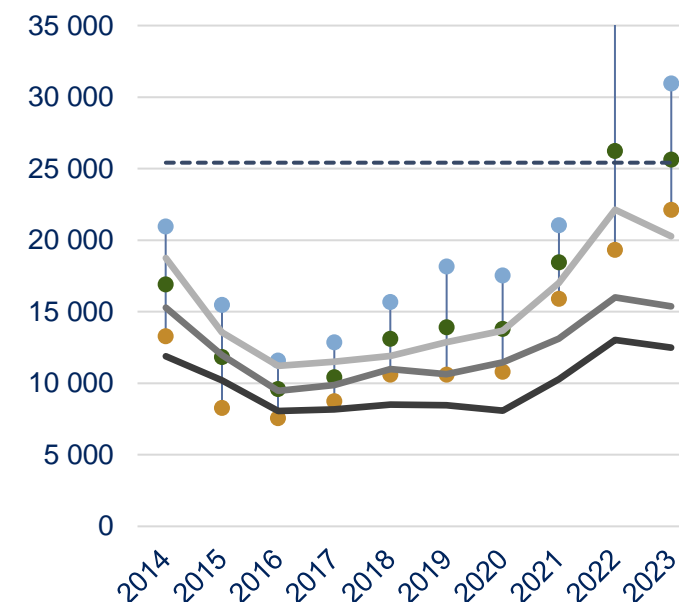
Zinc

USD/tonne



Nickel

USD/tonne



● Average price
 ● Max price
 ● Min price
 — 90th perc
 — 75th perc
 — 50th perc
 - - - - Spot price

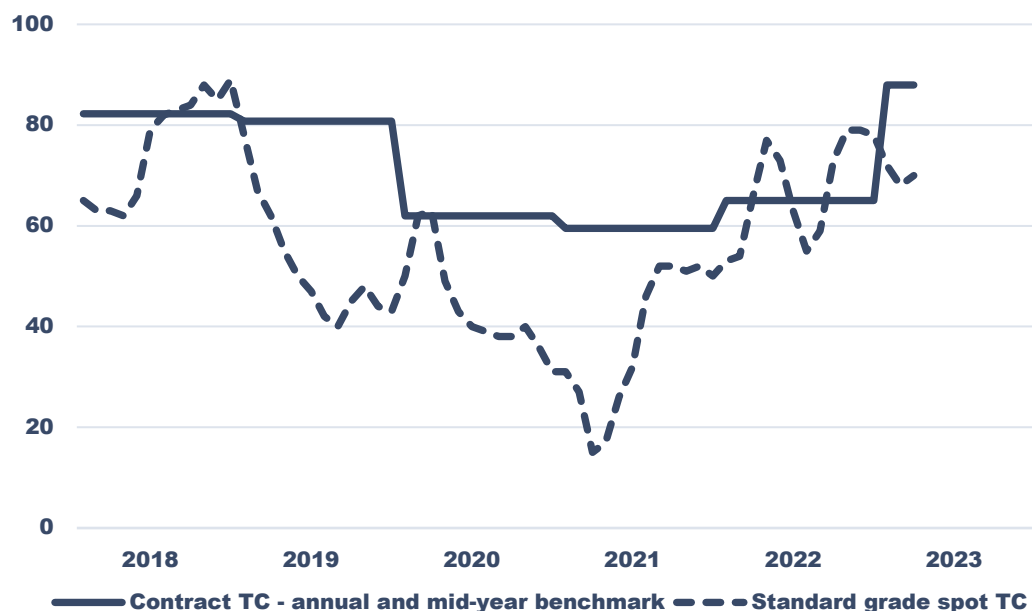
Source: Wood Mackenzie 2022 Composite C1 cash cost* data, Bloomberg April 19, 2023 price data

* Composite costing, C1 cash cost: normal C1 mines for mines with net revenue from one metal > 65 % total net revenue, pro-rata for other mines

