

The purpose of this presentation is to guide programs benefiting the copper industry and to provide attendees with information to make independent business decisions.

A photograph of a large industrial facility, likely a mine or refinery, set against a dramatic sunset sky. A tall, dark smokestack stands prominently on the left. The facility includes various buildings, pipes, and storage tanks. In the foreground, there is a field of tall, dry grass. The sky is filled with soft, golden clouds. A thick, wavy orange line runs along the bottom right corner of the image.

RioTinto

# State of US mining employment market and labor needs

Nate Foster

IWCC May 2024

### **Important notice**

The information contained in this presentation (the "Information" and the "Presentation" respectively), is being provided by Kennecott Utah Copper LLC and its affiliates (collectively "Rio Tinto") and is intended for the exclusive use of this audience.

The Presentation must not be copied, reproduced, distributed or passed, in whole or in part, to any other person without the prior written consent of Rio Tinto.

The Information is being made available to the recipients for information purposes only. This Presentation is not intended to provide the basis of any investment decision, nor shall its issuance give rise to any legal relations. This Presentation should not be relied upon or considered as a recommendation by Rio Tinto or any of its connected persons to any recipient of this Presentation.

The contents of the Presentation must not be construed as constituting the giving of technical, legal, financial, commercial or tax advice. The recipient should consult its own advisers on matters concerning the Presentation.

This Presentation may include certain statements, estimates and projections, which reflect various assumptions made by Rio Tinto based on known and unknown risks and may or may not prove to be correct. No representations or warranties are made as to the accuracy of such statements, estimates or projections and no liability is assumed for any direct, indirect or consequential loss, loss of profit or damage suffered by any person as a result of reliance on any statement, omission or alleged omission from the Presentation or from any other information provided, whether written or oral, in connection with this Presentation.

In delivering this Presentation, neither Rio Tinto nor any of its connected persons undertakes to provide the recipient with access to any additional information or to update this Presentation or to correct any inaccuracies therein which may become apparent.

In this notice, in relation to Rio Tinto, "connected person" means Rio Tinto plc, Rio Tinto Limited and their respective shareholders, subsidiaries and subsidiary undertakings and each of their respective directors, officers, employees, agents and advisers.

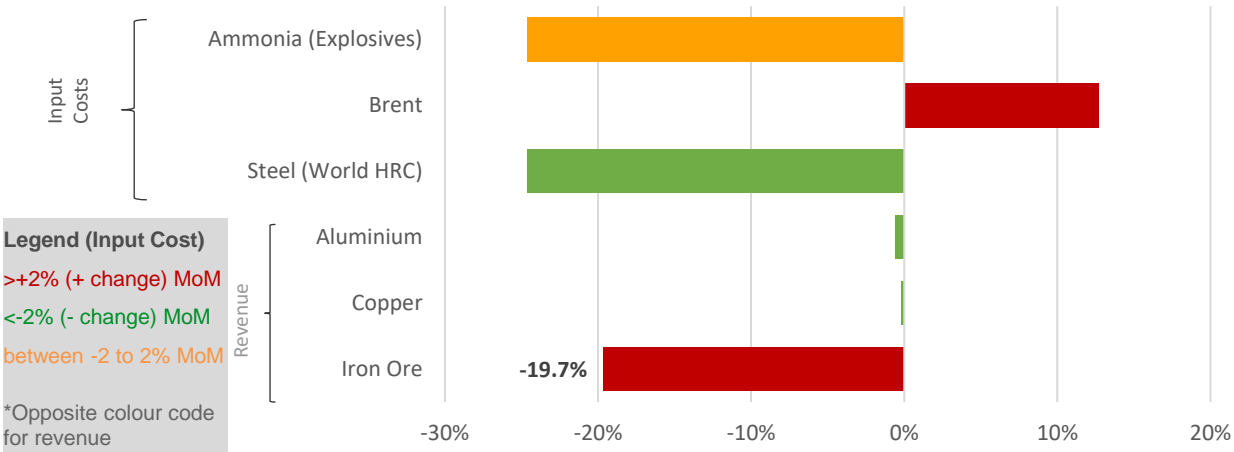
# Rio Tinto Copper

- Our Kennecott mine is a world-class, fully integrated copper mining operation, including a concentrator, smelter and refinery, located just outside Salt Lake City, Utah, in the United States. We produce copper, precious metals including gold and silver, molybdenum and sulfuric acid. Kennecott has been mining and processing minerals from the rich ore body of the Bingham Canyon Mine since 1903 and is one of the top producing mines in the world, comprising approximately 11 percent of U.S. annual copper production.
- Started production from the Oyu Tolgoi underground mine in Mongolia, which will make Oyu Tolgoi one of the most important producers of copper in the world.
- Approved investment to significantly increase production from underground mining at Kennecott. Production is expected to deliver around 250 thousand tonnes<sup>3</sup> of additional mined copper over the next 10 years (2023–33).
- Formed a joint venture with First Quantum Minerals to unlock the development of the La Granja project in Peru, one of the largest undeveloped copper deposits in the world.
- The production target of around 250 thousand tonnes of additional mined copper over the next 10 years (2023 to 2033) at Kennecott was previously reported in a release to the Australian Securities Exchange (ASX) dated 20 June 2023 titled Rio Tinto invests to strengthen copper supply in US. Rio Tinto confirms that all material assumptions underpinning that production target continue to apply and have not materially changed.

