

XANADU MINES

**Low cost sustainably  
produced copper in 5 yrs**  
**五年内实现低成本、可  
持续地生产铜**

Global Chinese Financial Forum (GCFF)|

国际金融投资博览会(GCFF)

Global Resource Investment Conference (Asia Pacific)

国际资源投资大会（亚太专场）

**29 September 2022**

**2022年9月29日**



**ASX:XAM | TSX:XAM**

## Cautionary Statements

The Study has been undertaken to assess viability of developing the Kharmagtai Copper-Gold Project by constructing an open cut mine and processing facility to produce copper concentrate for export. It is a preliminary technical and economic Study of the potential viability of the Kharmagtai Project. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further exploration and evaluation work and appropriate studies are required before Xanadu will be in a position to estimate any ore reserves or to provide any assurance of an economic development case. The Study is based on the material assumptions in this document. These include assumptions about the availability of funding. While Xanadu considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Study will be achieved. To achieve the range of outcomes indicated in the Study, funding of in the order of US\$700 million will likely be required. Investors should note that there is no certainty that Xanadu will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Xanadu's existing shares. It is also possible that Xanadu could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Xanadu proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Study. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised. The Study is based on the December 2021 Mineral Resource Estimate, is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Study will be realised. The Study has been completed to a level of accuracy of +/-35% in line with industry standard accuracy for this stage of development. The Company has reasonable grounds for disclosing a Production Target, given that in the first seven years of production, 100% of the mill feed is scheduled from the Indicated Resource category, which exceeds the economic payback period for the project by 3 years. Approximately 55% of the Life of Mine Production Target is in the Indicated Mineral Resource category, and 45% is in the Inferred Mineral Resource category. There is a lower level of geological confidence associated with Inferred Mineral Resources, and while the Company considers all the material assumptions in this Study to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated will be achieved. The Mineral Resources underpinning the production target in the Study have been prepared by a Competent Person in accordance with the requirements of Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). The Competent Person's Statement is found in the Geology and Resources section of this Study. For full details of the Mineral Resource Estimate, please refer to Xanadu ASX/TSX Announcement dated 25 February 2022. Xanadu confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that Announcement continue to apply and have not materially changed. Note that unless otherwise stated, all currency in this Study is US dollars.

## Forward Looking Statements

Certain statements contained in this Study, including information as to the future financial or operating performance of Xanadu and its projects may also include statements which are 'forward-looking statements' that may include, amongst other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These 'forward-looking statements' are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Xanadu, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements. Xanadu disclaims any intent or obligation to update publicly or release any revisions to any forward-looking statements, whether as a result of new information, future events, circumstances or results or otherwise after the date of this Study or to reflect the occurrence of unanticipated events, other than required by the Corporations Act 2001 (Cth) and the Listing Rules of the Australian Securities Exchange (ASX) and Toronto Stock Exchange (TSX). The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward-looking statements. All 'forward-looking statements' made in this Study are qualified by the foregoing cautionary statements. Investors are cautioned that 'forward-looking statements' are not a guarantee of future performance and accordingly investors are cautioned not to put undue reliance on 'forward-looking statements' due to the inherent uncertainty therein. Xanadu has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this Study. To achieve the range of Kharmagtai Copper-Gold Project outcomes indicated in the 2022 Study, funding of in the order of an approximately US\$700 million will likely be required by the Company. Based on current market conditions and the results of studies undertaken, there are reasonable grounds to believe the Project can be financed via a combination of equity and debt, as has been done for numerous comparable projects in Mongolia and other jurisdictions in Asia in recent years. Debt may be secured from several sources including Australian banks, international banks, the high yield bond market, resource credit funds, and in conjunction with product sales of offtake agreements. It is also possible the Company may pursue alternative funding options, including undertaking a corporate transaction, seeking a joint venture partner or partial asset sale. There is, however, no certainty that Xanadu will be able to source funding as and when required. Whilst no formal funding discussions have concluded, the Company has engaged with several potential financiers of the Kharmagtai Copper-Gold Project and these financial institutions and corporations have expressed an interest in being involved in funding of the Project. This ASX Study has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC modifying factors, on which the production target and forecast financial information are based have been included in this ASX Study.