Copper and zinc treatment charges

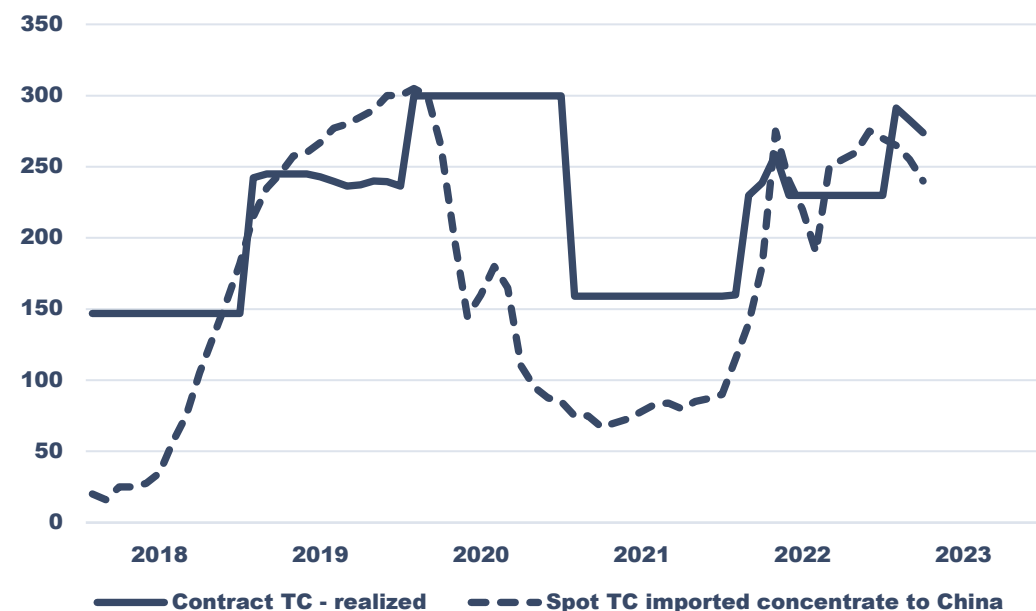
Copper TC

USD/tonne concentrate



Zinc TC

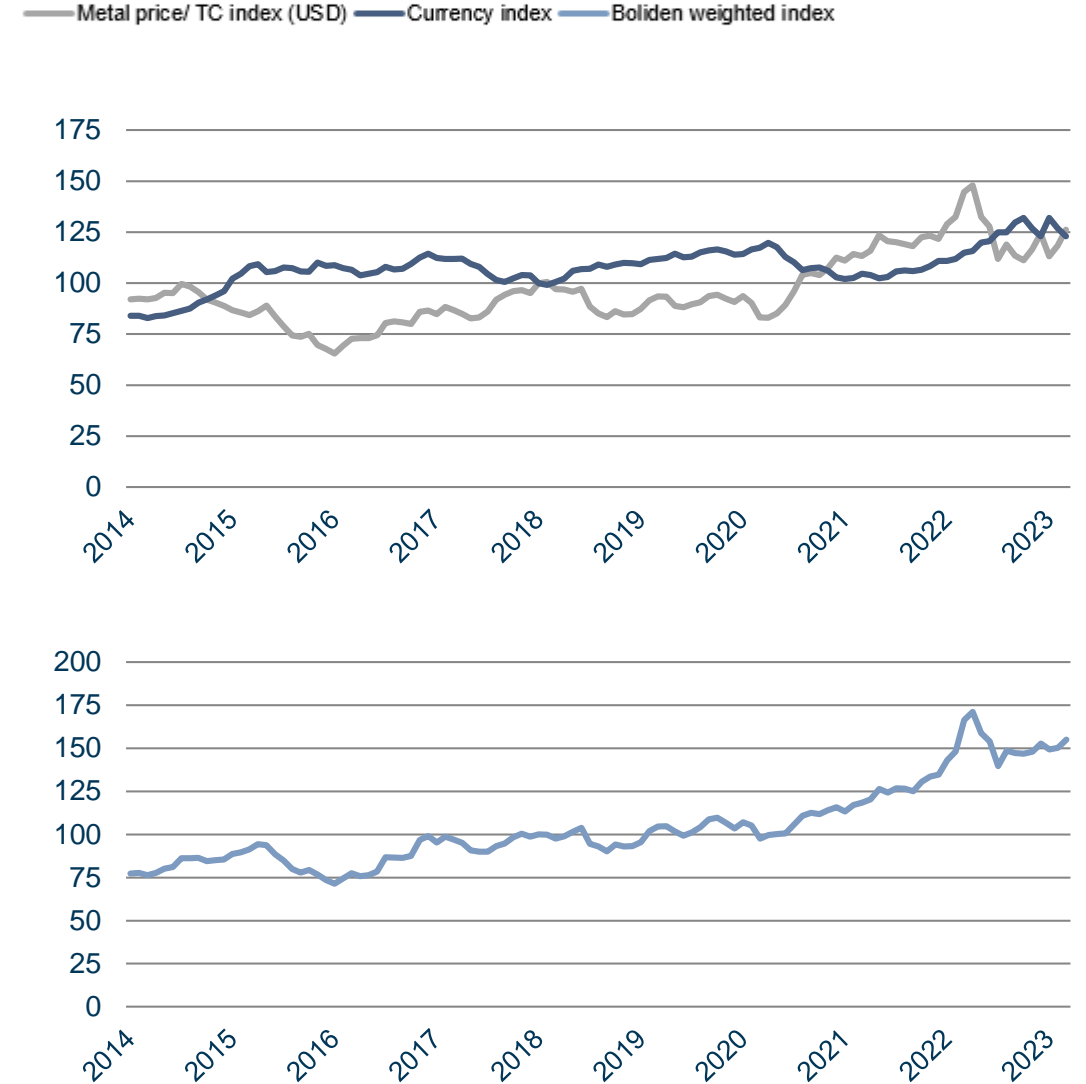
USD/tonne concentrate



Prices and terms

- Weaker metal prices
- Stronger USD
- Increased Zn and Cu TC

Boliden price index*



*Index 100 = 1 January 2018

Long-term commitment to financial targets and dividend policy

**Return on investments
≥ 10%**

**Dividend policy
1/3 of
net profit**

**Net Debt/Equity
at about 20%
at economic
peaks***

*The target also includes net reclamation liability

Mineral Reserves end of 2022

- Aitik
 - Reserves covering full production until 2047 (2050)
 - Cu reserve grade 0.23 (0.22) %

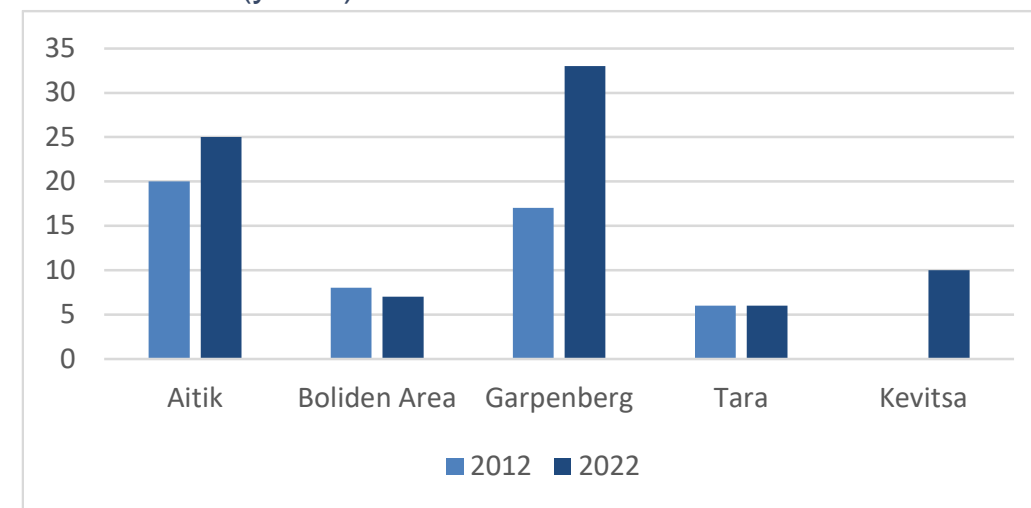
- Boliden Area
 - Reserves covering full production until 2029 (2028)

- Garpenberg
 - Reserves covering full production until 2055 (2049)
 - Zn reserve grade 2.6 (2.8) %
 - Ag reserve grade 87 (93) g/tonne

- Tara
 - Reserves covering full production until 2028 (2027)

- Kevitsa
 - Reserves covering full production until 2032 (2034)
 - Cu reserve grade 0.34 (0.32) %
 - Ni* reserve grade 0.23 (0.22) %

Reserve life (years)**



*Nickel in Sulphides, Ni(S), **2012 and 2022 year end reserves divided by designed full production

Mineral Resources end of 2022

- Aitik
 - 1 147 (917) Mtonnes

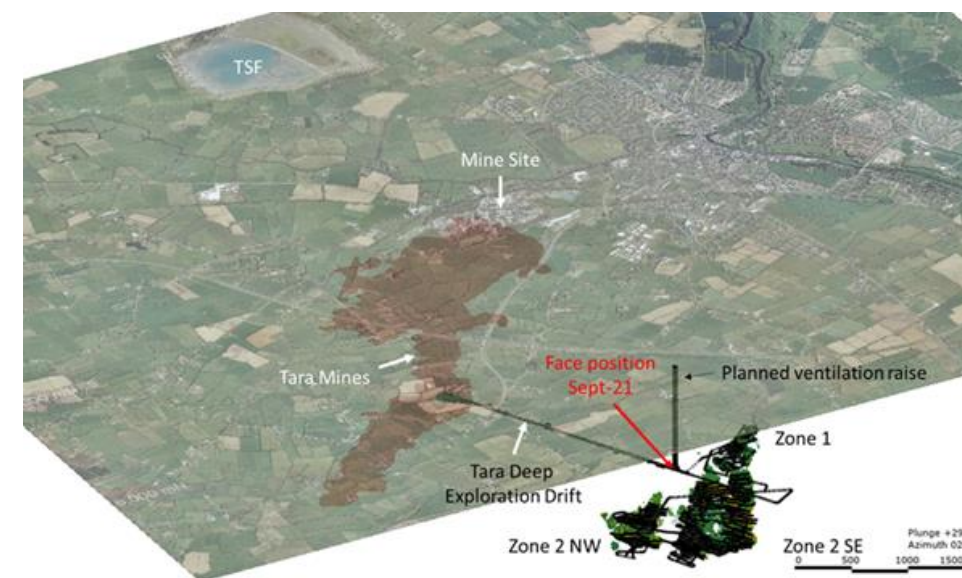
- Boliden Area
 - Strömfors 2.6 (2.6) Mtonnes
 - Mineral Resources 27.2 (26.6) Mtonnes

- Garpenberg
 - New inferred resource “Stationen” discovered 5.5 Mtonnes
 - Mineral Resources 89 (79) Mtonnes

- Tara
 - Tara Mine 13.4 (11.7) Mtonnes
 - Tara Deep
 - Inferred Mineral Resource 27.0 (28.1) Mtonnes
 - Zn grade 8.4 (8.4) %
 - Pb grade 1.6 (1.6) %

- Kevitsa
 - Mineral Resources 142 (139) Mtonnes

Arial view of Tara including Tara Deep



Note! Boliden reports Mineral Resources exclusive of Mineral Reserves to avoid double counting. This means that quantities converted to Mineral Reserve are removed from Mineral Resource.