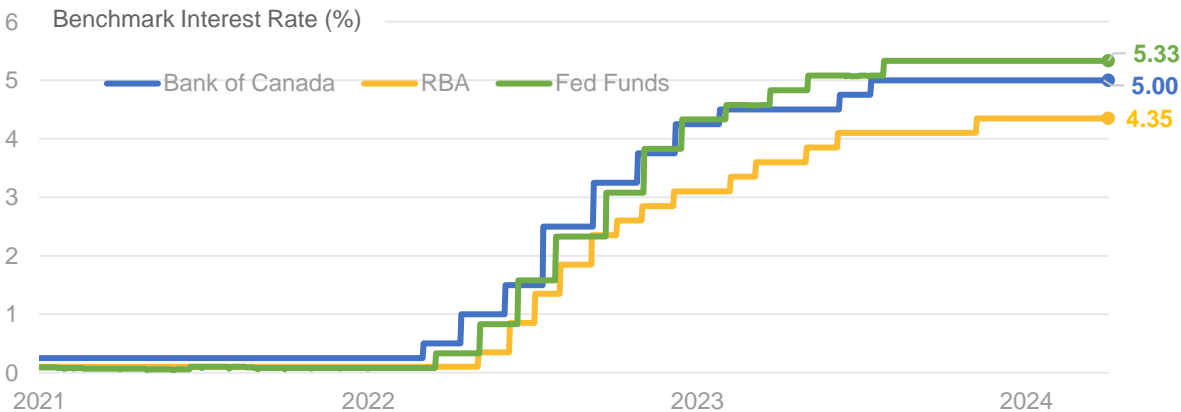


# Further upgrades in US and China GDP forecast. Central banks in a “wait and watch” mode on interest rate cuts

Commodity Price YoY%: Commodity price profile mixed



Central banks pause interest rate hikes in “wait-and-watch” mode



- The global GDP outlook for 2024 has been revised upwards led by upgrades to US and China GDP forecasts. Oxford Economics has raised its global 2024 GDP growth forecast to 2.4% in March – a growth outlook that is still largely subdued by post-GFC standards at ~3%. For China, GDP growth forecasts have been raised by +0.3% to 4.7% YoY reflecting guidance that stimulus will likely be more aggressive than previously anticipated. For USA, ongoing labour market resilience, contained inflation expectations and looser financial markets means that a ‘soft landing’ is increasingly on the cards.
- Given ongoing labour market resilience and steady improvements in business activity levels, **central banks are in a ‘wait and watch’ mode**, with expectations of gradual rate cuts into less restrictive territory from the middle of this year.
- Commodity prices remain mixed.** Iron ore saw a -11.4% pullback MoM as sentiment worsened due to sluggish steel demand (-7% MoM) – a result of lacklustre construction demand. Aluminium, on the other hand, rose 6.4% MoM given improving demand, limited upside in production, low aluminium inventories, and expectations of rate cuts by major central banks. Prices of metals to remain mixed, with expectations of more aggressive policy stimulus stance from China to spur demand.

Oxford Economics GDP forecasts (Real terms)\*

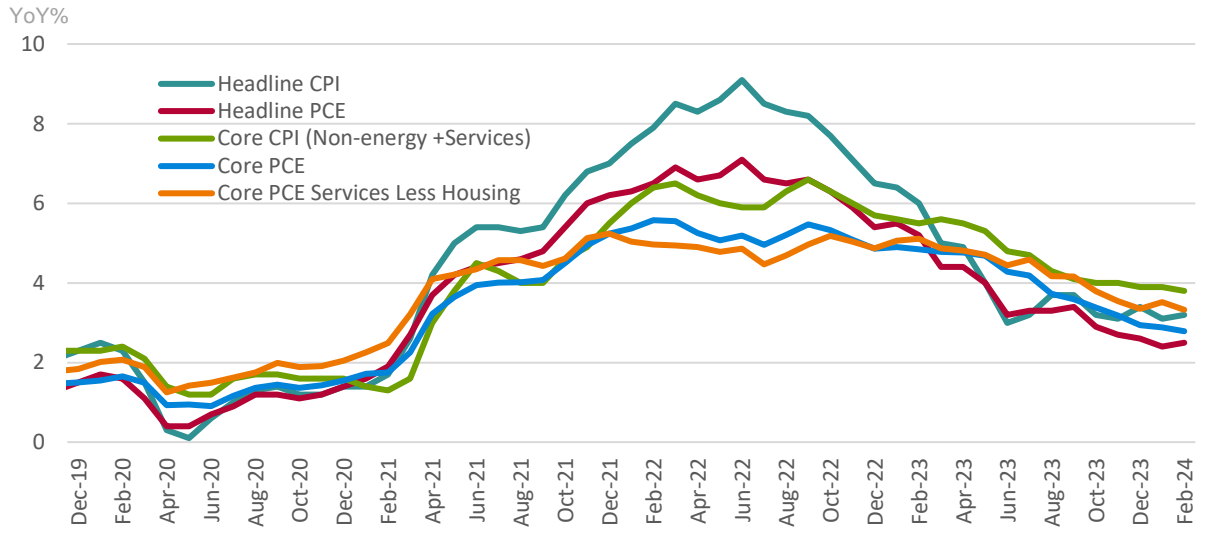
	2021	2022	2023	2024F	Recession
China	8.5	3.0	5.3	4.7	10%
USA	5.8	1.9	2.5	2.5	35%
Eurozone	5.9	3.5	0.5	0.6	45%
Japan	2.7	0.9	1.9	0.5	27.5%
Canada	5.3	3.8	1.1	-0.3	33%
Australia	5.6	3.8	2.1	1.3	30%
Global	6.3	3.1	2.7	2.4	-

\*Latest data as of 1st April 2024

\*Green refers to improvement MoM; Red means deterioration MoM.

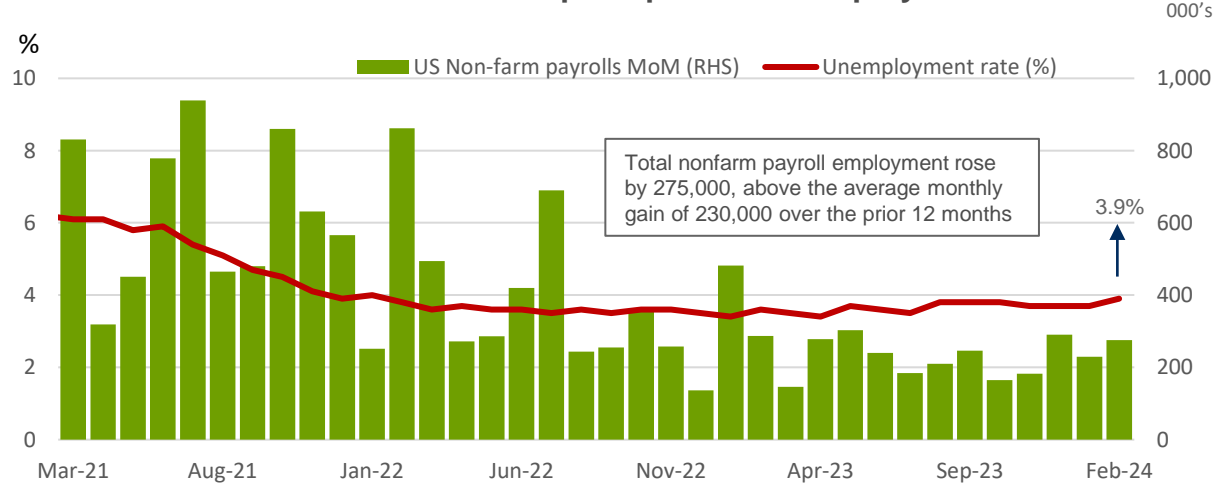
# US consumption holds up while manufacturing is improving

