ASX Announcement

AGM Address

Level 5, 167 Eagle Street
Brisbane QLD 4000
Australia
kglresources.com.au

21 November 2023

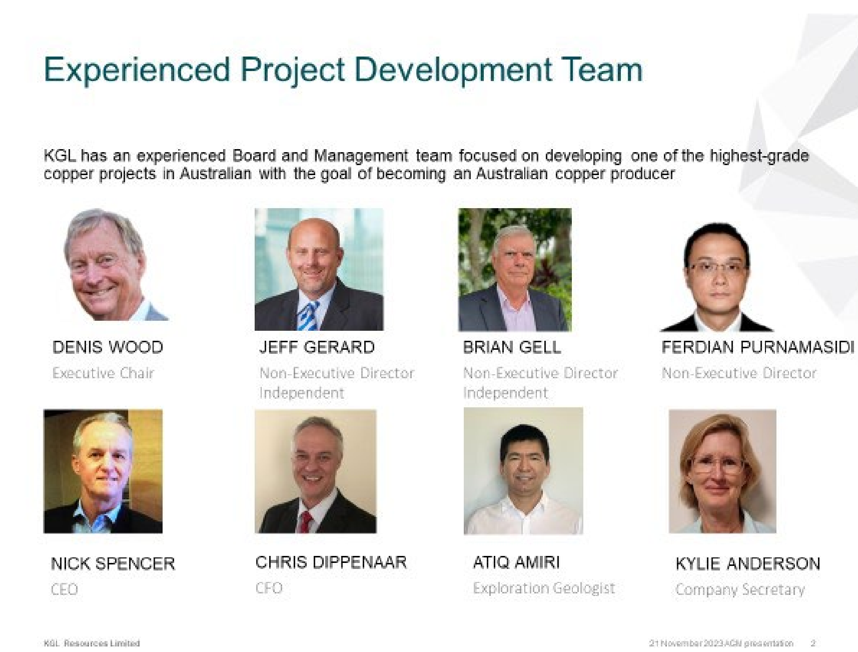
Attached is the presentation and address to be given at today's Annual General Meeting.

This announcement has been approved by the directors of KGL Resources Limited.

Opening

Welcome to today's Annual General Meeting of KGL Resources. I respectively acknowledge that we meet today on the lands of the Turrbal people and pay my respects to their elders, past, present and emerging. I also acknowledge the traditional custodians of the land in the southern Northern Territory, represented by the Central Land Council, are the past and present Traditional Custodians of the land on which Jervois Copper Project is located and pay my respects to their elders, past, present and emerging.

Experienced Development Team



Let me commence our business for today with some introductions. Present are my fellow directors: Mr. Jeff Gerard, Mr Brian Gell and Mr. Ferdian Purnamsidi and our recently appointed CEO, Mr Nick Spencer and our new CFO, Mr Chris Dippenaar.

Ferdian has served on the board since April 2016 representing our largest shareholder KMP Investments. KMP have been and continue to be a strong supporter of the company, participating strongly in the recent capital raising. Ferdian is MD of Mach Energy Australia with recent experience in developing the Mt Pleasant coal mine project which is now in production.

Jeff was appointed by the Board as a director of the Company on 31 May 2022 after an extensive career with Glencore. Brian was appointed by the Board in April 2023 and brings over 40 years of experience in the mining industry to KGL.

And Nick has been with us since September and has already been to site and met with all of the key stakeholders in the Jervois Project. Nick has over 30 years of mining experience and has a track record of successfully developing and operating mining projects.

Also present in the front row is Kylie Anderson, our Company Secretary.

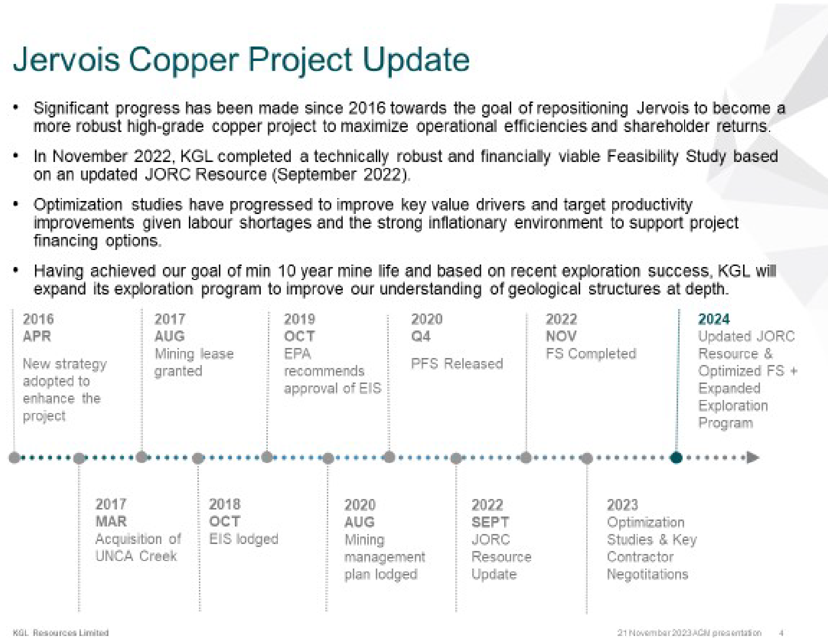
We also have present Mr. Anthony Whyte, representing our auditor BDO.

Developing projects in today's environment of high cost inflation and labour shortages is challenging, particularly with copper prices well below the required price to incentivize a material increase in new production.

We are pleased to have recruited Nick and Chris to the KGL team. We believe we have the right team to take this project forward and create significant value for shareholders over time without taking on oversized risks or resorting to massive dilutionary capital raisings at the bottom of the copper cycle to start construction at any cost. This has not ended well for many projects.

We have successfully concluded a number of capital raisings over the last few years to progress the project. Where we believe the company is trading at a substantial discount to its inherent value, we have rewarded shareholders for their continued support with the right of first refusal as we continue to progress the Jervois Project along the development pathway and grow the value of this exciting Project. I'd like to thank them for their valuable support.

Jervois Copper Project Update



Since joining the Board in 2015 and becoming a major investor in the company, we have repositioned Jervois to become a more robust high-grade copper project to maximize operational efficiencies and shareholder returns. Contrast that today with a growing number of projects considering development with grades of 0.2%-0.3%. Ore quality is diminishing around the world as existing deposits are depleted. There has also been a lack of new high grade discoveries over the last 10-15 years.

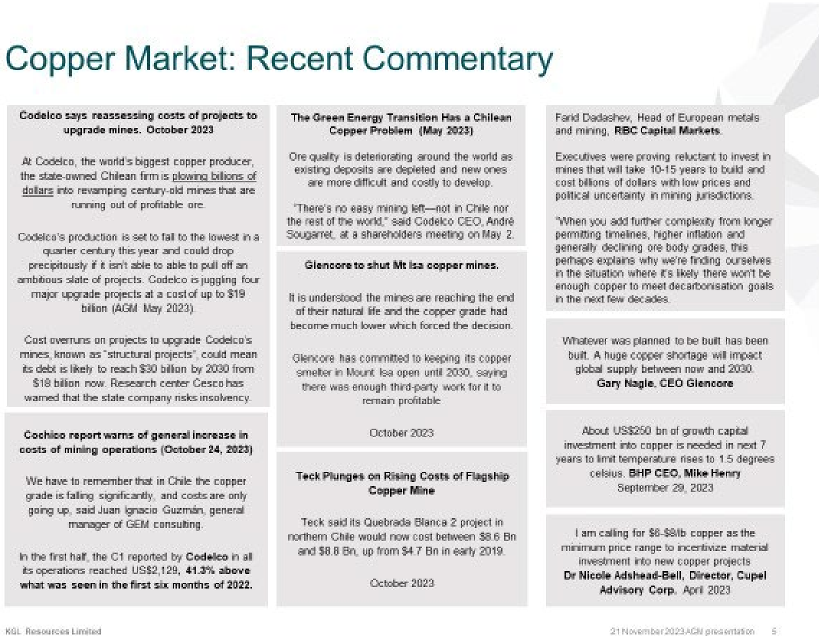
With an average grade of 2% copper, we are one of the highest grade undeveloped projects in the country. In an environment of strong inflationary pressures, high fuel costs and labour shortages, achieving maximum operational efficiency is important to long term sustainability and minimizing KGL’s carbon footprint.

Since presenting the results of our FS at last year’s AGM, we have focused on Optimisation Studies to impove key value drivers and target productivity improvements to support financing options. We have particularly focused on ways to reduce the cost and the number of people due to skilled labour shortages including doubling the size of the equipment in the open cuts.

Having achieved our goal of a minimum 10 year mine life, we have also expanded our exploration program to improve our understanding of the geological structures at depth for the Jervois mineral field.

I’ll now hand over to Nick to take us through our plans for 2024.

Copper Market Commentary



Copper Market: Recent Commentary

Codelco says reassessing costs of projects to upgrade mines. October 2023

At Codelco, the world's biggest copper producer, the state-owned Chilean firm is plowing billions of dollars into revamping century-old mines that are running out of profitable ore.

Codelco's production is set to fall to the lowest in a quarter century this year and could drop precipitously if it isn't able to able to pull off an ambitious slate of projects. Codelco is jugging four major upgrade projects at a cost of up to $19 billion (AGM May 2023).