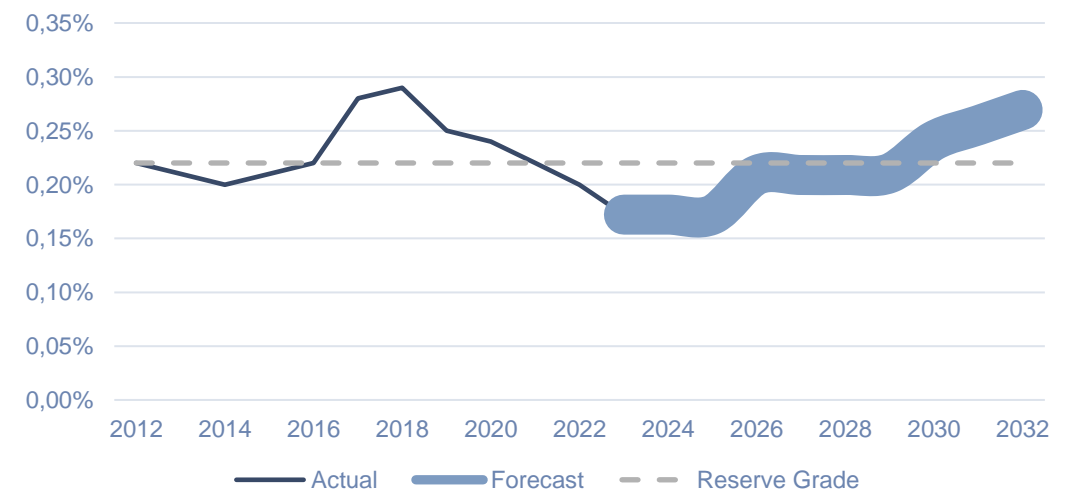
Aitik

- Low grade period
 - Lower grade than reserve average for several years
- Dam investment 2022-2024
 - Strengthening the current dam construction
- Nautanen
 - Mining concession filed Q2 2022
- Implementation of AHS 2023
- Change of existing permit 2023
- Increased stripping from 2024
- Liikavaara
 - Start of operation 2024
- Main permit renewal 2026
 - Change of dam raising methodology



BOLIDEN

Aitik Cu grade



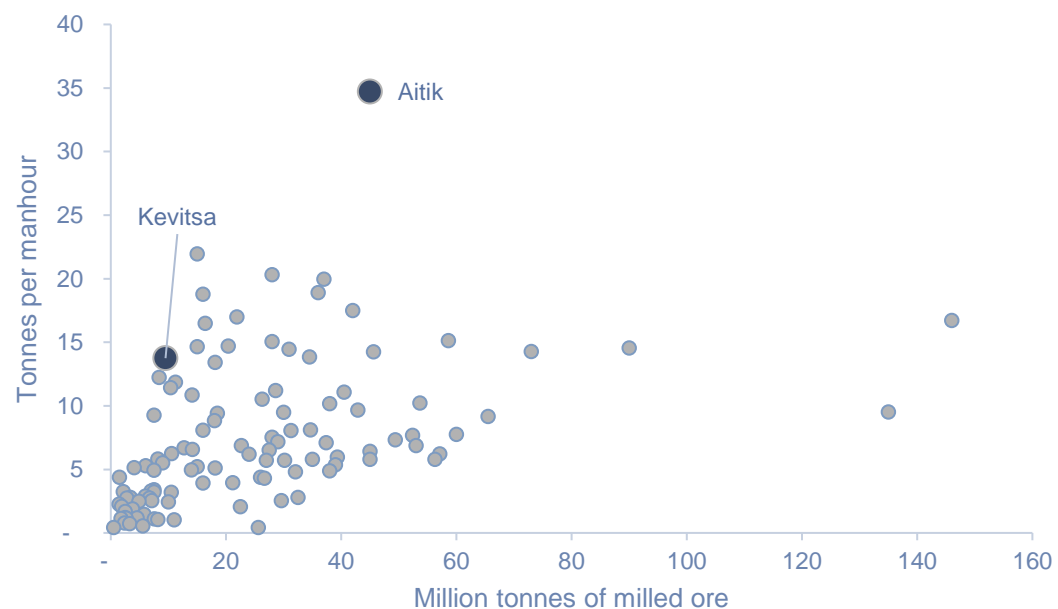
Mines: Productivity improvements

- Garpenberg 3.3 Mtpa in 2023
- Stabilizing Kevitsa 10.0 Mtpa pace
- Implementation of Autonomous Haulage System (AHS) in Aitik
- Positioning system for mixed underground traffic
- Robot charger

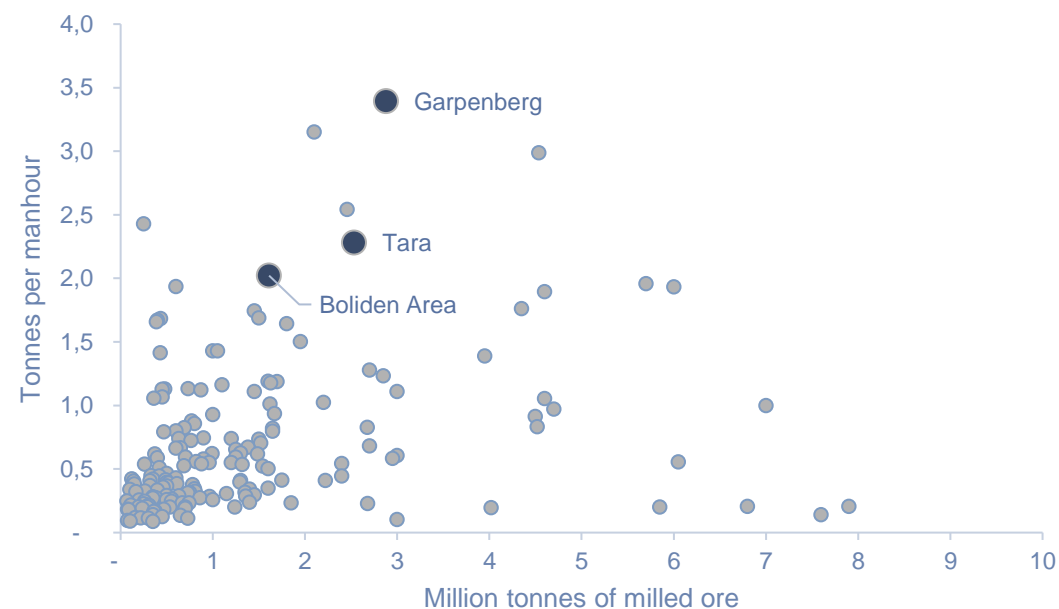


World leading productivity in open pit and underground mines

Copper - Open Pit Mines*



Zinc - Underground Mines*



Source: Wood Mackenzie, 2022 data

*Copper: open pit mines with both open pit / underground operations and concentrator, Zinc: underground and mixed underground / open pit mines

Sustainability as a success factor

- Focus on health and safety improves wellbeing and production stability
- Stringent emission standards lower environmental risk
- Strong know-how in waste management from exploration to closure and reclamation
- Responsible operations through supply chain control
- Dialogs and long-term collaborations with local communities