Inflation falling, albeit at a slower pace

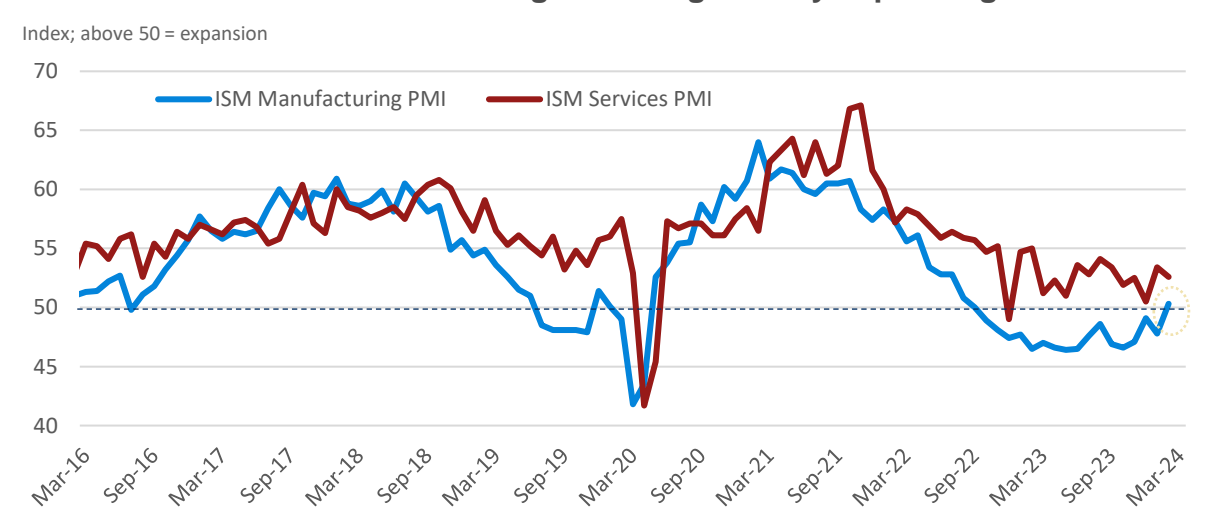


- The Fed is holding off rate cuts until it sees “more good inflation readings” and is more confident that annual price increases are falling towards its 2% target. Manufacturing is improving while inflation is proving stickier than expected. The market consensus is for the Fed to cut rates around the middle of the year.
- The labour market remains resilient, keeping demand and the economy moving forward while inflation is slowing. Consumers are optimistic about current economic conditions, attributed to improving inflation expectations and ongoing strength in equity markets, although consumption is expected to slow down later this year.
- The March ISM manufacturing index went above the expansion threshold for the first time since September 2022. The upside was driven largely by a surge in production levels and new orders. Low customer inventory levels also support future output. Recovery may be gradual as global demand remains soft, elevated interest rates still weigh on business investment into equipment and inventory levels, while a strong dollar hampers exports.

Labour market resilient despite uptick in unemployment rate



ISM Manufacturing index is gradually expanding



# Mining labor shortage

## United States

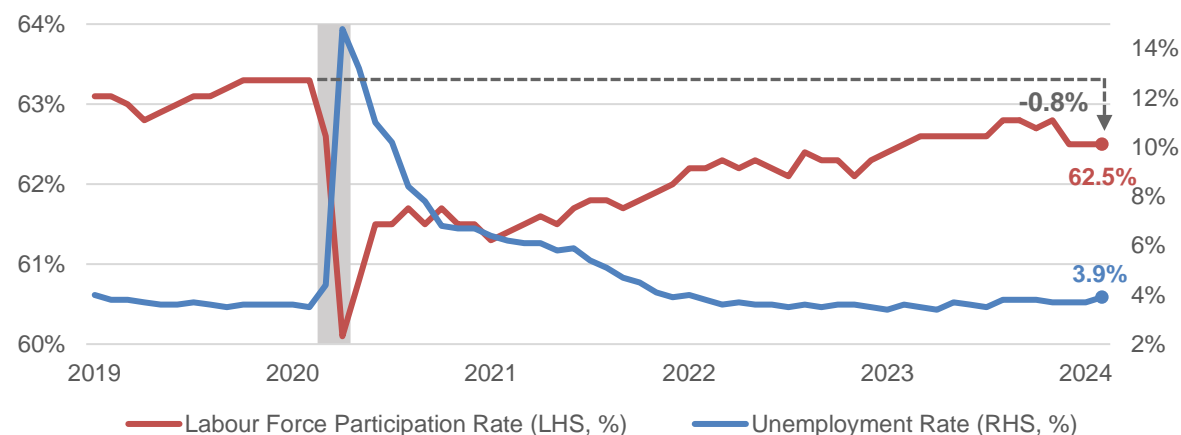
- ~220,000 workers are expected to retire by 2029
- Demand for lithium, cobalt, and copper is rising due to global electrification
- Globally, 384 new mines will need to be built to meet the rising demand by 2035
- ~2/3 of mining CEOs say the lack of talent will have a large or very large impact on profitability over the next decade
- In 2022 there were only 600 mining engineering students in the US; down from 1500 in 2015