# Xanadu Mines Overview

Growth focused Copper/Gold exploration & development, operating in Mongolia

## Discover

### Kharmagtai (76.5%)<sup>4</sup>

Flagship project; development ready & mineralised complex **open** in all directions

### Red Mountain (100%)

Early diamond drill results confirmed prospectivity. Trenching underway for **shallow high-grade**, with **multiple targets prioritised for drilling** soon.

### New Project Generation

## Define (Kharmagtai)

### Mineral Resource Estimate<sup>1</sup>

1.1Bt containing **3Mt copper** & **8Moz gold**  
**>100Mt @ 0.8% CuEq** higher-grade zone doubled (**open**)

### Scoping Study<sup>2</sup>

30yr mine life producing **200kt Cu** & **500koz Au** for first 5 yrs and 1.5Mt Cu & 3.3Moz Au over life of mine (LOM)  
 Lowest quartile AISC of **US\$1.02/lb Cu** for first 5yrs  
**US\$3.4B** Free Cashflow (post-tax) over LOM  
 Base case (post-tax): US\$630M NPV, 4-yr payback

## Develop (Kharmagtai)

### Funded to Construction Decision

Strategic partnership with Zijin Mining delivering US\$43M (**A\$58M**) cash<sup>3</sup>

### Pre-Feasibility Study (PFS)

Commencing **Q1'2023**  
 Targeting **opex & capex improvements, maximising production** schedule economically.

**Copper/Gold Concentrate Production**  
**4Q'2027** target

## XAM (ASX, TSX) Capital Structure

**A\$0.032**

Share Price as @ 21/9/2022

**1,412M**

Shares on issue as 2 21/9/2022

**A\$45M**

Market Cap @ A\$0.032/share

**A\$4M**

Cash Balance reported as @ 30/6/2022

**A\$41M**

Enterprise Value

(Shown before cash from *Phases 2-3 of Strategic Partnership*<sup>3</sup>, see slide 16 for post-deal)

## 55% Top 20 Shareholders<sup>5</sup>

### INSTITUTIONAL SHAREHOLDERS

ACA 16% Zijin 10% Others 16%

### BOARD & MANAGEMENT

6% on a fully diluted basis  
 (includes 37m shares & 47m performance options)

(Shown before cash from *Phases 2-3 of Strategic Partnership*<sup>3</sup>, see slide 16 for post-deal)

<sup>1</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

<sup>2</sup> ASX/TSX Announcement 6 April 2022 – Scoping Study Kharmagtai Copper-Gold Project

<sup>3</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining

<sup>4</sup> Will become 38.25% upon completion of 50-50 Joint Venture with Zijin Mining Group