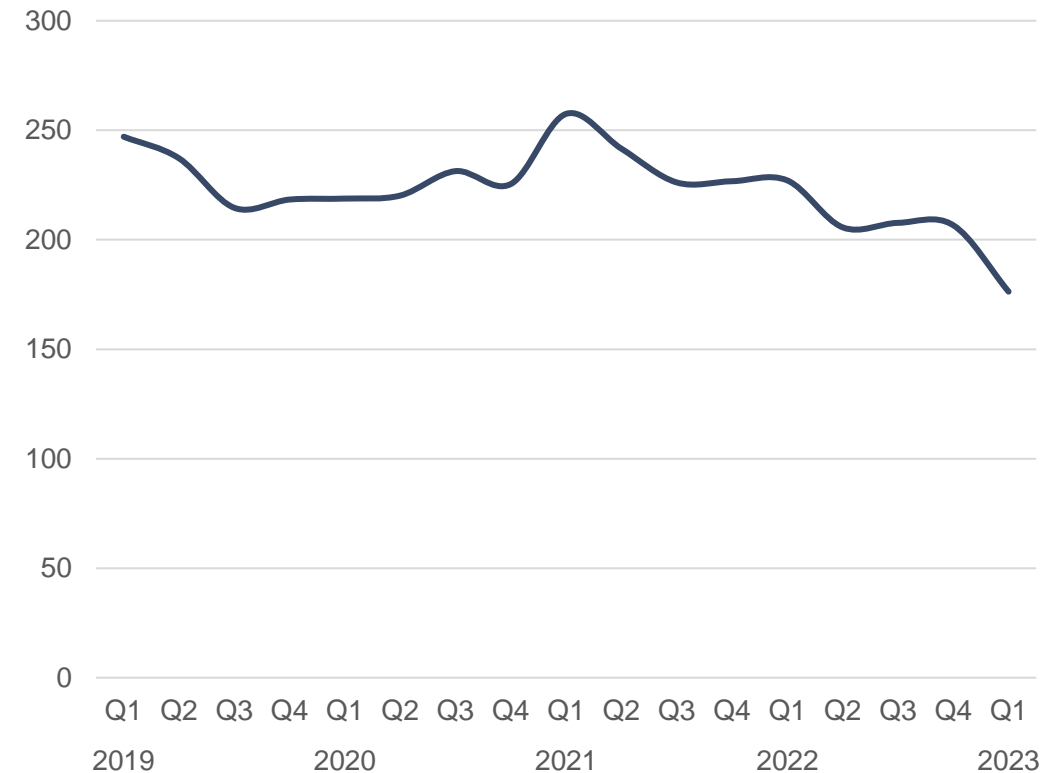
ESG is key in our purpose, vision and values



Q1 2023

- Lost Time Injury Frequency 2.5 (5.2)
- Sick leave 5.8 (7.4) %
- CO₂ emissions 177 (227) Ktonnes

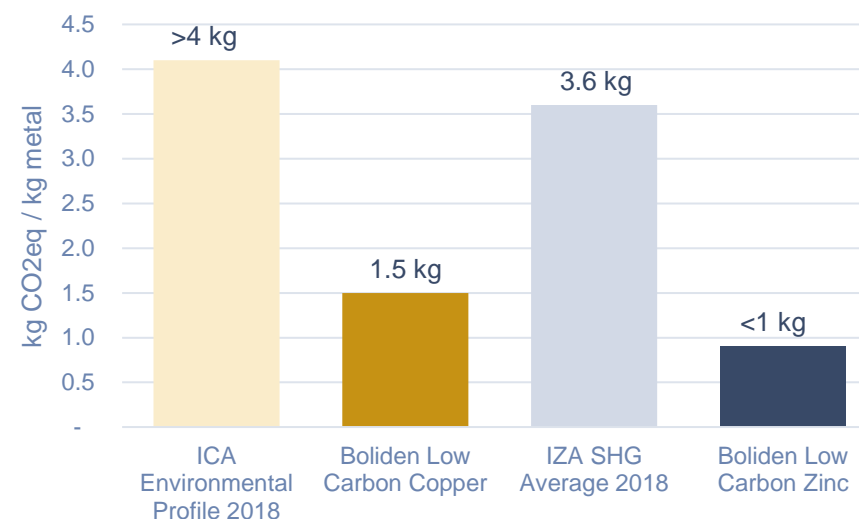
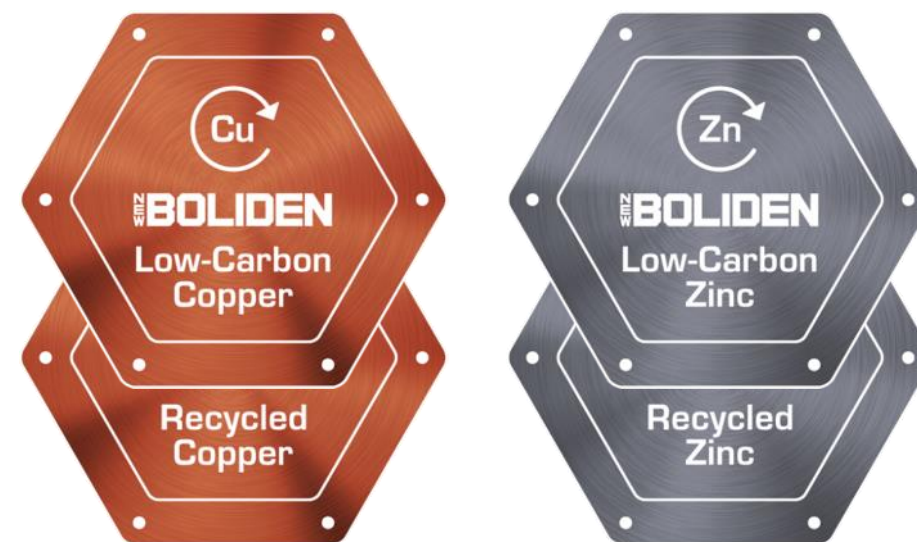
CO₂ total (Scope 1 and 2), Ktonnes



Green Transition Metals: A more climate-friendly product portfolio

- Industry-leading development of metals with low climate footprints
- Product offering with a climate impact significantly lower than global averages
- Low-Carbon Copper <math><1.5 \text{ kg CO}_2\text{e}^*/\text{kg Cu}</math>
 - Compared to a global average of 4.1
- Low-Carbon Zinc <math><1.0 \text{ kg CO}_2\text{e}^*/\text{kg Zn}</math>
 - Compared to a global average of 3.6

**the emissions of our products are calculated from cradle to gate in Scope 1, 2 and 3 according to the Greenhouse Gas Protocol*