Cost overruns on projects to upgrade Codelco's mines, known as "structural projects", could mean its debt is likely to reach $30 billion by 2030 from $18 billion now. Research center Cesco has warned that the state company risks insolvency.

Cochico report warns of general increase in costs of mining operations (October 24, 2023)

We have to remember that in Chile the copper grade is falling significantly, and costs are only going up, said Juan Ignacio Guzmán, general manager of GEM consulting.

In the first half, the C1 reported by **Codelco** in all its operations reached US$2,129, **41.3% above what was seen in the first six months of 2022.**

The Green Energy Transition Has a Chilean Copper Problem (May 2023)

Ore quality is deteriorating around the world as existing deposits are depleted and new ones are more difficult and costly to develop.

"There's no easy mining left—not in Chile nor the rest of the world," said Codelco CEO, André Sougarret, at a shareholders meeting on May 2.

Glencore to shut Mt Isa copper mines.

It is understood the mines are reaching the end of their natural life and the copper grade had become much lower which forced the decision.

Glencore has committed to keeping its copper smelter in Mount Isa open until 2030, saying there was enough third-party work for it to remain profitable.

October 2023

Teck Plunges on Rising Costs of Flagship Copper Mine

Teck said its Quebrada Blanca 2 project in northern Chile would now cost between $8.6 Bn and $8.8 Bn, up from $4.7 Bn in early 2019.

October 2023

Farid Dadashev, Head of European metals and mining, **RBC Capital Markets**.

Executives were proving reluctant to invest in mines that will take 10-15 years to build and cost billions of dollars with low prices and political uncertainty in mining jurisdictions.

"When you add further complexity from longer permitting timelines, higher inflation and generally declining ore body grades, this perhaps explains why we're finding ourselves in the situation where it's likely there won't be enough copper to meet decarbonisation goals in the next few decades.

Whatever was planned to be built has been built. A huge copper shortage will impact global supply between now and 2030.
Gary Nagle, CEO Glencore

About US$250 bn of growth capital investment into copper is needed in next 7 years to limit temperature rises to 1.5 degrees celsius. **BHP CEO, Mike Henry**
September 29, 2023

I am calling for $6-$8/lb copper as the minimum price range to incentivize material investment into new copper projects
Dr Nicole Adshead-Bell, Director, Cupel Advisory Corp. April 2023

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The copper market has traditionally been seen as an indicator of economic activity. That is changing with the emergence of a coordinated effort globally to reduce emissions to Net Zero by 2050 which is forecast to double the demand for copper by 2035.

However, the industry is going to face significant challenges in meeting that demand.

We have highlighted a number of recent comments on the industry to illustrate the point that this time its different.

In an article titled "The Green Energy transition has a Chilean Copper Problem", the author noted that ore quality is deteriorating around the world as existing deposits are depleted and new ores are more difficult and costly to develop. The CEO of the world's largest copper producer, Codelco, noted "There's no easy mining left – not in Chile nor the rest of the world". Codelco is currently juggling upgrades to mines that have been operating for over 100 years that are currently running out of profitable ore. The cost of the upgrades has been estimated at US$19 billion. However, Codelco is getting hammered by cost overruns, lower production tonnages and rising production costs.

Glencore has recently announced its intention to close its Mt Isa copper mines by 2025 but has committed to keeping the smelter open until 2030.

Teck recently announced rising costs on its flagship copper project in northern Chile with the capital costs increasing from $4.7 Bn in 2019 to US$8.8 Bn today.

In terms of meeting demand over the next few years, Gary Nagle, CEO of Glencore, notes that whatever was planned to be built has been built.

Industry participants are suggesting the copper price needs to rise to US$6-$8/lb to incentivize a material increase in new copper production.

Derisking the project and growing the value in 2024

In light of these significant industry challenges, we believe KGL is well positoned to progress development of the Jervois Project as we focus on derisking and growing the value of the Project.

KGL Resources

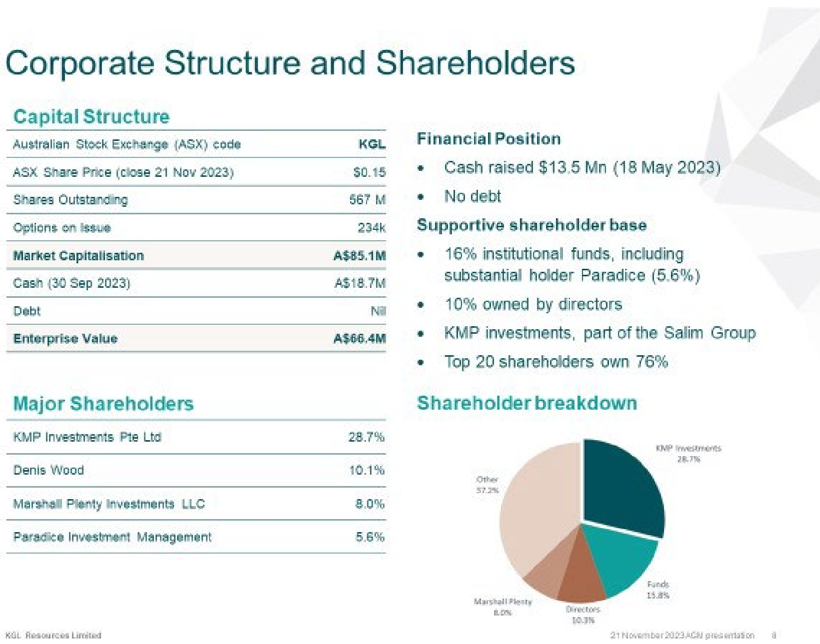
KGL has made significant progress along the road to becoming an Australian copper producer. Despite the difficult inflationary environment, global uncertainties and other challenges experienced over the last couple of years, the FS delivers an extended mine life of 11.75 years with an average grade of resource of over 2% to achieve a NPV of A$241 million, assuming a long term copper price of A$4.23/lb.

We have confirmed near term growth opportunities based on the most recent exploration drilling results for resource and mine life extensions. Funding options are being considered.

We have an offtake with Glencore, an experienced development team and a supportive mining jurisdiction. Glencore has committed to keeping its copper smelter in Mount Isa open until 2030, saying there was enough third-party work for it to remain profitable

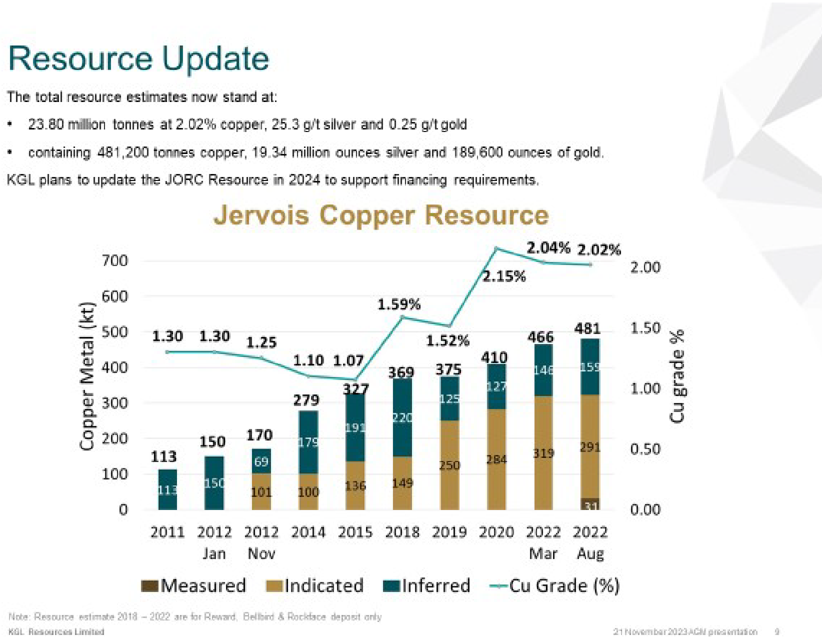
And finally, KGL provides investors with exposure to an exciting independent pure-play copper company with all necessary approvals leveraged to strong copper market fundamentals driven by a forecast long term structural deficit in the copper market associated with the clean energy transition to Net Zero by 2050.

Corporate Overview



KGL has 567 million shares outstanding, a market capitalization of A$85 million, cash on hand as at 30 September 2023 of $18.7 million and a very stable and supportive shareholder base. KGL is a tightly held stock with the top 20 shareholders owning 76% of the company. A large portion of our shareholder base is represented by high-net-worth investors who have proven to be extremely supportive through periods of market volatility.