<sup>5</sup> Shareholder data as at 30 June 2022

# Xanadu Mines公司概述

在蒙古国运营项目，专注于铜/金的勘探和开发

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## 发现

### Kharmagtai (76.5%)<sup>4</sup>

旗舰项目；准备开发，矿化复合体向所有方向开放

### Red Mountain (100%)

早期的金刚石钻探结果确认了潜力。正在进行的槽探确定了浅层的高品位区域，**多个靶区将很快优先进行钻探**

产生新的项目

## 确定 (Kharmagtai)

### 矿产资源量预期值<sup>1</sup>

11亿吨，包含**300万吨铜**和**800万盎司黄金**

**>1亿吨@铜当量品位0.8%**，较高品位区域提高一倍（开放）

### 概括研究<sup>2</sup>

30年矿山寿命，前五年生产**20万吨铜** & **50万盎司黄金**，整个矿山寿命期间生产**150万吨铜**和**330万盎司黄金**

前五年全部维持成本处于最低四分位，为**1.02美元/磅铜**

矿山寿命期间自由现金流（税后）为**34亿美元**

基准情况（税后）：净现值**6.3亿美元**，资本回收期为4年

## 开发 (Kharmagtai)

资金充足，将做出矿山建设决定

与紫金矿业战略合作，获得4300万美元(**5800万澳元**)现金<sup>3</sup>

### 预可行性研究(PFS)

**2023年第一季度开始**

目标是优化运营开支和资本开支，以最小的成本实现产量最大化

### 铜/金精矿生产

目标是2027年第四季度

## XAM (ASX, TSX) 资本结构

**0.032澳元**

股价@ 21/9/2022

**4500万澳元**

市值@ A\$0.032/股

**4100万澳元**

企业价值

**14.12亿**

已发行，截止21/9/2022

**400万澳元**

现金余额，截止 @ 30/6/2022

（所示为战略伙伴关系第2-3阶段的现金前<sup>3</sup>，交易后的情况见第16页）

## 55% 前20大股东<sup>5</sup>

**机构股东** ACA **16%**，紫金矿业**10%**，其他**16%**

### 董事会和管理层

**完全摊薄后6%**

（包括3700万股和4700万份业绩期权）

（所示为战略伙伴关系第2-3阶段的现金前<sup>3</sup>，交易后的情况见第16页）

<sup>1</sup> 2021年12月8日在ASX/TSX的声明—Kharmagtai项目的资源量提升到11亿吨，包含300万吨铜和800万盎司黄金

<sup>2</sup> 2022年4月6日在ASX/TSX的声明—Kharmagtai铜-金项目的概括研究

<sup>3</sup> 2022年4月19日在ASX/TSX的声明—与紫金矿业集团战略合作

<sup>4</sup> 与紫金矿业集团的50-50合资企业完成后，将成为38.25%。

<sup>5</sup> 股东数据截止2022年6月30日



# Kharmagtai Positioned for Development / Kharmagtai项目 将进入开发阶段

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Funded to construction decision & reinvigorate exploration / 资金充足，将做出矿山建设的决定&加强勘探

Moving forward in 2022-24: / 2022-24年的推进计划:

- Kharmagtai PFS starts Q1'2023 completed over 12 – 18mths; Maiden Ore Reserve & **Decision to Mine** by mid 2024 / Kharmagtai项目的预可行性研究将于2023年第一季度开始，12-18个月完成，首份资源储量和矿山建设决定将于2024年中期确定
- Explore flagship Kharmagtai porphyry copper-gold project for **high-grade extension & new discoveries** / 在旗舰项目Kharmagtai斑岩铜金矿项目勘探，以获得高品位资源的延伸部分和新的发现
- Explore second project Red Mountain **epithermal & skarn** mineralisation / 勘探第二个项目Red Mountain浅成热液型和矽卡岩型矿化结构
- **7 rigs** parked up with drilling teams ready to commence / 7台钻机停在那里，钻井队准备开始工作

Objectives delivered in 2021-22: / 2021-22年实现的目标:

1. Resource expanded to 1.1Bt containing 3Mt Cu & 8Moz Au, including >100Mt **higher-grade zone doubled** / 资源量扩大到11亿吨，含300万吨铜和800万盎司金，包括超过1亿吨的高品位区域，增加了一倍。
2. Scoping Study<sup>1</sup> delivers 30-yr mine life; US\$630M NPV; 4-yr payback & 20% IRR, producing **50ktpa copper & 110kozpa gold** / 概括研究显示，矿山寿命为30年，净现值6.3亿美元，资本回收期4年，内部收益率20%，每年生产5万吨铜和11万盎司黄金
3. Funded via strategic partnership with Zijin Mining Group<sup>2</sup> delivering US\$43M (**A\$58M<sup>3</sup>**) cash / 通过与紫金矿业集团达成战略合作关系，获得4300万美元（5800万澳元）现金

## Kharmagtai Project Camp / Kharmagtai项目营地



<sup>1</sup> ASX/TSX Announcement 6 April 2022 – Scoping Study – Kharmagtai Copper-Gold Project; includes appropriate economic ranges / 2022年4月6日在ASX/TSX的声明 – Kharmagtai铜-金项目的概括研究；包括合适的经济范围

<sup>2</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining / 2022年4月19日在ASX/TSX的声明 – 与紫金矿业集团战略合作

<sup>3</sup> Conversion based on AUD:USD = 0.7387 as at 19 Apr 2022 close (transaction announcement date) / 根据2022年4月19日收盘时（交易公告日）澳元：美元=0.7387进行兑换。