Decarbonizing society with Low-Carbon copper

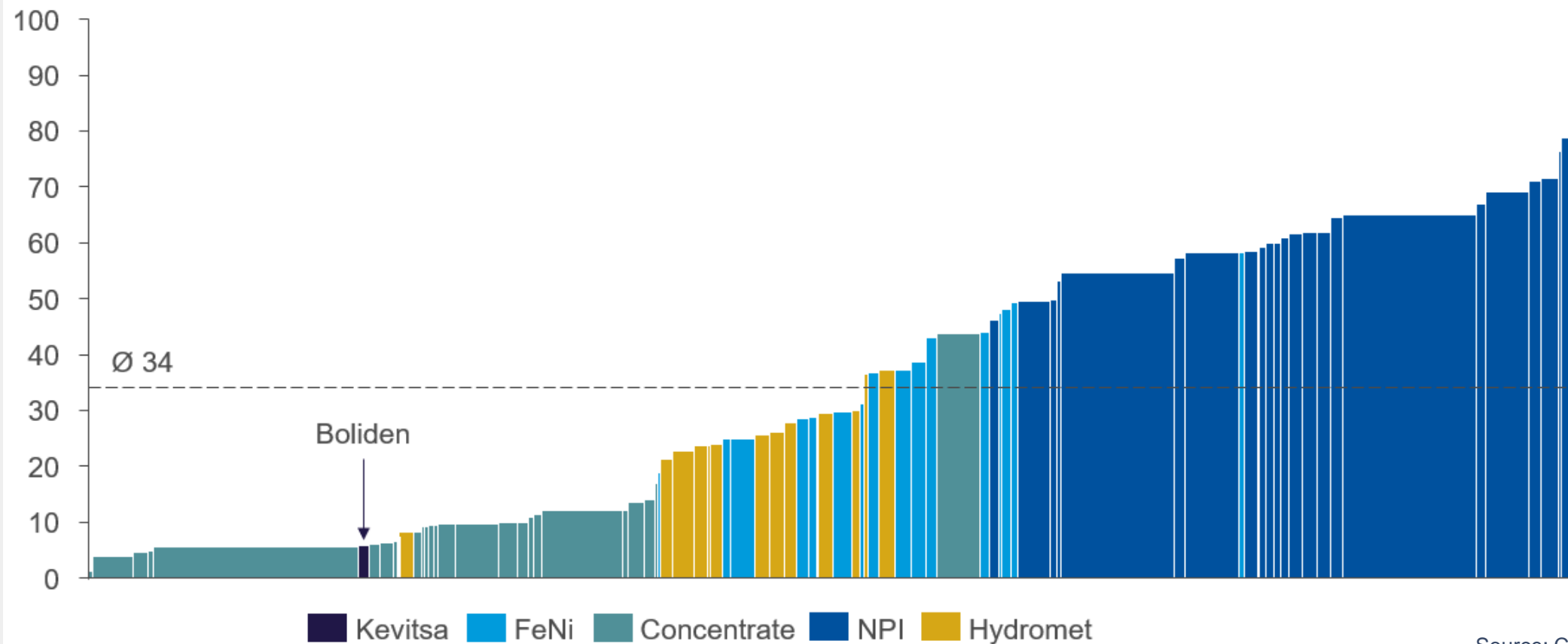
- Boliden's Low-Carbon copper used in one of the world's largest offshore wind farms
- Significant impact on Scope 3, reducing CO₂ footprint with 23,000 tonnes
- In September 2022, Boliden joined the Polestar 0 Project targeting a climate neutral car by 2030



Boliden's nickel has world leading climate performance (Scope 1, 2 and 3)

Estimated emissions intensity to produce finished nickel metal products in 2022 by CRU

tCO₂e/ t Ni eq

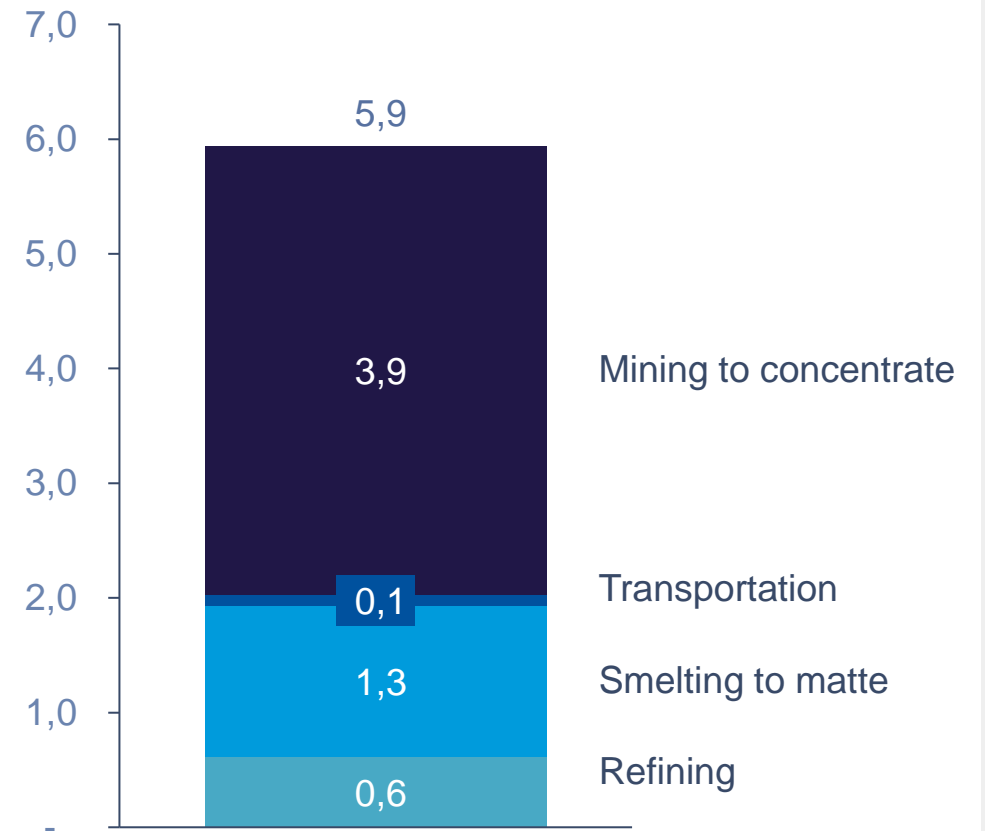


Source: CRU

Boliden's nickel value chain has low carbon footprint

- Low Scope 1: Concentrate from Kevitsa mine to Harjavalta smelter
 - Kevitsa: Trolley assist, mine to mill fragmentation
 - Harjavalta: Unique smelting technology and recovery of waste heat
- Low Scope 2: Finnish grid mix with low CO₂
- Low Scope 3: Boliden nickel matte is processed by refineries with low CO₂ footprint