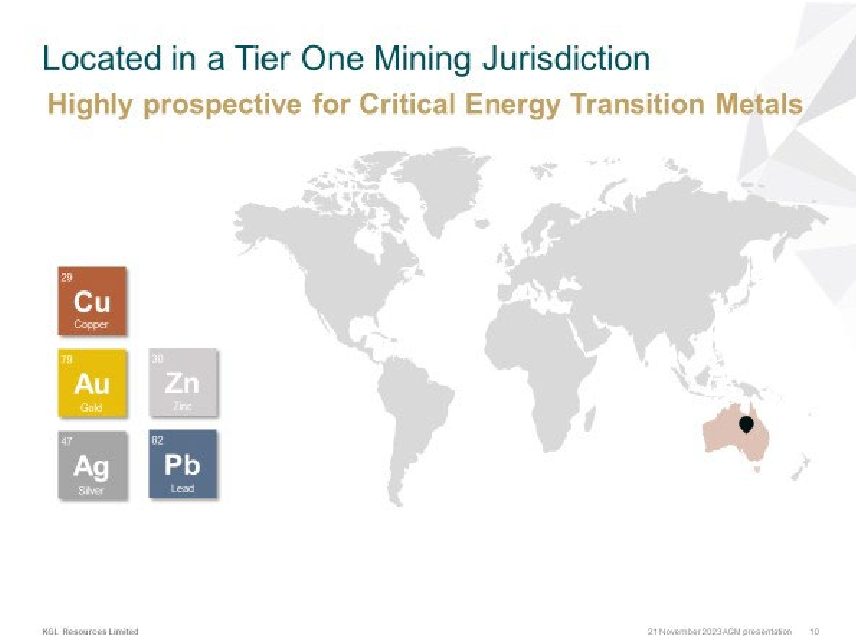
Resource Update



In 2022, we announced a JORC Resource update to support the FS which reflected a 25% increase in Ore Reserves to 11.7 Mt at 2.1% Cu, 0.29 g/t Au and 29.8% g/t Ag when compared to the Dec 2020 PFS which was a period severely impacted by COVID restrictions. This chart demonstrates the dramatic transformation of the project doubling the copper grade from ~ 1.0% in 2015 to ~ 2.0% today.

However, labour shortages continued to hamper productivity of drilling operations in 2022 and the first half of 2023. We believe we have resolved these issues and we expect the 2024 drilling program to have three diamond drill rigs onsite to progress infill drilling at Reward to increase the portion of the resource in the measured category and to expand the exploration program to include additional targets at Rockface and deep exploration drilling to improve our understanding of the geological structures at depth.

Located in a Tier One Mining Jurisdiction



KGL also benefits from the location of the Jervois Copper project in a Tier One mining Jurisdiction, in a highly prospective region for critical energy transition metals, in a low sovereign risk country, close to processing facilities and on the doorstep of the major growth markets of Asia.

Feasibility Study Highlights

Feasibility Study: Highlights

The Feasibility Study confirmed the Jervois Copper Project is technically robust and financially viable with a copper price of US$4.23/lb and supports a high-grade copper mine with production for 11.25 years.

The Project is well positioned to benefit from the expected long-term structural deficit in copper and the copper price increase required to incentivize new production.

Recent commentary from industry participants are calling for $6-$8/lb copper as the minimum price range to incentive material investment into new copper projects*.

	Spot Prices 3 Nov 2022	Feasibility Study	"Meet future demand"	"Bullish price forecast" [4]
Copper Price (US$)	$3.49/lb [1] 7,700/t	4.23/lb [2] 9,326/t	5.90/lb [3] 13,000/t	6.80/lb [4] 15,000/t
Silver Price (US$)	$19.44/oz[1]	$22.70/oz [2]	$22.70/oz	$22.70/oz
Gold Price (US$)	$1,629/oz [1]	$1,735/oz [2]	$1,735/oz	$1,735/oz
Exchange Rate (US$:A$)	0.629 [1]	0.700	0.700	0.700
NPV - 8% real, after tax	A$134 M	A$241 M	A$701 M	A$947 M
IRR	15.4%	20.7%	40.1%	49.1%

1. *Spot Prices: LME (Cu), Kitco (Ag, Au) - 3/11/22 close, FX XE.com live – 4/11/22*
2. *Bloomberg consensus pricing 2025 - Oct 2022.*
3. *Goldman Sachs "meet forecast market demand" US$13,000/t*
4. *Goldman Sachs "bullish market price forecast" US$15,000/t*

* **Nicole Adshead-Bell**, Chair, Hot Chili Ltd

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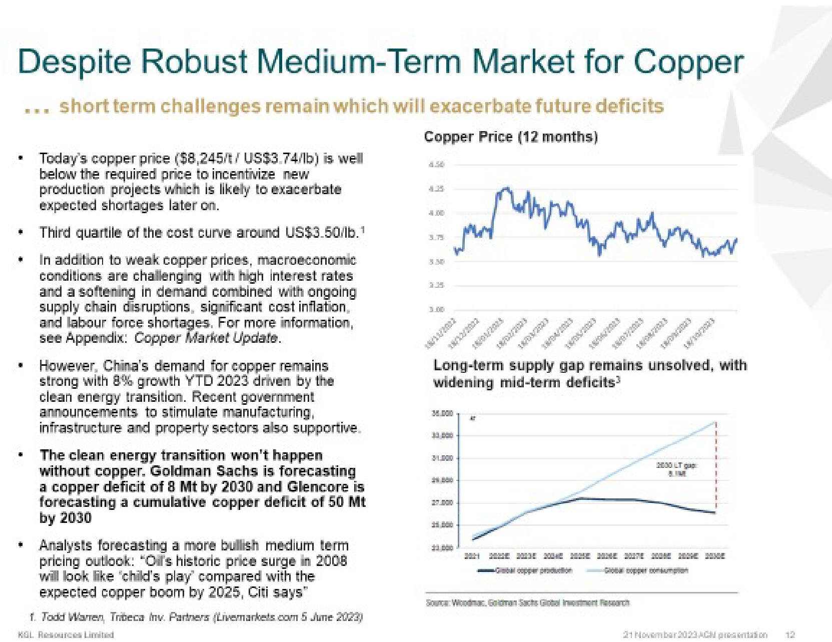
KGL completed the FS for the Jervois Copper project confirming the project is technically robust and financially viable based on a copper price of US$4.23/lb and supports a high-grade copper mine with production for 11.25 years.

Sensitivity analysis confirmed the project is leveraged to significant potential upside from expected long term supply deficits and the need for a higher copper price to incentivize new copper production.

Industry participants are calling for US$6-$8/lb copper as the minimum price range to incentive material investment into new copper projects. The current copper price is US$3.74/lb.

Despite Robust Medium-Term Outlook for Copper



As demand from the energy transition surges over the next few years driven strongly by the forecast rapid adoption of electric vehicles, renewable energy and electricity grid build out, we are facing significant supply challenges arising from a combination of factors including declining grades and a depletion in reserves from existing mines, a lack of new discoveries despite increased exploration budgets and an extended approval process of on average 16 years from discovery to production.

Peak mine supply is expected to occur in 2025/2026 (pushed back by project delays).

Given the significant increase in the cost curve with the third quartile of production at about US$3.50/lb and today's copper price of US$3.74, a significant increase in the market prices for copper is required to attract the required investment in new supply to meet forecast demand. However, this is unlikely to be in time to address the chronic shortages in copper expected to occur from the 2nd half of this decade. And the recent softening in economic growth forecasts has likely further restrained investment in new supply.

Optimisation Studies

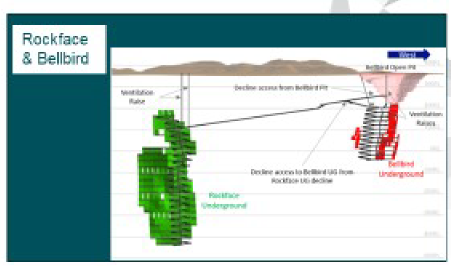
Optimisation Studies

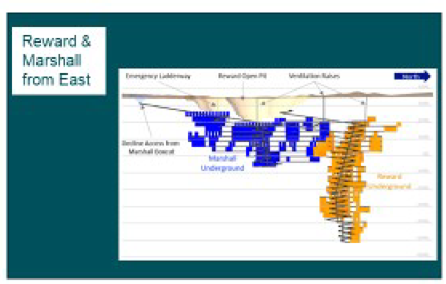
- Given the challenging market environment, KGL is progressing optimisation studies and risk mitigation strategies to be able to deliver a cost-competitive project on time and on budget, when market conditions improve.
- A significant part of the optimisation studies are focused on the Mining & Processing Costs which make up 70% of copper production costs particularly given labour shortages and the high cost of labour.
- Resources
  - Infill drilling has the potential to improve confidence in JORC Mineral Resource classification.
- Mining
  - Sequencing – focus on the open cuts first – delaying need for underground development.
  - Double the size of the mining equipment for the open cut mines and increase the mining rate
- Process Plant Design:
  - Annual production rate of the open cuts can be accommodated with an increase in throughput from 1.6 Mntpa to 2.0 Mntpa to target 30ktpa Cu in concentrate.
  - Enhancements reduce the amount of labour required on-site for construction
- Adopting a Contractor Management Approach for construction and operations.
  - Capability and capacity to deliver in a resource constrained and low unemployment market.
  - Signed LOI with McMahons Contractors for surface and underground mining services.
  - Negotiate fixed price / lump sum EPC contract and a fixed price for all process plant long-lead item contracts.
- Access to Government Programs:
  - The expected classification of copper as a critical mineral by the Federal Government may provide the Jervois project as a priority project in the NT with access to support for infrastructure, loans and grants (Critical Minerals Fund and NAIF).

Mine Plan Optimisation

Mine Plan Optimisation

- Current Resource (Sept 2022) is 23.8Mt @2.02% Cu, 0.25g/t Au and 25.3g/t Ag.
- Approximately half of the resource has been converted in Ore Reserve (11.7Mt @2.10% Cu).
- Based on the contained copper of Sep 2022 Resources, Reward/Marshall, Rockface and Bellbird represent 50.7%, 22.5% and 26.8% respectively.
- The optimization of the mine plan includes initially mining the open-cuts for the first four years commencing with the Reward open-cut
- Target copper production is 30ktpa.