## Australia

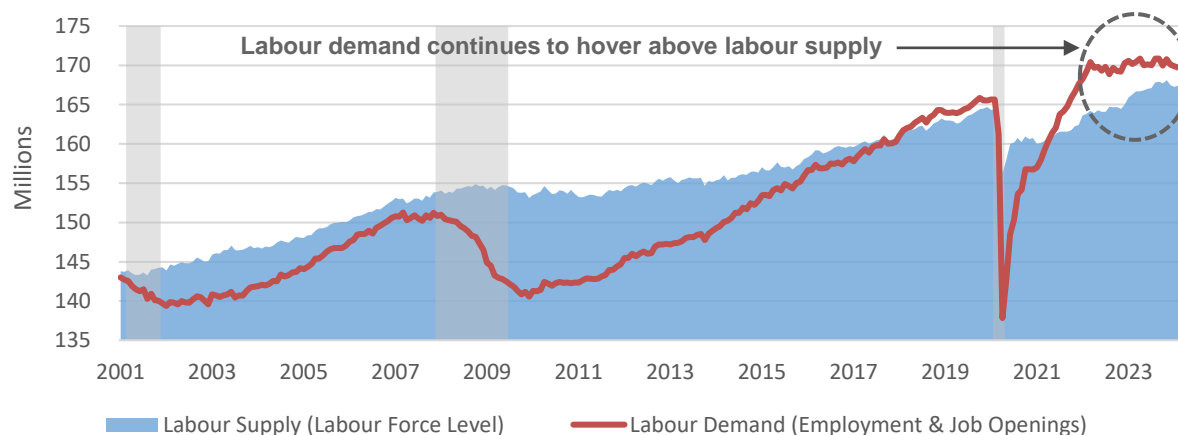
- Mining industry accounts for roughly 75% of exports
- Job vacancies have more than doubled since 2020

# US labor markets showing signs of softening, but ongoing tightness remains intact

Unemployment rate edge up slightly as labour market pressure weaken



Labour market pressure remain tight as demand outstrip supply



- **Further signs of cooling in the USA labour markets** as unemployment rate reached a two-year high in February. Unemployed rate ticked up slightly to 3.9% after holding at 3.7% for three straight months, reflecting the growth in overall labour supply as more re-enter the labour force.
- The economy added 275K jobs in February, higher than consensus estimate at 200K as more workers leave the sidelines, drawn by higher wages and pinched by elevated cost-of-living pressure and borrowing costs. Despite the stagnating labour demand and growing labour supply, **overall labour demand continues to exceed supply by ~2.3 million positions**, with 1.2 job openings per unemployed persons – reflecting significant labour market pressure that is unlikely to dissipate promptly in the near term.
- **Forward data suggest that further easing in labour market pressures on the cards.** The number of people who permanently lost their jobs – layoffs and completed a temporary job — rose to the highest level since a year ago. The amount who left their job was the fewest in three years. However, it should be noted that those numbers remain low compared to historical averages.

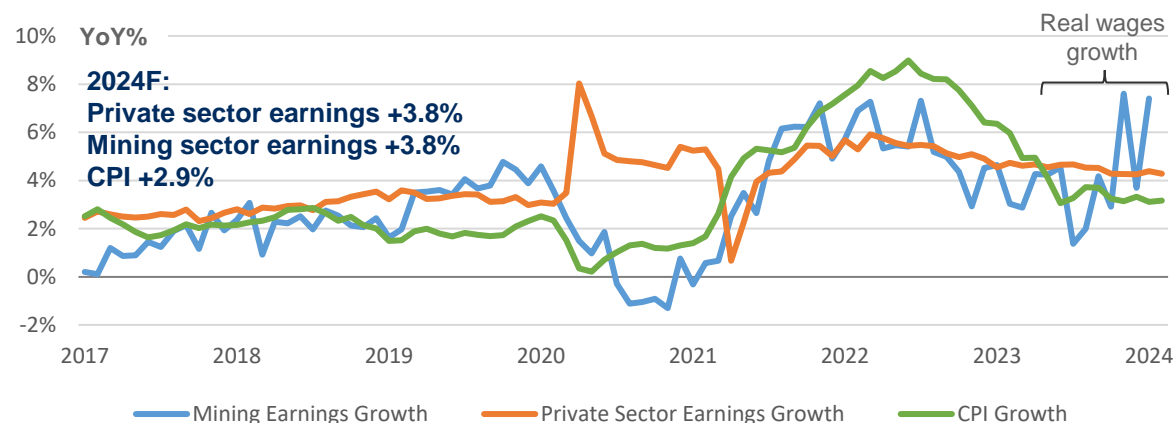
Layoffs and unemployment due to the completion of a temporary job on the rise, although remain lower than pre-covid levels



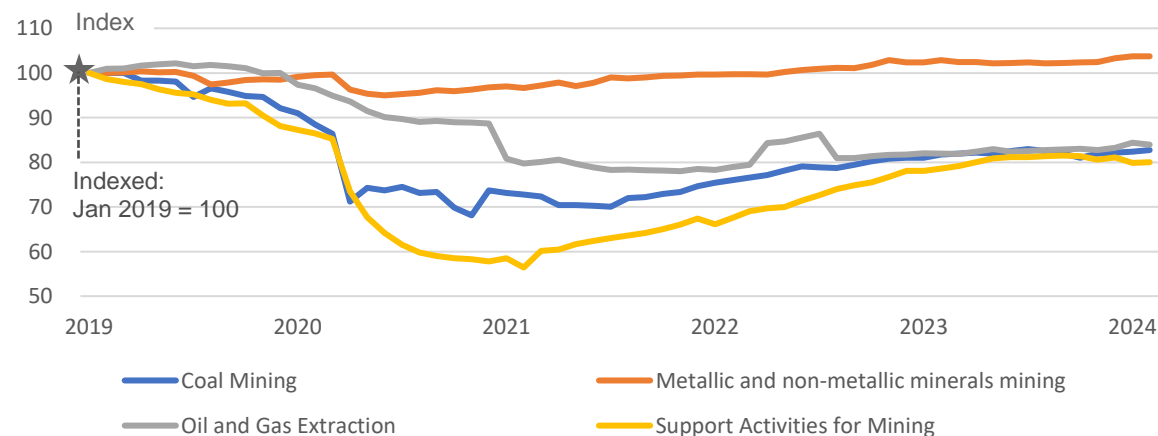


# Mining wages growth to surpass inflation in 2024F due to cooling inflationary pressure, supportive capex profile and tight labor markets