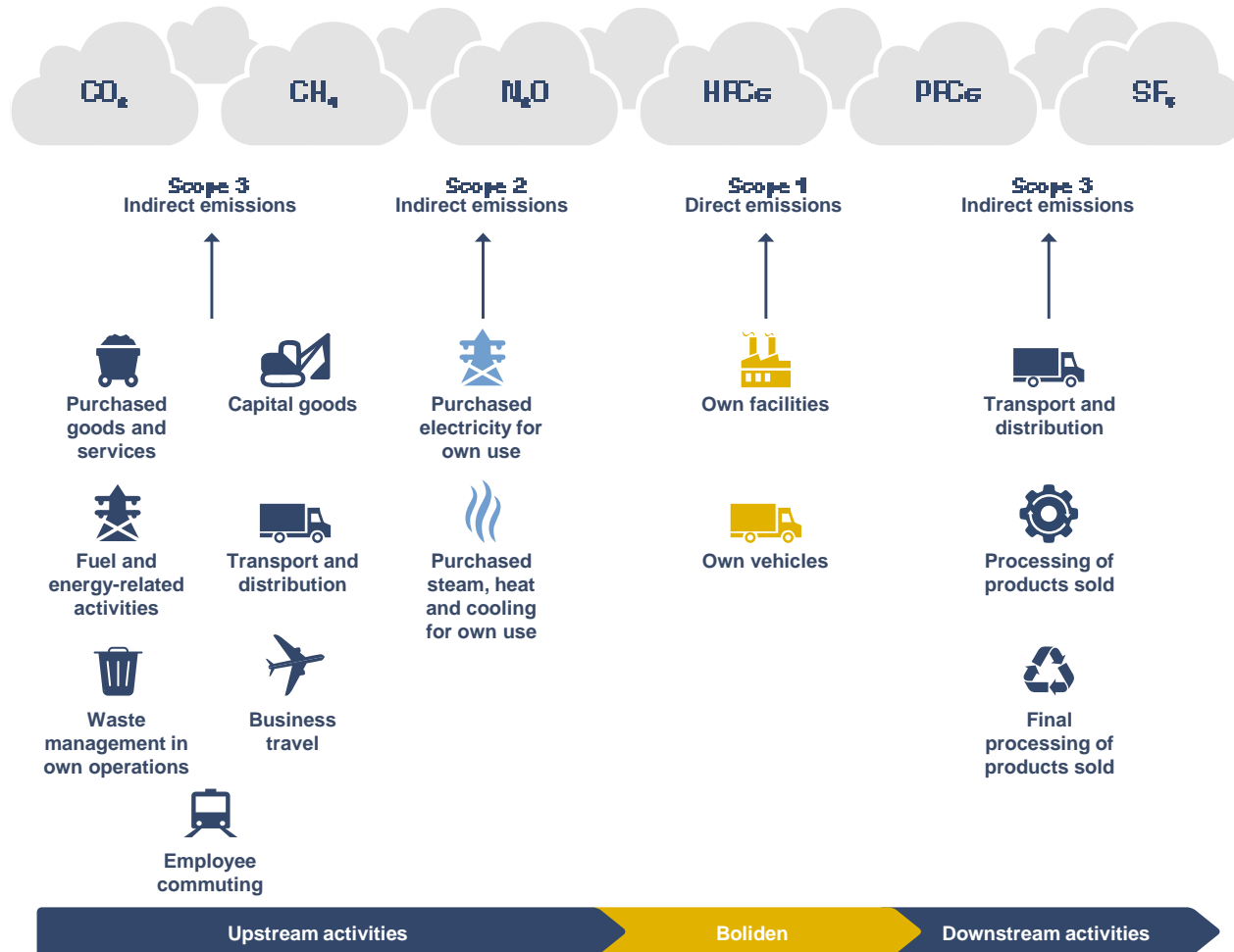
Boliden 2022 Scope 1, 2 and 3 GHG Emissions
tCO₂e/t Ni eq



Source: CRU

Note: Above is based on mining at Boliden Kevitsa, smelting at Boliden Harjavalta and smelter and refining by external refineries

Climate target: mines and smelters



- 40 percent reduction of CO₂e emissions by 2030
 - Scope 1 and 2*, base year 2021
- 30 percent reduction of CO₂e emissions from supply chain and distribution by 2030
 - Scope 3, base year 2021
- Long-term target
 - Net-zero CO₂ emissions by 2050*

* Scope 1 and 2 according to the Greenhouse Gas Protocol.

Climate target: products

- The average of our entire copper production should be in line with the limit value for Low-Carbon Copper; $<1.5 \text{ kg CO}_2 \text{ per kg Cu}$
- The average of our entire zinc production should be in line with the limit value for Low-Carbon Zinc; $<1.0 \text{ kg CO}_2 \text{ per kg Zn}$

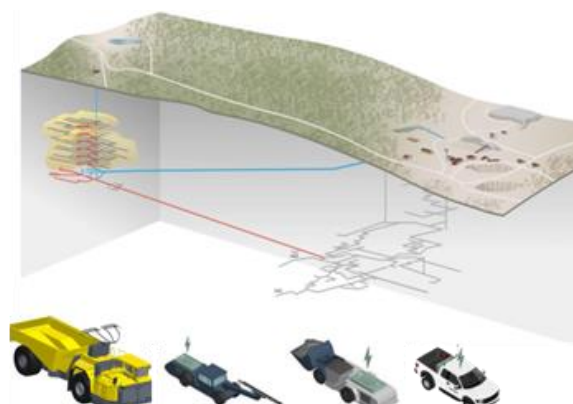


New SBTi CO₂ for Mines

Electric Trolley



Fossil free mining in Kristineberg expansion



Battery truck



Electric transport on public road

- On track to reach the new 2030 target
 - Significant effects seen from 2025
- Good progress on electrification
 - Underground and on public roads
- Increased use of electric trollies in open pits
- Focus on future battery trucks in open pits
 - Supplier dependent
- Test of low CO₂ explosives
 - Nitrate free

Electrifying the open pits

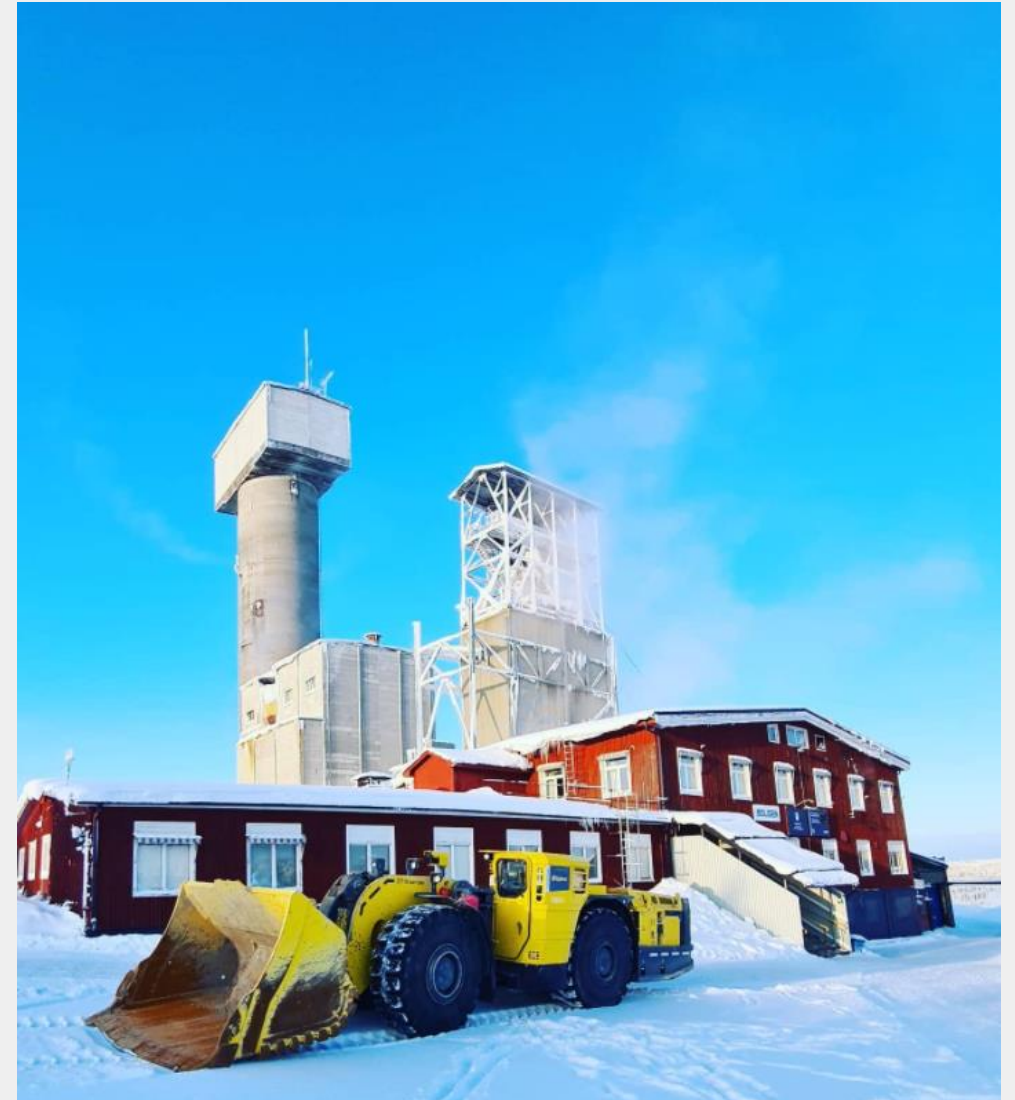
- Successful trolley expansion in Aitik
- Kevitsa trolley ramp-up
- Next steps supplemented by battery power
 - Dynamic recharge with trolley
- Liikavaara
 - Ambition to be fossil free satellite to Aitik