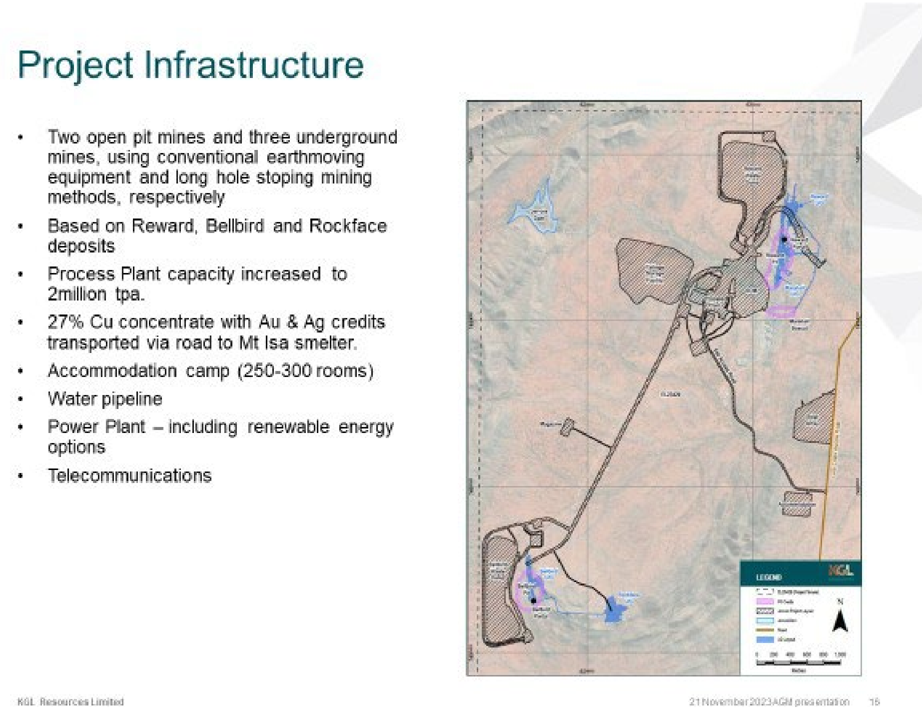


KGL's plan is to commence with open pit operations. This reduces up front mining costs, simplifies operations during commissioning and reduces pre-production capital expenditure. Mine plan sequencing has been optimized to initially mine the Reward open cut.

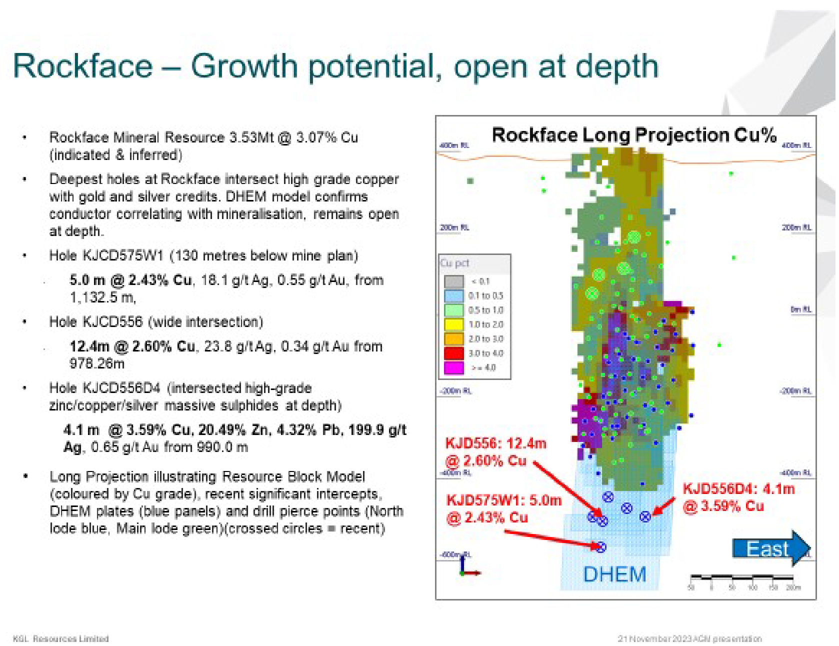
Underground operations are progressively scheduled to commence ore production to hopefully achieve our aspirational target production of 30ktpa. This mine development sequence results in higher grade underground resources being delayed until later in the mine life but results in reduced Project execution risk.

Process Plant Optimisation

Project Infrastructrue



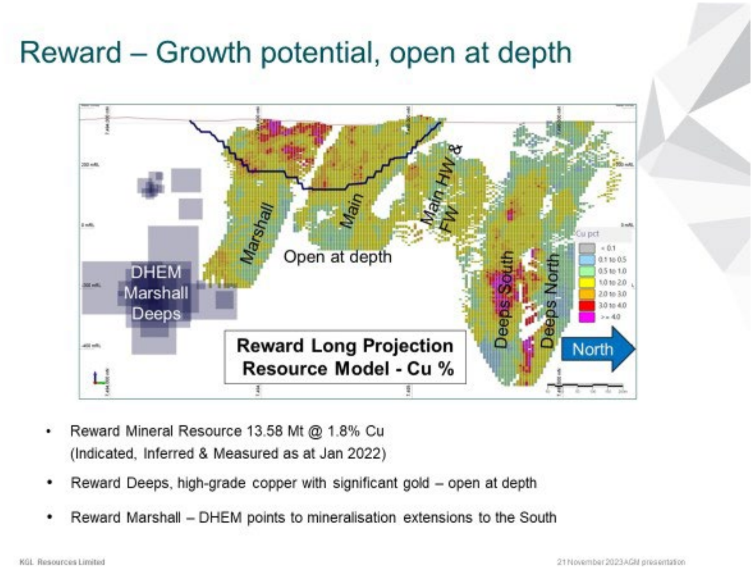
Rockface – growth potential



Growing the high-grade copper resource and mine life at Jervois is a key potential value driver for KGL shareholders.

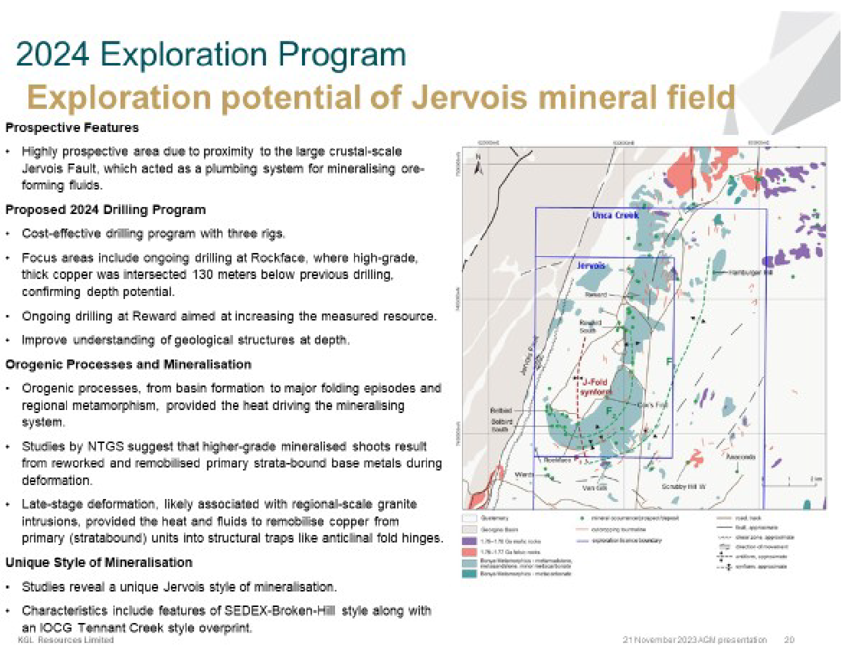
Rockface is the highest grade copper resource at Jervois with 3.53 Mt @ 3.07% Cu. Recent drilling of the deepest hole at Rockface intersected high grade copper with gold and silver credits. DHEM Model confirms conductor correlating with mineralization remains open at depth.

Reward – growth potential



The Reward mineral resource represents approximately 50% of the contained copper in the Total Mineral Resource. Infill drilling has confirmed the resource model. Reward Deeps is associated with high-grade copper with significant gold. The deposits at Rewards Deeps and Reward Marshall remain open at depth.

Exploration Potential



The Jervois mineral field is highly prospective due to its proximity to the large crustal-scale Jervois Fault, which acted as a plumbing system for mineralising ore-forming fluids.