## All-industry wages growth has flipped to positive real wages growth

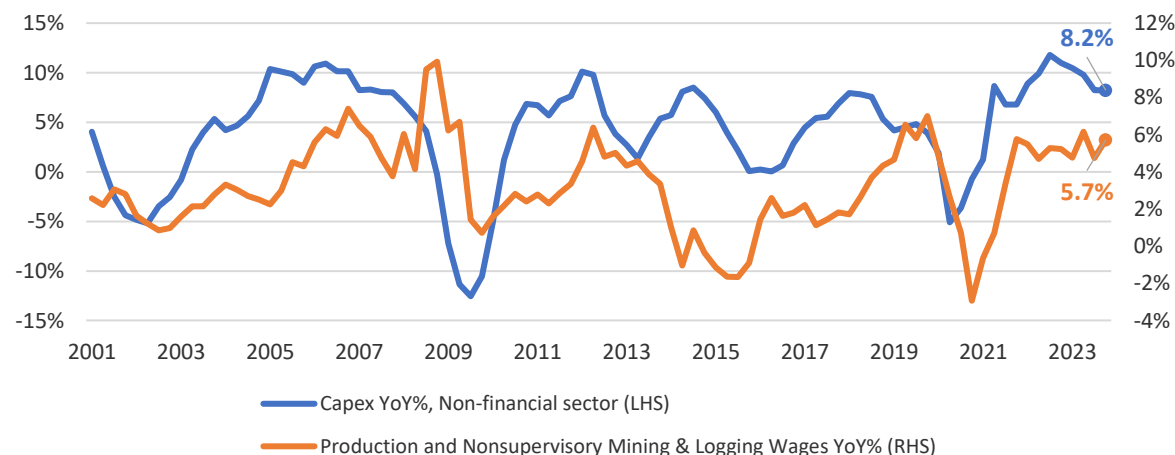


## Mining Employment Index – Subsector employment stabilizing since 2023



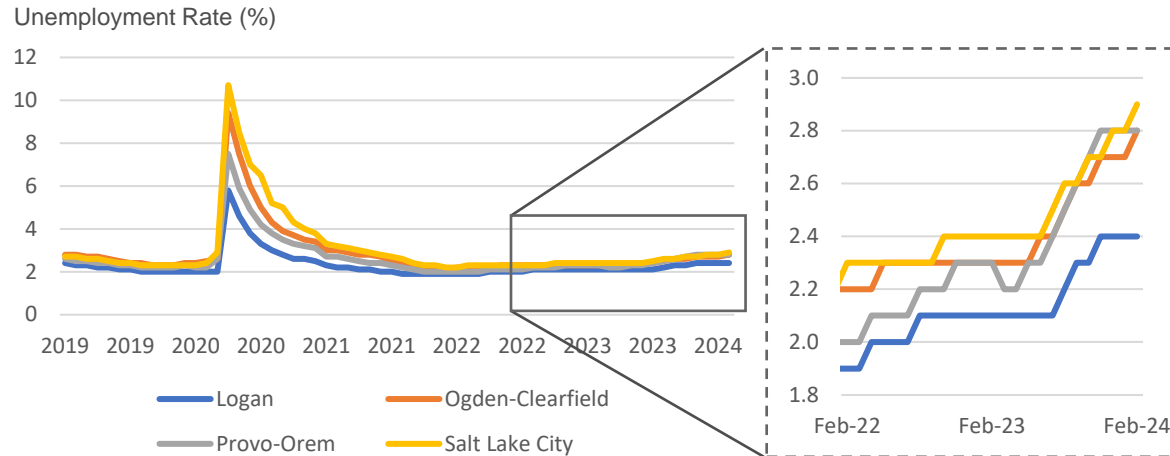
- The ongoing strength in US labour markets is translating through to employees' earnings growth, with average private sector earnings up 4.5% in 2023, a notch above the long-run average of 3% and above CPI at 4.1% for the year. Mining wages, on the hand, saw another year of negative real wages growth, with nominal wage gains of 3.8% for the year in part due to higher base wages. With moderating inflationary pressures (**CPI as of Feb'24 have fallen further to 3.2%**), real wages growth is expected for the mining sector in 2024 supported by ongoing labour market pressure.
- Subsector mining employment is starting to stabilise, with yearly employment growth in the magnitude of 0.9% to 2.4%. Excluding support activities, **oil and gas** saw the largest employment gain of +2,800 position YoY, fuelled by new build projects (558 oil and gas projects commencing operations between 2024 to 2028) – **source of labour competition**.
- The US Inflation Reduction Act (IRA) and Infrastructure Investment and Jobs Act (IIJA) will provide support for capex, keeping labour markets tight for core skillsets (mining, construction) irrespective of the prevailing macroeconomic conditions.

## US Capex vs Mining Wages YoY% - healthy capex growth supporting wages growth



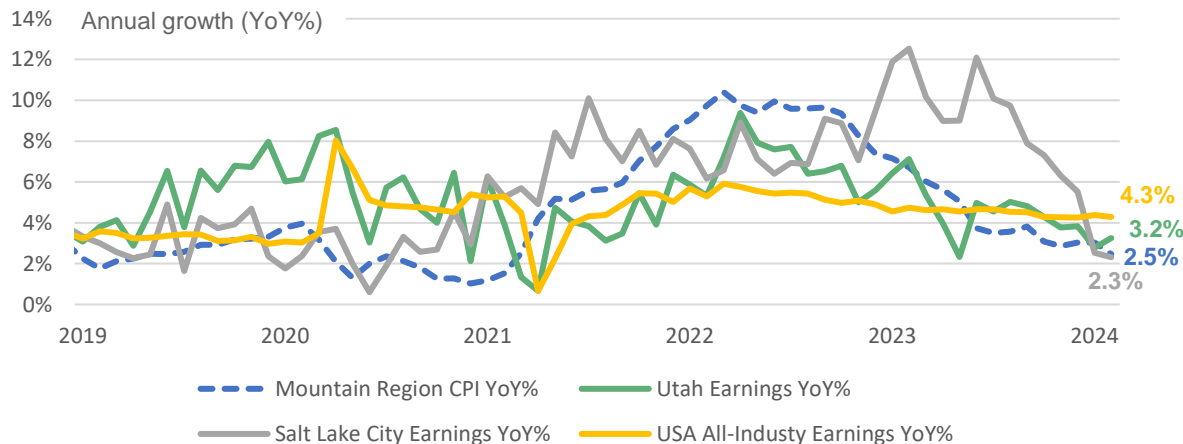
# Labor market in Utah whilst easing remains tight. Utah remains an attractive mining employment market in Western America