Electric trolley line, Aitik

Electrifying the Boliden Area

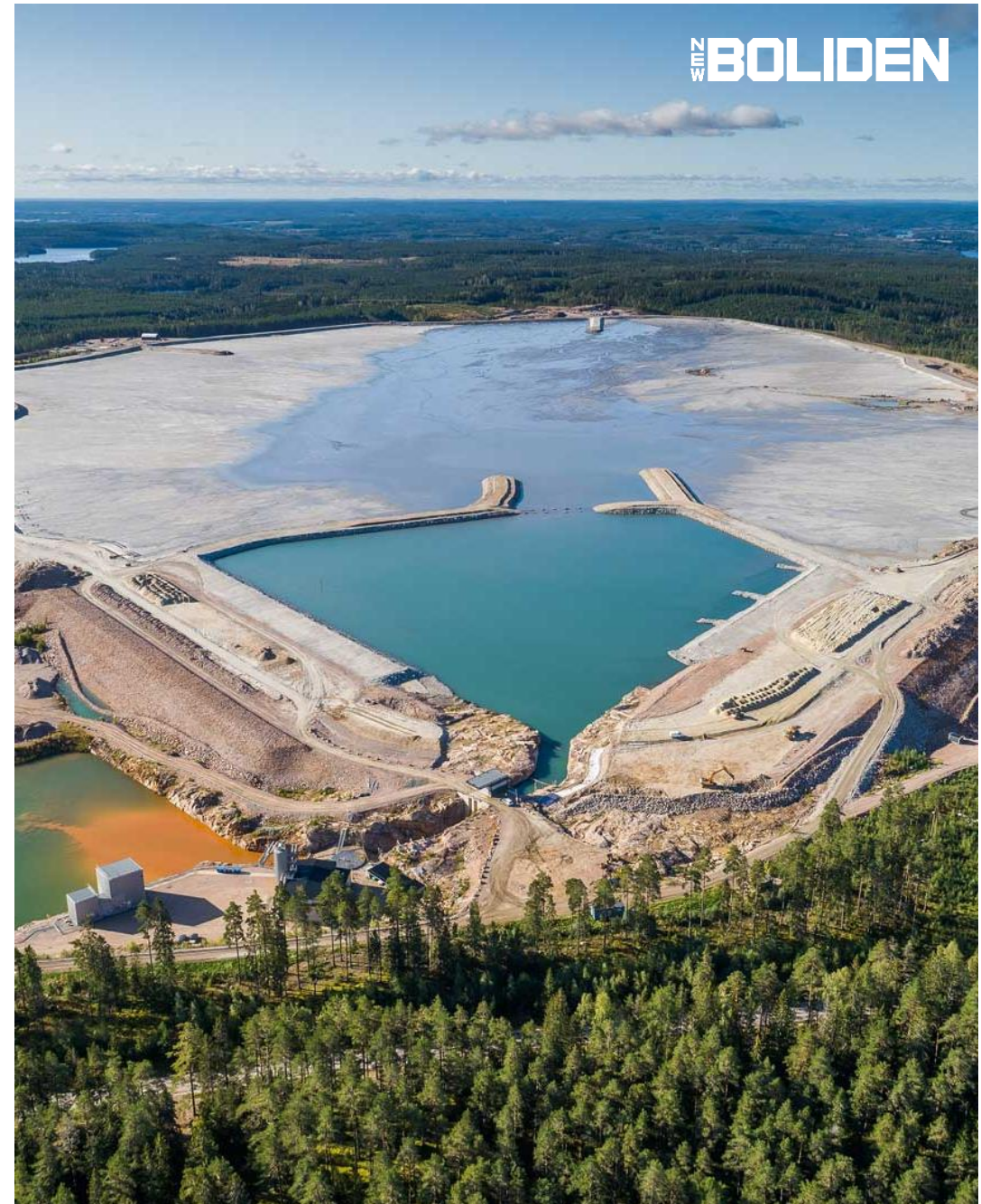
- Kristineberg extension – Boliden’s first fossil free mine
- 1.25 BSEK Capex
- Planned production start 2023
 - 200 kt increased annual milled volume from the Boliden Area
 - Highly automated production
- Development of fossil free transports between mine and mill



Battery driven loader, Kristineberg

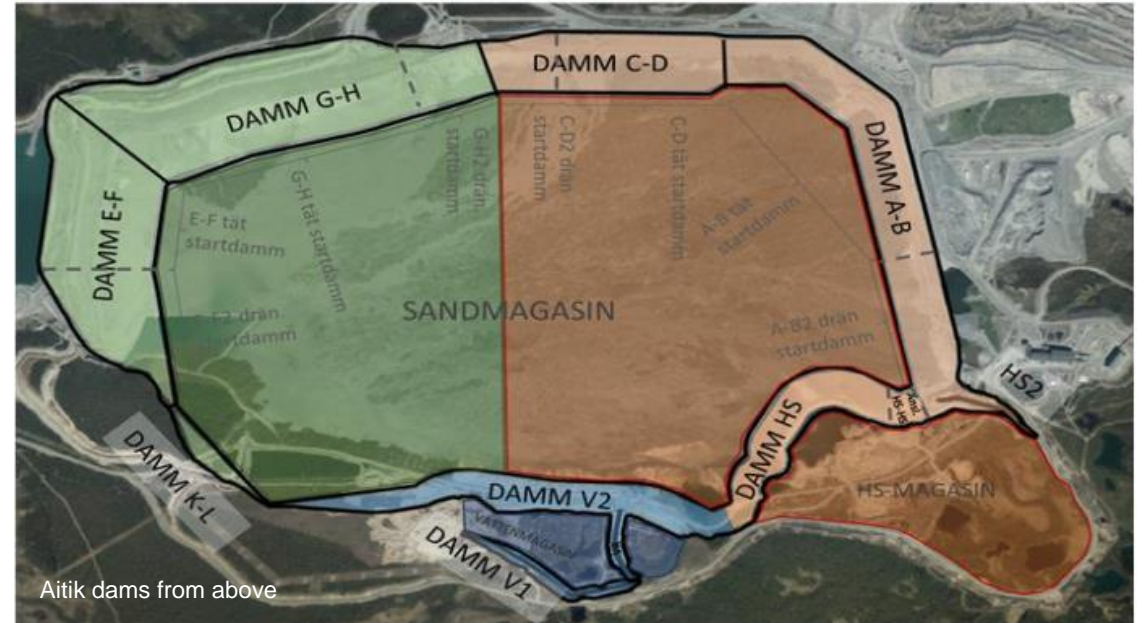
Responsible tailings management of highest priority