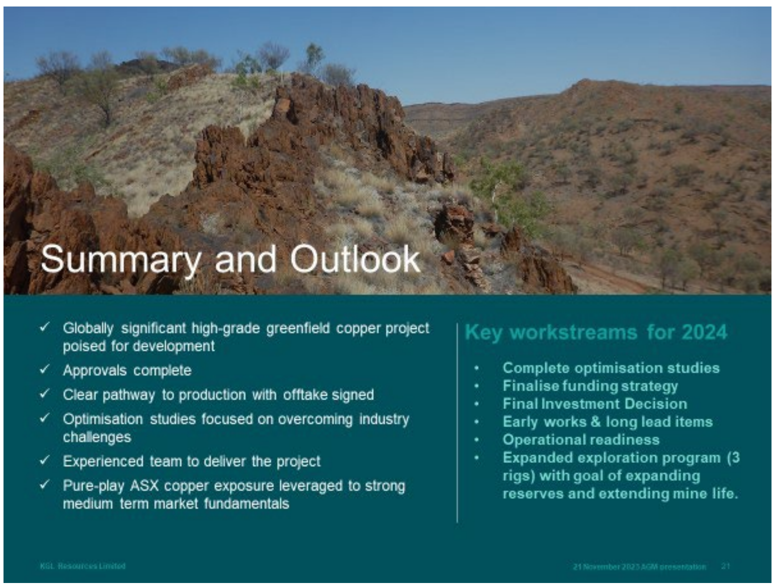
Proposed 2024 Drilling Program

We are anticipating a more cost-effective drilling program with potentially three rigs.

Focus areas include:

- ongoing drilling at Rockface, where high-grade, thick copper was intersected 130 meters below previous drilling, confirming depth potential.
- Ongoing drilling at Reward aimed at increasing the measured resource.
- Given the highly prospective nature of the Jervois mineral field, we aim to improve our understanding of the geological structures at depth.

Summary and Outlook



We've highlighted the key workstreams for 2024. A FID is subject to market conditions at that time including a supportive macroeconomic environment and the availability of labour to complete construction on time and on budget.

2023 has been a successful year for KGL despite the challenges.

I will hand back to Denis now.

I want to thank the Jervois stakeholders, in particular the Central Lands Council, Bonya community Lucy Creek and Jervois Station pastoralists and the Northern Territory government for their ongoing support and I know they are looking forward to helping us deliver the Jervois copper project. I also acknowledge the native title holders with whom we negotiated an indigenous land use agreement in 2016.

I'd like to thank our employees for their contributions in challenging times and look forward to making significant progress over the next 12 months in accelerating development of the Jervois Copper Project.

And my sincere thanks to you, our loyal shareholders, for your patience and confidence in the company.

We are one of the few high-grade copper projects in a Tier One jurisdiction with all key approvals in a position to proceed with development when market conditions improve.

We are looking forward to making progress to achieve FID in 2024, subject to achieving some normalization in market conditions – more specifically, the availability of labour, pricing of key inputs and supportive macroeconomic conditions. Should these conditions not be met, KGL will continue to increase the value of the Project by focusing on its exciting exploration campaign for 2024 with the goal of expanding the resource and extending the mine life of this high-grade deposit. I'm looking forward to our future and I hope you are too. I am very confident our patience will be rewarded.

Competent Persons’ Statement and Disclaimer

Competent Person Statement

The Jervois resources information were first released to the ASX on 14/09/2022 and complies with JORC 2012. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement

The Jervois Ore Reserves Estimates was first released to the market on 10/11/2022 and complies with JORC 2012. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.

The following drill holes were originally reported on the date indicated and using the JORC code specified in the table.

Hole		Date originally Reported	JORC Reported Under
KJCD	575W1	08/11/2023	2012
KJCD	556	27/09/2022	2012
KJCD	556D4	08/11/2023	2012

Competent Persons' Statement and Disclaimer

Forward Looking statements

This release includes certain forward-looking statements. The words "forecast", "estimate", "like", "anticipate", "project", "opinion", "should", "could", "may", "target" and other similar expressions are intended to identify forward looking statements. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding forecast cash flows and potential mineralisation, resources and reserves, exploration results and future expansion plans and development objectives of KGL are forward-looking statements that involve various risks and uncertainties. Although every effort has been made to verify such forward-looking statements, there can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. You should therefore not place undue reliance on such forward-looking statements.

Statements regarding plans with respect to the Company's mineral properties may contain forward looking statements. Statements in relation to future matters can only be made where the Company has a reasonable basis for making those statements.

Project Resources

Resource			Mineralised Mass	Grade			Metal		
	Area	Category	(Mt)	Copper (%)	Silver (g/t)	Gold (g/t)	Copper (kt)	Silver (Moz)	Gold (koz)
Open Cut Potential > 0.5 % Cu*	Reward	Indicated	3.84	1.80	39.4	0.31	69.1	4.9	38.2
		Inferred	0.65	0.92	9.2	0.07	5.9	0.2	1.5
	Bellbird	Measured	1.23	2.53	15.10	0.14	31.2	0.6	5.6
		Indicated	1.26	1.45	9.10	0.17	18.2	0.4	6.8
		Inferred	1.02	1.24	10.60	0.12	12.7	0.3	4.0
	Sub Total		**8.00**	**1.71**	**24.8**	**0.22**	**137.1**	**6.4**	**56.1**
Underground Potential > 1 % Cu*	Reward	Indicated	4.78	2.12	42.6	0.45	101.6	6.6	69.2
		Inferred	4.32	1.56	19.6	0.20	67.3	2.7	27.8
	Bellbird	Indicated	0.33	2.33	19.80	0.14	7.8	0.2	1.5
		Inferred	2.84	2.09	12.30	0.11	59.1	1.1	9.7
	Rockface	Indicated	2.80	3.37	21.4	0.23	94.3	1.9	21.1
		Inferred	0.73	1.92	19.0	0.18	14.0	0.4	4.2
	Sub Total		**15.80**	**2.18**	**25.5**	**0.26**	**344.1**	**13.0**	**133.5**
Sub Totals		Measured	1.23	2.53	15.1	0.14	31.2	0.6	5.6
		Indicated	13.01	2.24	33.3	0.33	291.0	13.9	136.9
		Inferred	9.55	1.67	15.7	0.15	159.0	4.8	47.1
Total			**23.80**	**2.02**	**25.3**	**0.25**	**481.2**	**19.3**	**189.6**

September 2022

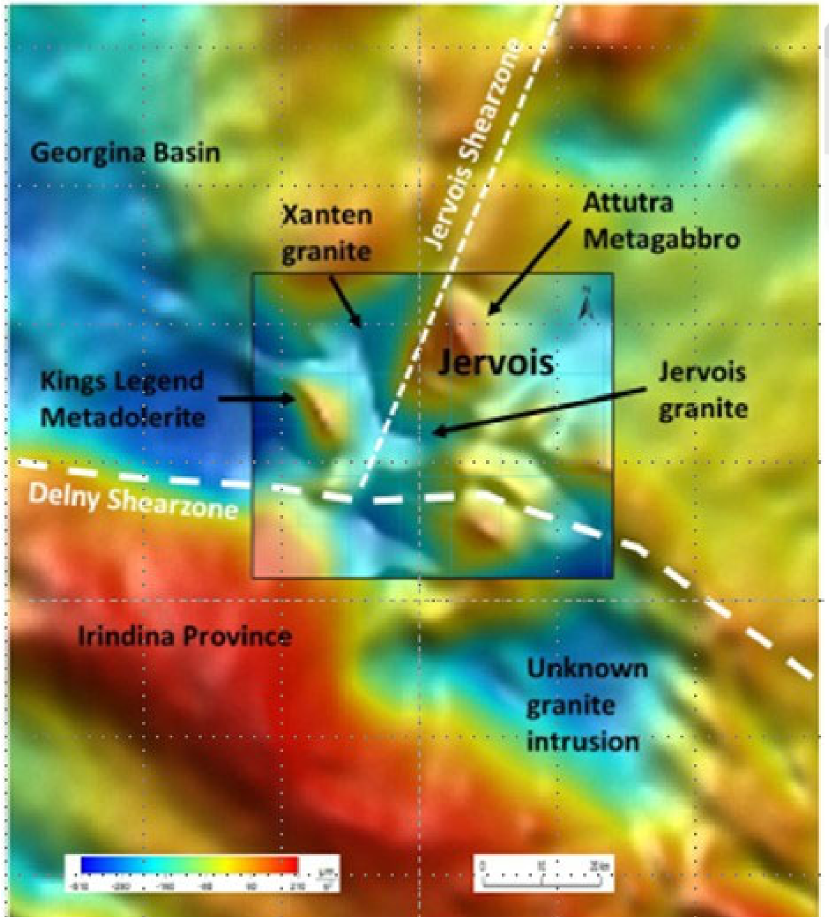
** Cut-off grades: 0.5% Cu above 200m RL, 1% Cu below 200m RL; Note: 200m RL is 150m below surface*

Appendices

2024 Exploration Program

Exploration potential of Jervois mineral field

- The Jervois Mineral Field's formation is closely tied to the movement of mineralising fluids along the Jervois Shearzone, a large crustal-scale shearzone extending over 40km and connected to the Delny Shearzone.
- The Delny Shearzone is part of a crustal-scale flower structure rooted onto the Moho, the boundary between the Earth's crust and mantle.
- The Jervois mineral system experienced several phases of hydrothermal activity spanning at least a 90 million year period, as per McGloin et al., 2023.
- The Attutra Metagabbro, considered an oxidized and copper-enriched mafic intrusion, along with felsic/intermediate igneous rocks, was emplaced into an active, extensional continental back-arc basin at shallow crustal levels.
- The intrusion of the gabbro acted as a heat source, driving a mineralising hydrothermal system around 1.79 Ga, leading to the formation of exhalites and metalliferous sediments in a basin floor setting.
- Continuous intrusion of felsic/intermediate magma from deeper crustal levels between approximately 1.78-1.77 Ga further increased the regional temperature, reaching peak-T conditions at around 1.76 Ga, according to Reno et al., 2016, and Weisheit et al., 2019.
- The field includes both polymetallic copper– silver–lead–zinc (Cu–Ag–Pb–Zn) and copper–tungsten (Cu–W) mineralisation hosted in Bonya Metamorphics (eg Robertson 1959, Mackie 1984, Peters *et al* 1985, Bennett *et al* 2017, McGloin *et al* 2019, McGloin et al., 2023).