Utah unemployment rates approaching 3%

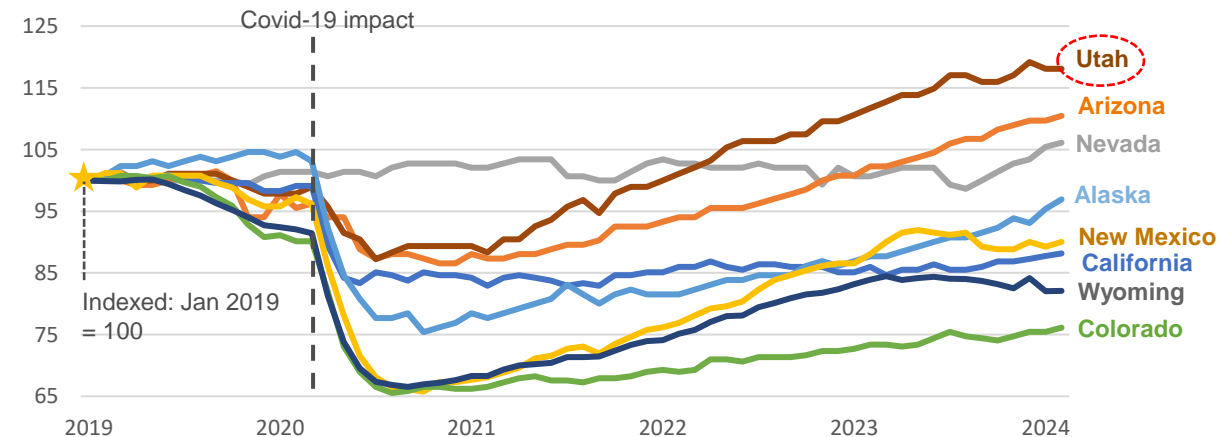


- Utah labor market while softened over the past months continues to be tight, with unemployment rate at 2.8% in Feb'24 (up from 2.5% a year prior). Labor shortages remain elevated, with ~2 job openings for every unemployed person in the state (1.4 across USA).
- Despite the competitive labor market pressure in Utah, the **rapidly declining inflationary environment in the state is dragging down wages**. Mountain region CPI fell from its peak of 10.4% YoY in 2022 to 2.5% in Feb'24 – lower than USA national CPI at 3.2%. Utah and Salt Lake City similarly plunged to 3.2% and 2.3% YoY respectively in Feb'24, in part due to base effects. Ongoing real wages growth for the region expected in 2024 given tight labor markets and cooling inflationary pressures.
- Mining labour competition in Utah likely to ramp up with interstate competition across gold and copper mines in Nevada and Arizona however, it seems that Utah has been successful in attracting labour (lithium, gold, tellurium and copper).

Rapidly declining inflationary environment in the state is dragging on wages



Utah continues to be attractive mining labour destination in Western America, attracting and retaining labour from neighbouring states