- **Change of direction and continuous improvements**
 - The implementation of the Global Industry Standard of Tailings Management framework has led to an overall change in processes with an increased focus on tailings management
 - Continuous improvements ensure further progress in the right direction
- **Safety management system for tailings dams**
 - Key roles with clear responsibility and required expertise
 - Resources for continuous support of life-cycle control and management
 - Identification, assessment and management of changes and risks
 - Preparedness for prevention and handling of emergency situations
 - Recurring internal and external inspections, evaluations, reviews and audits

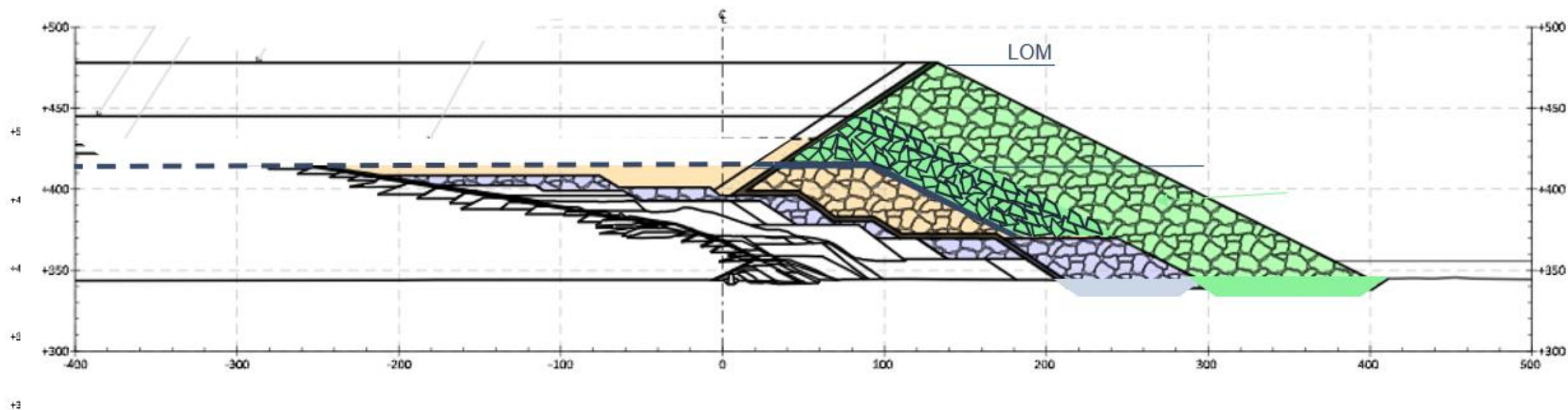


Aitik dams

- Static liquefaction need to be included
 - Global tailings standard
- New geotechnical information
 - Layers prone to static liquefaction detected
- Dams E-F and G-H affected
 - Raising of dam and depositing stopped
- Continued production with depositing in other areas
 - 24 months
- Need to stabilize dams
 - Increased ground work
 - Build of supporting structure
 - Move of infrastructure
- Prepare for long term move to down-stream dam construction
- 5 BSEK Capex
- Permitting initiated
 - Work is allowed to be carried out during permit process



Dam section principle



Mines Major permits

- **Aitik**
 - 2022: Liikavaara environmental permit granted
 - 2023: Permitting for increased waste rock storage and the ongoing dam safety measures and infrastructure changes
 - 2026: Main permit renewal

- **Garpenberg**
 - 2022-23: Permitting for new dam construction method

- **Boliden Area**
 - 2023: Main permit renewal for Kankberg ongoing, allowing increased production and extended production areas

- **Laver**
 - Boliden holds exploration licence
 - Re-application for a mining concession planned before expiry of exploration license in 2024



SBTi CO₂ for Smelters

- By 2030 100% Cu and Zn production on average lower than
 - Low-Carbon Copper < 1,5 tonne CO₂e / tonne Cu
 - Low-Carbon Zinc < 1,0 tonne CO₂e / tonne Zn
- Includes internal and external concentrates
- Boliden's statement when calculating product CO₂ footprint
 - “Cradle to gate, no credits, no offsets”



Acid plant Harjavalta

Decarbonization roadmap at Boliden Smelters

- Recycling Zn from Electric arc furnace dust a CO₂ challenge
- Zinc smelting otherwise with low carbon footprint
 - Excellent climate footprint in Odda
 - Improved grid mix and energy savings in steam/heat benefit Kokkola
- Copper and nickel smelting improve further
 - Utilization of waste heat streams replace fuel oil
- Improvements in lead production
 - Desulphurization process in Bergsöe



Zinc smelter Odda

Boliden Smelters CO₂ footprint reduction targets by 2030 from baseline 2021

SCOPE 1



40% Absolute

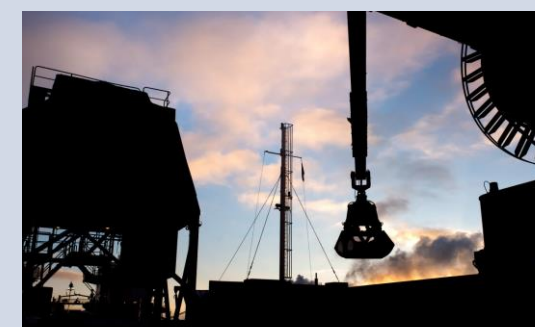
- Reduction agents and auxiliaries
- Raw material handling
- Fuel and internal transport

SCOPE 2



- Electricity
- Steam
- Heat

SCOPE 3



30% Absolute

- Concentrates and secondaries
- Auxiliaries and others
- Fuel and transport

Odda 4.0 – leveraging existing advantages



Odda zinc smelter, Norway

- **Leading environmental footprint**
 - World class CO₂-intensity reduced even further
 - Long term sustainable waste solution
- **State of the art efficiency**
 - New metal recoveries and byproducts
 - High capability to handle complex materials
 - Scale, digitalization and automation
- **Favorable market outlook**
 - Stable increase in Zn demand
 - Limited new Zn smelting capacity
- **Financial return well above Boliden's targets**
 - 850 MEUR investment
 - Improved cash margin
 - Maintenance capex avoidance

Green Framework supporting Boliden's climate roadmap

High level use of proceeds:

- ✓ Investments in Odda for the increased production of Low-Carbon Zink
- ✓ Investments to improve energy efficiency and reduce pollution to water and air
- ✓ R&D including piloting of alternative reduction agents and CCS
- ✓ Recycling, recovery and reuse of waste
- ✓ Low carbon machinery and infrastructure



Outlook post Q1 2023 release



- **Aitik**
 - 2023: Cu 0.17%, Au 0.07 g/tonne
- **Garpenberg**
 - 2023: Zn 3.6%, Ag 100 g/tonne
 - 2023: 3.3 Mtonnes milled production
- **Kevitsa**
 - 2023: Grades slightly below average
 - 2023: 10 Mtonnes milled production
- **Maintenance shutdowns**
 - 2023: -620 (-500) MSEK
- **Inflation pressure remaining but tapering off**
- **Capex**
 - 2023: close to 15 BSEK
 - ~50% related to Aitik dam project and expansions at Odda and Kristineberg

Boliden – Investment Case

- **Stable value chain**
 - Technical know-how
 - Mines and Smelters
 - Base metals and precious metals
 - High corporate responsibility
 - Stable jurisdictions

- **Strong capability to deliver results**
 - High productivity
 - Solid financials
 - Long cultural heritage
 - Own project development
 - Long life for key mines

- **Competitive portfolio**
 - Metals for generations to come
 - Cu, Zn, Ni and Pb
 - Biproducts like Au, Ag, Pt and Pd



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