Bouguer gravity of Jervois and surrounding structure domains, at intersection of major crustal-scale structures

Large crustal-scale structures tend to be reactivated over time, especially the intersections of such large structures from zones of weakness in the crust along which magmatic bodies intrude and hydrothermal fluids can flow.

2024 Exploration Program

Exploration potential of Jervois mineral field

Evolution of Jervois Mineralisation Model

- The Jervois mineralisation model is undergoing adjustments based on recent papers by the NTGS.
- Significantly, there is growing evidence for extensive late bimodal magmatic events in the eastern Arunta Region.

Exploration Implications

These magmatic events are viewed as potential drivers for mineralisation or sources and drivers for mineralisation.

Diagram Insights

- The provided diagram illustrates lithological, hydrothermal, and structural controls on remobilised Cu mineralisation at Jervois, particularly post/syn-deformation.

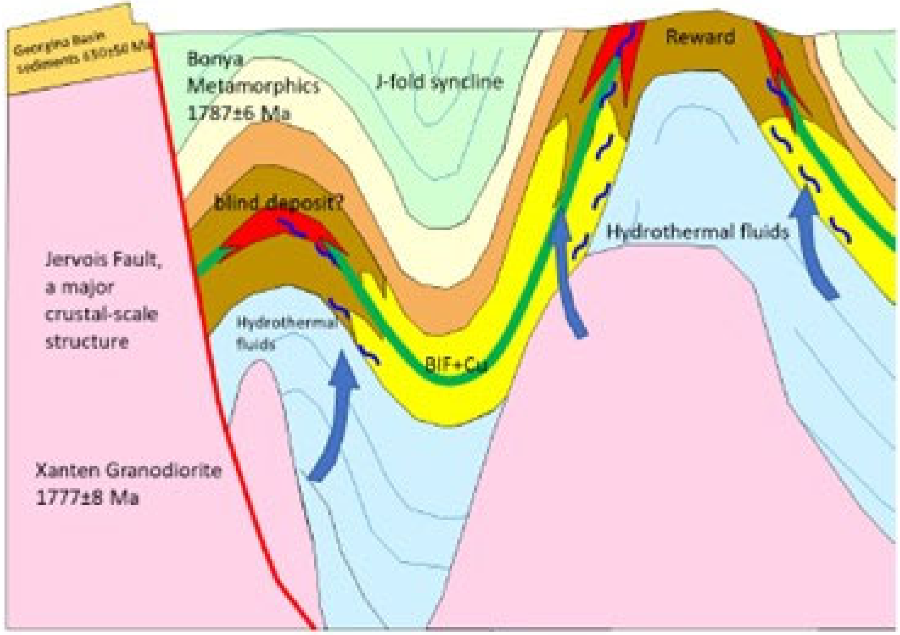
Late-Stage Deformation and Granite Intrusions

- During late-stage deformation and after peak-metamorphism, granite intrusions play a crucial role.
- These intrusions provide heat and fluids, remobilising Cu from primary (strata-bound) units.
- The remobilised Cu is channelled via reactivated fault sones into structural traps, such as anticlinal fold hinges.

Role of Exhalites

- Iron-, manganese-, boron-rich exhalites serve as chemical (redox) traps for the metal-bearing fluids in the system.

Conceptual Jervois Mineralisation Model



Sketch of conceptual Jervois mineralisation model - trapping of hydrothermal fluids (blue wriggles and arrows) and , driven by felsic intrusions (pink), into structural traps (red) – fold-hinges – and chemical traps – iron-stones (yellow) , altered to massive magnetite (brown). Analogous to Tennant Creek-style Au-Cu mineralisation

Copper Market Update

Tesla's aim is to build 20 million vehicles a year by 2030

If achieved, it would make Tesla twice the size of any automaker in history, accounting for roughly 20% of the global vehicle market.(Reuters)
Tesla's total deliveries in **2022** amounted to 1.31 million cars.
Global electric vehicle (EV) sales increased more than 50 per cent from 2021 to 2022, making up a total of 14 per cent of all new cars sold in the world. The IEA expects to see 14 million in sales by the end of 2023, with electric cars accounting for 18% of total car sales across the full calendar year. According to the IEA, the share of EVs in total sales needs to reach around 60% by 2030 to stay the course and reach net zero CO_2 in 2050.

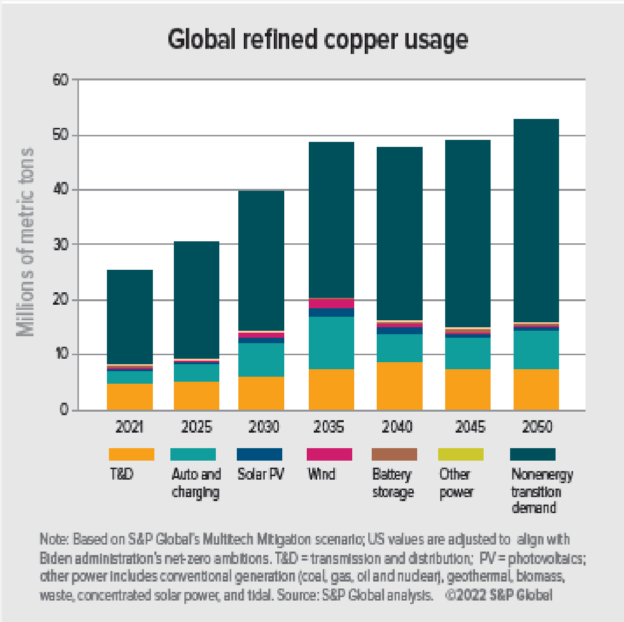
A huge copper shortage will impact global supply between now and 2030.

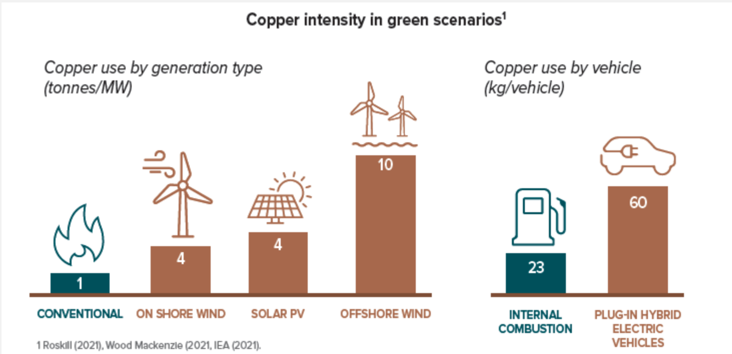
Speaking to Bloomberg, Gary Nagle referenced estimates of a **cumulative gap between projected demand and supply of 50 million tons between 2022 and 2030**.

Glencore Says This Time Is Different for Coming Copper Shortage. By Jack Farchy (Bloomberg, 7 December 2022).

Copper demand expected to double by 2035 ...

- A recent report by S&P Global estimates that demand for refined copper will double from 25 million tonnes in 2020 to around 50 million tonnes by 2035 with electric vehicles and the grid key demand drivers in additional to traditional demand growth.
- This increase in demand is in line with global carbon reduction targets and the push towards a greener economy, as virtually all governments have committed to the broad-based adoption of electric vehicles, clean transportation, and net-zero electricity grids.
- Copper demand from energy transition markets is expected to grow from 6.6 Mt in 2020 to reach 21 Mt in 2035, representing almost 60% of demand growth.
- A World Bank analysis of the mineral intensity of 10 low-carbon energy technologies classifying copper as a critical metal found copper was essential to all 10 demonstrating that the clean energy transition will depend very much on the availability of copper itself.
- Clean energy technologies are becoming the fastest-growing segment of copper demand. They are also more copper intensive with between 4-10x the copper intensity of traditional fossil fuels..
- In addition to being critical in achieving global decarbonisation goals, copper is critical in the longer term to support ongoing Chinese demand, the emergence of developing economies such as India and SE Asia and in modern technologies including semiconductors, the digital economy and defense applications.

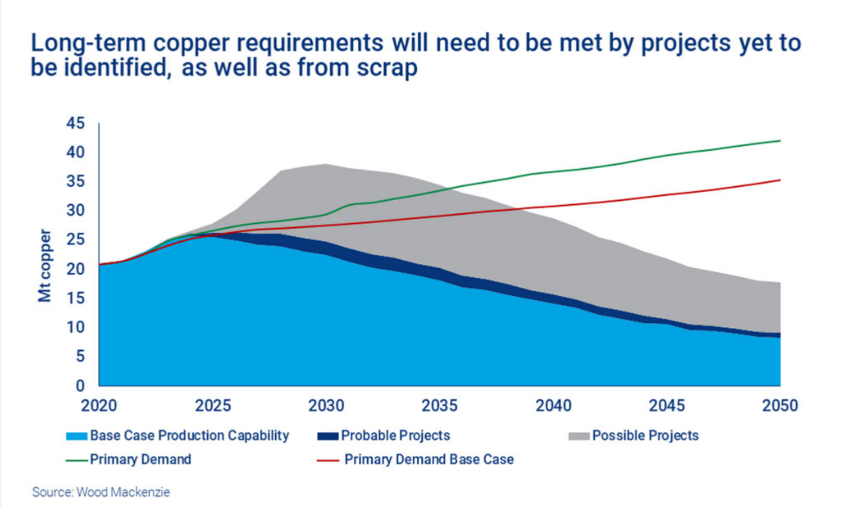




..however, supply challenges may short circuit the clean energy transition ..