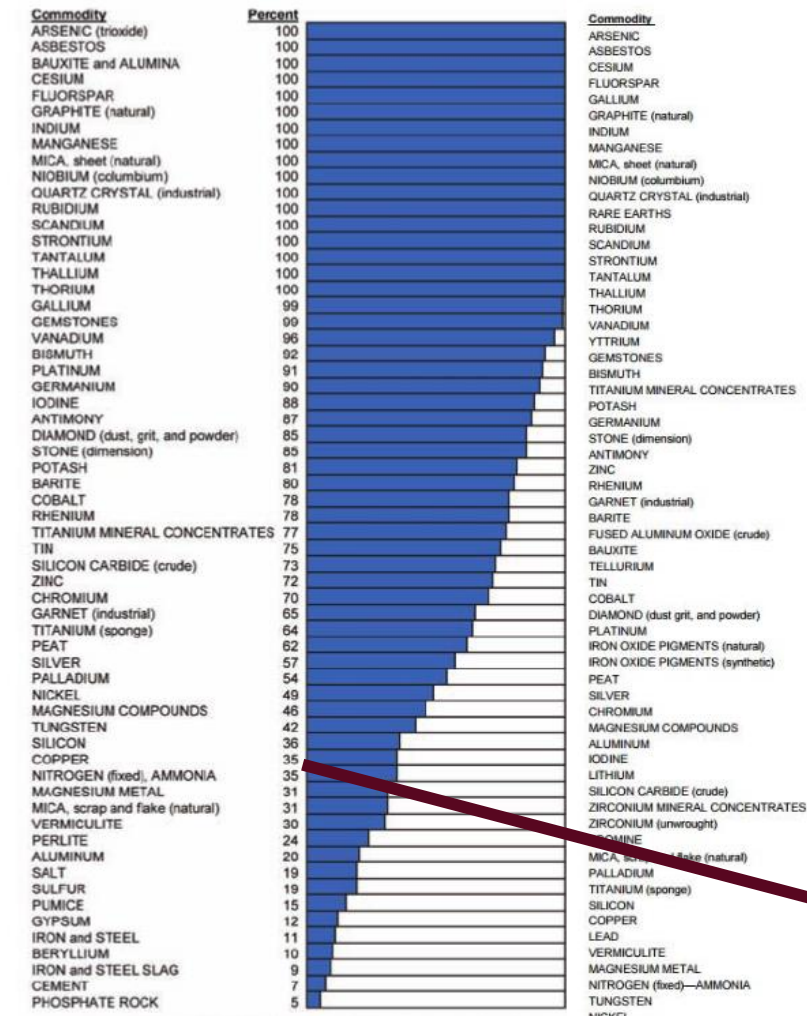


# Skills shortage

A dangerous problem for a growing industry

# Skill shortages among mining workers lead to a reliance on trade

2012 U.S. NET IMPORT RELI.



2016 U.S. NET IMPORT RELIANCE

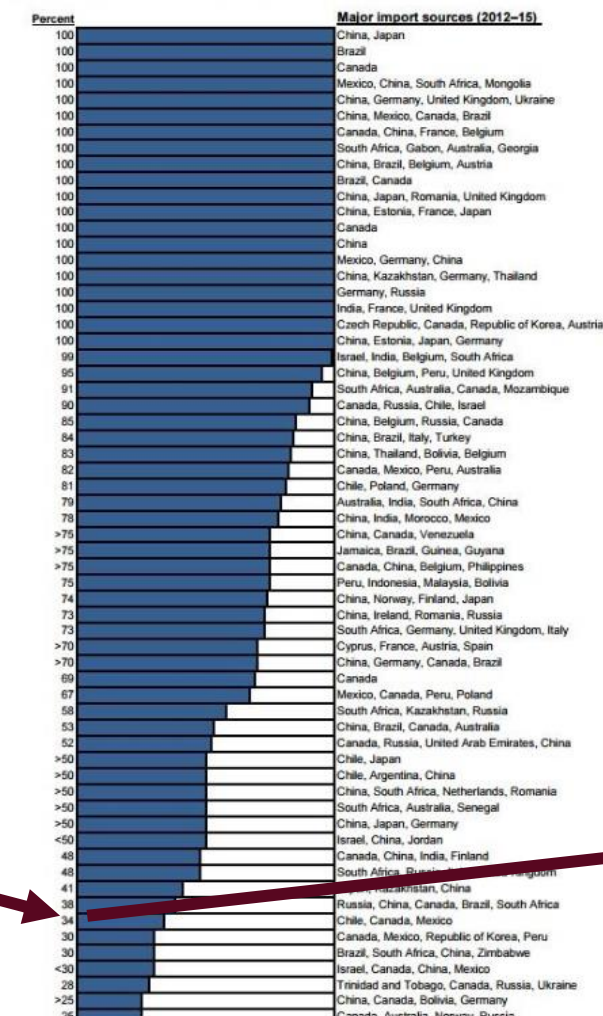
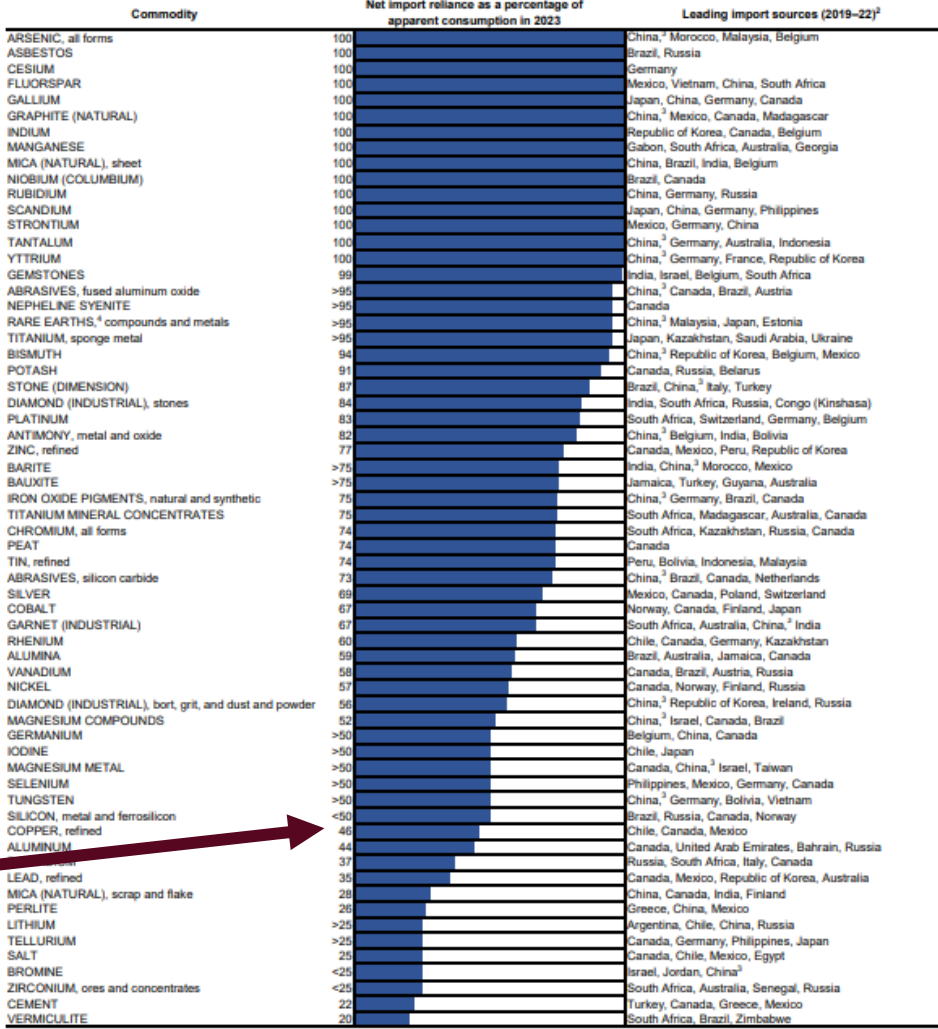


Figure 2.—2023 U.S. Net Import Reliance<sup>1</sup>



<sup>1</sup>Not all mineral commodities covered in this publication are listed here. Those not shown States is a net exporter (for example, molybdenum) or less than 5% import reliant (for example, talc). For some mineral commodities (for example, rare earths), not enough information is available to calculate the exact percentage of import reliance; for others (for example, lithium), exact percentages may have been rounded to avoid disclosing company proprietary data.

<sup>2</sup>In descending order of import share.