Factors affecting copper supply include:

- lack of new discoveries (despite elevated exploration budgets) and investments in greenfield and brownfield projects
- declining head grades in today's major copper mines around the world. According to a study by Mining Intelligence, operating mines currently have an average grade of 0.53% while copper projects under development have an average grade of 0.39%.
- significant increase in capital intensity required to just maintain current production levels in many of these older mines
- major copper producing areas face water scarcity and increasing depth and complexity of development options
- the extensive time it takes for a new mine to go from discovery to production (est. avg. 16 years)
- increased sovereign risk,
- the increased risks associated with exploring and developing new mines further afield in jurisdictions with increased political risks and a lack of existing infrastructure.



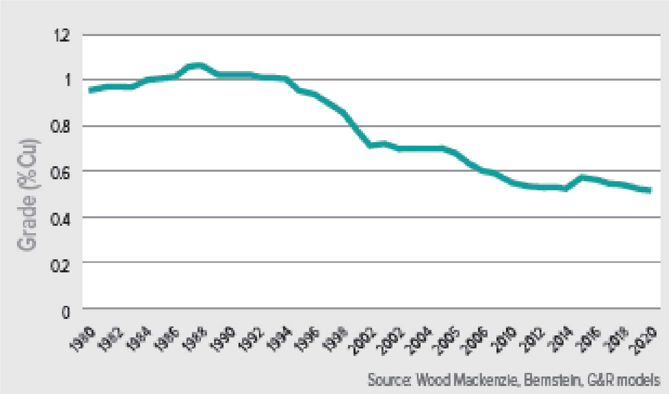


Figure 1 Average copper grades of ore mined, 2005-2020
(Source: AME, company reports)

The last decade delivered the lowest discovery rate for 30 years. With copper demand expected to outpace refined copper production, the industry is not making enough new, high-quality discoveries to support the long-term pipeline.

..with structural deficits forecast beyond 2025

- Supply expected to peak in 2025/2026 (peak shifting out due to project delays) before declining due to decreasing ore grades, protracted permitting timelines and underinvestment.
- According to BHP's chief economist, Dr Huw McKay, under a plausible upside case for demand, the cumulative industry wide capex bill out to 2030 could reach one–quarter of a trillion dollars. Updated analysis, including both volume assumptions and cost estimates, indicates that this could well be an under–estimate. **
- Mine production grew 7 Mt in the last 20 years, mine supply needs to double that in less than 17 years***
- Increasing costs will likely push price floor higher – current prices not moving projects forward
- A recent study by Goldman Sachs of 50 projects that will account for most new supply over the next five years found that the price needed to bring new projects online had risen by 30% in the past four years because of higher costs and required returns and delays. They state that the average incentive price – the amount required to generate a 15% return – now stands at US$9,000/t ($4.08/lb).
- But the price needed to bring on enough copper to meet future demand is projected at US$13,000/t ($5.90/lb).*
- Industry analysts believe a period of higher prices is required to incentivize construction of new projects and that the current bout of softer prices (US$8,000/t or $3.63/lb) will exacerbate shortages later on.

* Goldman Sachs – Copper: How low can we go? (11 July 2022)
** BHP August Commodity Update (22 August 2023)
*** Teck September 2023 Presentation

Long-term supply gap remains unsolved, with widening mid-term deficits...

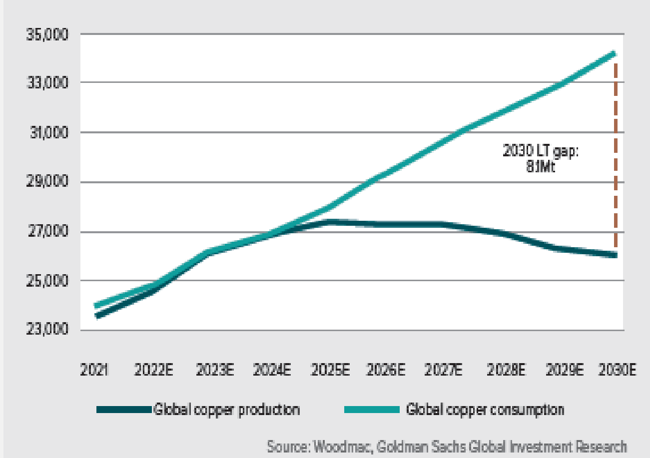


Figure 2 BHP estimates that copper potentially needs around US$250 billion of investment by 2030 to address the forecast increase in demand.

…driven by rising green-related copper demand

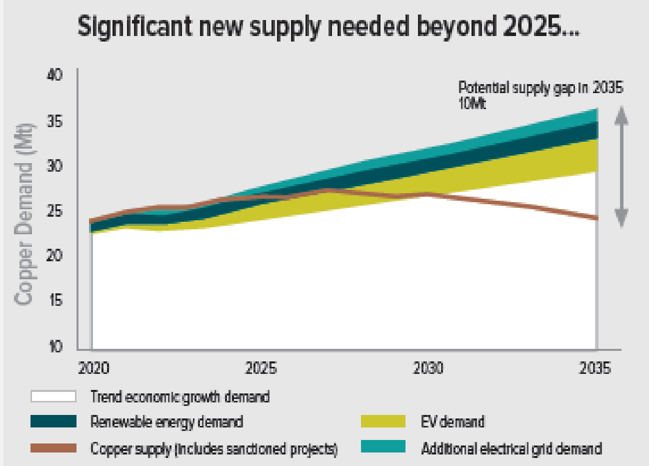


Figure 3

Copper is critical to the clean energy transition

- Governments are increasingly recognising that dependence on foreign sources of critical materials creates a strategic vulnerability for their economy and military in the face of adverse foreign government actions, natural disasters, and other events that could disrupt supplies.
- With chronic shortfalls in copper forecast over the next decade and challenges in supply from the traditional low-cost markets of Chile and Peru, Australia has the opportunity to grow its critical minerals wealth and become an important player in developing secure, reliable and sustainable global supply chains for copper that are internationally competitive.
- Many states in Australia including the NT have recognised Copper as a critical mineral. The Australian federal government is now reviewing the Critical Minerals list and in response KGL lodged a submission on why copper should be included in this list.
- Mr Wood commented that, "KGL's Jervois Copper Project is well positioned with all necessary approvals and permits, to be one of the few projects that can be in production, subject to final investment decision, as the market is faced with a chronic shortfall in supply.
- Given the robust outlook for the copper market, we believe that the Jervois copper hub, a high-quality project in a Tier One jurisdiction, will play an important role in supporting jobs and new skills, local business opportunities and economic development activity in Northern Australia and provide a secure, reliable and sustainable supply of critical minerals to our strategic partners to meet their economic and national security and clean energy needs at a time when chronic shortages in this critical mineral could disrupt global supply chains."

15 August 2023

Review by the Australian Government of Australia's Critical Minerals List

Submission by KGL Resources Ltd:

Developing the high-grade Jervois Copper Project in the Northern Territory

KGL RESOURCES

Copper Market: Recent Commentary

The Green Energy Transition Has a Chilean Copper Problem. Bloomberg May 16, 2023

Ore quality is deteriorating around the world as existing deposits are depleted and new ones are more difficult and costly to develop. “There’s no easy mining left—not in Chile nor the rest of the world,” said Codelco CEO, André Sougarret, at a shareholders meeting on May 2. Codelco is putting in about $3.5 billion a year and will need to accelerate that over the next decade to reverse the production slump. Much of the money is going into revamping century-old mines that are running out of profitable ore. At Chuquicamata—the largest open-pit copper mine in the world—the company is investing a total of about $7 billion to go deep underground, using a relatively new technique called block caving. At El Teniente, it’s budgeted $8 billion to add to the 2,800 miles of tunnels built since the underground operation began in 1905.

Codelco is juggling four major upgrade projects at a cost of up to $19 billion, according to slides from a May 2 presentation. That’s a daunting undertaking for any company, especially one in a small economy and in an industry that continues to grapple with supply chain disruptions, inflation, and engineering and construction bottlenecks. Project delays are a big reason that Codelco’s decline in output has accelerated.

Codelco says reassessing costs of projects to upgrade mines. Reuters October 6, 2023

At Codelco, the world’s biggest copper producer, the state-owned Chilean firm is plowing billions of dollars into revamping century-old mines that are running out of profitable ore. Codelco’s production is set to fall to the lowest in a quarter century this year and could drop precipitously if it isn’t able to able to pull off an ambitious slate of projects. Cost overruns on projects to upgrade Codelco’s mines, known as “structural projects”, could mean its debt is likely to reach $30 billion by 2030 from $18 billion now. Research center CESCO has warned that the state company risks insolvency.

CESCO said Codelco’s output dropped despite $15 billion of investment in flagship products including El Teniente where costs have so far overrun by 75% and Chuquicamata where the declared cost overrun is 53%. At the heart of Chile's mining industry and a major contributor to state revenues, “The most appropriate thing to do today is to know the technical feasibility of the projects to see if it is possible to achieve the production goals committed,” CESCO said. This should happen “even before continuing with the investments decisions since…the costs in terms of indebtedness jeopardize the financial viability and the value of the main asset of our country”. Codelco’s production in the first half of 2023 was 633,000 metric tons of copper, **the lowest in 25 years**. Over the past five years, its copper production has dropped 17% and is expected to keep falling until 2025

Copper Market: Commentary

Quarterly Warning On Copper Before It Derails The Energy Transition. Forbes. October 20, 2023

- Copper supply is not responding to the ever-accelerating energy transition. At best this means a future price level that slows the transition and at worst it means the required copper simply won't be there when it is needed. New mines are not being built. Goldman Sachs research team says that regulatory approval for copper mines has fallen to the lowest level in a decade. It is getting steadily more difficult to build mines at the same time that investors are less interested in commodities. For some reason, the critical part of the energy transition, the copper required for electrification at scale, is deemed the least interesting by investors and governments alike. When mining companies do finally have access to capital there is still a high likelihood that the project will never get approved. A lack of copper, or a prohibitive price for cars or power, could significantly reduce expected adoption by consumers. This adoption is built into the targets that governments are promising voters.

- "The world just doesn't get it. It doesn't understand that a massive copper deficit is coming," said Glencore CEO Gary Nagle. "The world will stop without the additional copper supply. But the price of copper is not expecting it."

- "If we don't have enough copper, it could seriously short-circuit the energy transition," said Jeremy Weir, CEO of Trafigura AG.

Glencore to shed 1200 jobs and shut Mount Isa copper mines by 2025. AFR, October 18, 2023

- Swiss mining giant Glencore is set to close its copper mining operations in Mount Isa by the end of 2025, which will result in the loss of about 1200 jobs, but it will keep its refinery and smelters open in North Queensland. With global miners struggling to contain costs and boost profitability amid increasing economic uncertainty, Glencore on Wednesday announced its three underground copper mines in Mount Isa will be closed by the second half of 2025.

- It is understood the mines are reaching the end of their natural life and the copper grade had become much lower which forced the decision. But in a bid to allay local concerns, Glencore will confirm it will keep its copper smelter in Mount Isa and refinery in Townsville open, with enough third-party work to keep them profitable. There will also be no change to its zinc operations in Mount Isa in the state's north-west.

- Glencore chief operator officer of its zinc assets in Australia Sam Strohmayr said the company was aware the decision to close the copper mines would be disappointing for the Mount Isa community.

- "The reality of mining is that mines have a beginning, middle and end. And unfortunately, after 60 years of operation, Mount Isa's underground copper operations have now reached that end," he said.

- Glencore has committed to keeping its copper smelter in Mount Isa open until 2030, saying there was enough third-party work for it to remain profitable.

Copper Market: Commentary

Codelco will reformulate the Rajo Inca project that seeks to extend the useful life of the Salvador division (September 20, 2023)

- Costs overruns continue to batter Chile's state copper company Codelco, with local media reporting the company sees a $900 million overrun at its Rajo Inca project. The overrun sees the company looking to reformulate the project as the cost overshot is beyond the tolerance range for the company, which initially budgeted $1.4 billion to develop the project. .. if originally the profitability of Rajo Inca was tight, there are voices that say that this cost overrun would cause it to have a negative net present value (NPV).

- At the beginning of the year, the mining company revealed that just between Chuquicamata Subterráneo, Traspaso Andina and the El Teniente project portfolio, extra expenses of almost US$5 billion were accumulated, 56% more than originally forecast..

- Salvador is a combined open-pit and underground copper mining complex comprising the Inca underground mine, and Campamento Antiguo and Quebrada M open-pit mines. Rajo Inca will convert Salvador into a single open-pit mining operation and increase its production capacity from 60,000t to 90,000t of fine copper a year. The Rajo Inca open-pit project targets 796 million tonnes (Mt) of recoverable ore reserves grading 0.59% copper at the Indio Muerto deposit during the first ten years of mining.

Teck Plunges on Rising Costs of Flagship Copper Mine (October 24, 2023)

- QB2 will cost about $4 billion more than pre-pandemic estimate. Teck, which has spent much of this year fighting off a hostile approach from Glencore Plc, said its Quebrada Blanca 2 project would now cost between $8.6 billion and $8.8 billion, compared with an earlier estimate of $8 billion to $8.2 billion. The firm cited further construction delays that highlight the challenges of expanding supply of the metal.

- The project, which in early 2019 was estimated to cost just $4.7 billion, was hit by pandemic disruptions and related logistical challenges exacerbated by Russia's invasion of Ukraine.

- **Mines are getting trickier and pricier to build around the world amid heightened social and environmental scrutiny and deteriorating ore quality. Higher interest rates and lower metal prices generate further headwinds for investments.**

- *Project Highlights for QB2 at the time of construction approval (December 2018): 316,000 tonnes of copper equivalent production per year for the first five full years of mine life; top 20 global copper producer; Low all-in sustaining costs ("AISC") of US$1.38 and C1 costs of US$1.28 per payable pound of copper produced during the first five full years of mine life*

Copper Market: Commentary

Copper producers warn of lack of mines to meet demand for metal.
Warning comes as falling prices hit commodity vital for green transition.
FT Mining Summit, Harry Dempsey and Euan Healy October 9, 2023

- The world's largest copper producers have warned that there is a lack of mines under development to deliver enough of the metal to keep pace with the clean energy transition. The warning comes as miners struggle with falling metal prices because of the weakness of the global economy and cost inflation, which makes executives, investors and banks cautious over financing new projects.
- With labour shortages also holding back new supplies, there are worries over the switch to carbon-free power since copper is vital to manufacture electric cars and upgrade the electricity grid.
- Kathleen Quirk, president of Freeport-McMoran, the largest US copper producer, said that higher copper prices alone would not be enough to secure enough metal needed for the world to go green. "Now it's not just price. It's these other factors that really are going to limit how quickly we can develop supplies," she said, speaking on the sidelines of the FT Mining Summit last week. "What may end up happening is that this [energy transition] gets extended out longer."
- Yet demand for the commodity is expected to take off to supply the green economy, as well as to support the economic rise of India and other developing nations. The living standards of the average westerner requires 200-250 kgs of copper per person, versus 60kg on average globally, according to Anglo American, one of the world's largest miners.Its use will become ever greater as the world goes green, resulting in it being dubbed the "metal of electrification", with forecasts that it will double to a 50mn tonne market by 2035 compared with 2021 levels, according to S&P Global, which predicts a "chronic gap" between supply and demand.
- Farid Dadashev, head of European metals and mining at RBC Capital Markets, said that executives were proving reluctant to invest in mines that will take 10-15 years to build and cost billions of dollars with low prices and political uncertainty in mining jurisdictions.
- "When you add further complexity from longer permitting timelines, higher inflation and generally declining ore body grades, this perhaps explains why we're finding ourselves in the situation where it's likely there won't be enough copper to meet decarbonisation goals in the next few decades," he said.

Copper Market Commentary

Oil's historic price surge in 2008 will look like 'child's play' compared with the expected copper boom by 2025, Citi says. Fortune. By Will Daniel. August 29, 2023

- According to CitiGroup, by 2025 the copper boom will make the 2008 oil price hike "look like child's play." Max Layton, Managing Director of Commodity Research at Citi, compared the upcoming copper surge to the 2008 oil rally when oil prices went from $50 a barrel in mid-2006 to over $140 a barrel by the end of 2007.

- Copper is now considered the "new oil" due to its role in electric vehicle (EV) batteries and green energy technologies like solar panels and wind turbines and in turn, could see a similar upside in the next three years. Although copper prices are expected to decline in 2023 due to China's economic struggles and slower global growth, Citi sees this as an opportunity. Layton suggests that cautious investors start buying copper gradually over the next year, anticipating that China's economic reform and energy transition will drive prices to $15,000 per metric ton by 2025, potentially yielding returns ranging from 50% to 100%.

- Despite the short-term challenges, the world's eighth largest copper producer KGHM Polska Miedź endorsed Citi's bullish outlook, stating that the long-term rise of EVs and the green revolution will boost global copper demand. KGHM believes that limited supply, increased taxes on new mining projects, and environmental regulations are expected to keep copper prices high in the coming years.

Why copper's long-term outlook is getting hard to ignore. Livewiremarkets.com. By Kerry Sun June 5, 2023

- UBS strategists recently commented, "We now forecast only a modest surplus in 2023, moving to a growing deficit from 2025. In our opinion, this increases the risk of material price upside over the next 2-3 years (potentially copper's 'lithium moment')".

- Tribeca Investment Partners' Todd Warren said, "Everyone's looking at copper from that long-term perspective but forgetting about the point that cost curves have all risen dramatically. The third quartile of the cost curve is around US$3.50 a pound."

Copper prices may jump 20%, aluminum by 36% as demand outpaces supply: forecast. Mining.com Colin McClelland | September 20, 2023 – A 5.4-million-ton (4.9-million-tonne) copper supply shortfall by 2027 may push prices up by 20% to $9,800 per ton from around $8,200 per ton this year, Bloomberg New Energy Finance, a unit of the newswire company, says in its *Industrial Metals Outlook 2H 2023: Heading into the storm*.