# The mining skill shortage is fueled by a changing workforce that has different wants and needs than the previous generations

## Stability

- Gen Z ranks job stability above high salary
- prefers stable jobs, whereas millennials prefer flexible freelance work

## Positive social responsibility

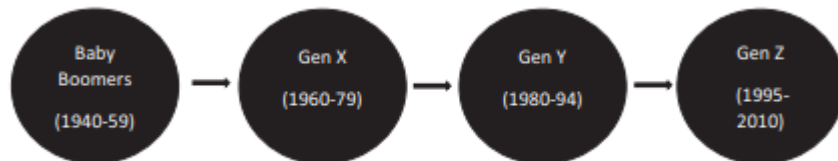
- mobilizes around causes and more socially and environmentally aware than other generations

## Accepting Culture; flexible work schedule

- looks for community and work-life balance
- They are reluctant to work in teams, preferring autonomy
- defines diversity differently than previous generations looking at: race, gender, religion, identity, or orientation

## Career Development

- wants to face challenges and find their work interesting



## 100 Least Popular Jobs in 2022 according to the Bureau of Labor Statistics

### #99. Helpers--extraction workers

- Total nationwide employment: 6,910
- Median hourly wage: \$20.73
- Median annual wage: \$43,110

### #91. Drilling and boring machine tool setters, operators, and tenders, metal and plastic

- Total nationwide employment: 6,470
- Median hourly wage: \$20.41
- Median annual wage: \$42,450

### #85. Hydrologists

- Total nationwide employment: 6,270
- Median hourly wage: \$41.34
- Median annual wage: \$85,990

### #80. Pourers and casters, metal

- Total nationwide employment: 6,070
- Median hourly wage: \$21.67
- Median annual wage: \$45,070

### #69. Loading and moving machine operators, underground mining

- Total nationwide employment: 5,210
- Median hourly wage: \$30.73
- Median annual wage: \$63,920

### #53. Commercial divers

- Total nationwide employment: 3,860
- Median hourly wage: \$32.84
- Median annual wage: \$68,300

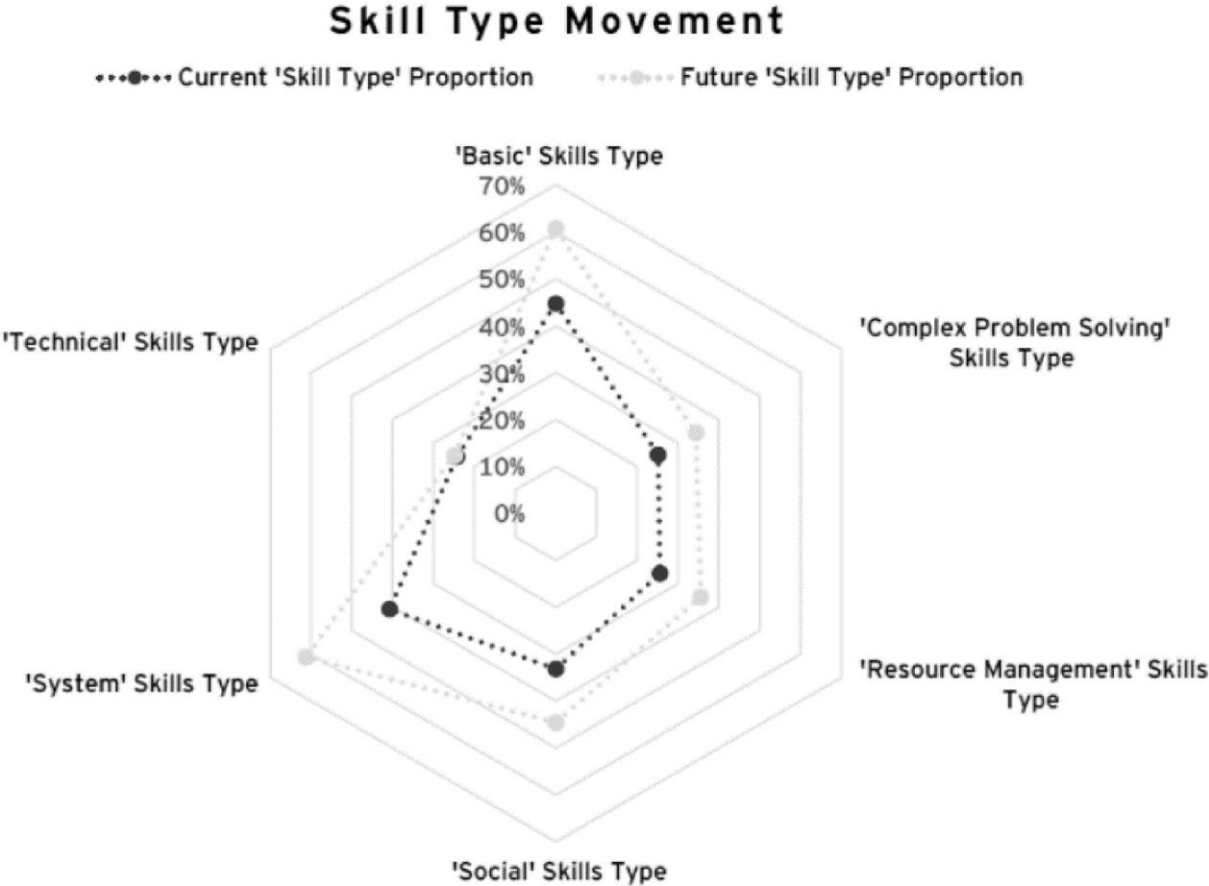
### #26. Underground mining machine operators, all other

- Total nationwide employment: 2,270
- Median hourly wage: \$30.86
- Median annual wage: \$64,180



# Addressing the skills shortage

# Solutions to the skills shortage may be hidden in looking at analogous industries and changing the narrative on mining, as well as fostering STEM education in the next generation



Mining's public image needs to be rebranded to attract millennials and Gen Z to reflect the benefits of mining, stewardship, and an increased focus on responsibly cultivating resources that we all need in modern life. Looking at analogous industries; what attracts people to oil and gas and construction? These jobs are perceived as flexible, room for advancement, high paying, and have brand recognition.

**Partnering with Universities and K-12 education to create a minerals friendly narrative.** A passion for the outdoors and creating are innate in kids; we need to captivate and bring this out throughout the education process.

**Broaden the discussion on diversity to include the various dimensions of diversity, finding futuristic solutions to accommodate the changing workforce.** The automation of mining creates a new skill set need for future miners. With this change comes a different dynamic at the mine sight, and a need for all types of workers to manage it.