# Well Timed to Impact ‘Approaching’ Copper Supply Cliff

## / 影响“临近的”铜供应悬崖的良好时机

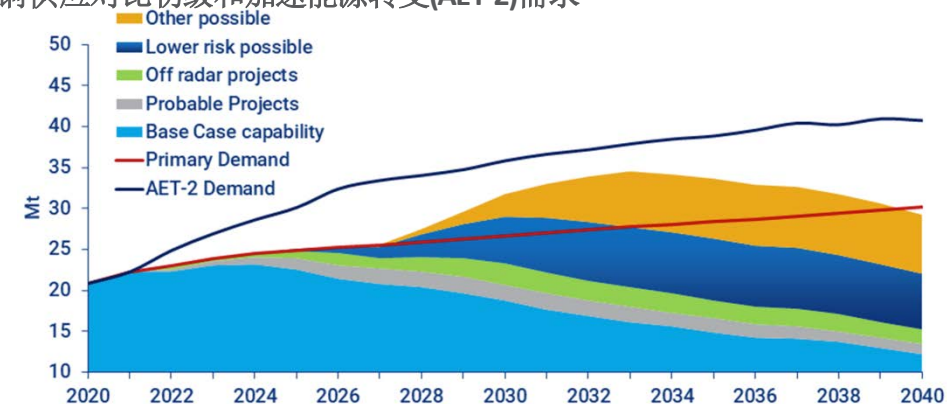
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Kharmagtai aiming to deliver copper in next 5 years / Kharmagtai的目标是未来五年内生产出铜

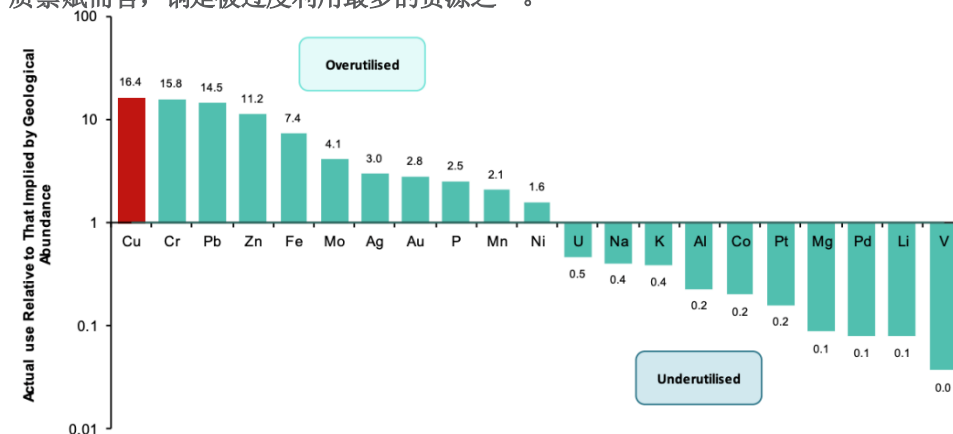
- Relative to consumption driven by the growing decarbonisation of the the economy, **copper over-utilised** / 由于经济日益去碳化所推动的消费，过度使用铜
- Global reserve **grades falling** since 1990's; Halved to ~0.5% Cu<sup>1</sup>/ 自上世纪90年代以来全球铜储量的品位下降，已经下降了一半，至约0.5%<sup>1</sup>
- New copper **discoveries insufficient** to replace production; discoveries in 2020s expected to be poorest since 1990<sup>2</sup> / 新发现的铜矿不足以取代产量；本世纪20年代的发现量预计是1990年以来最差的<sup>2</sup>
- Increasing ESG requirements impacting project lead time & risks; currently **>10yrs from Cu discovery to production**<sup>3</sup> / 越来越多的ESG要求影响了项目的准备时间和风险；目前，从发现铜矿到生产的时间超过10年
- Copper supply **deficits inevitable**: / 铜供应不足不可避免：
  - Wood Mac est. 6.5Mt deficit by 2027 for AET-2 Demand<sup>4</sup> / Wood Mac预计到2027年由于AET-2需求会产生产量缺口650万吨
  - BMO est. **9Mt deficit by 2030**; with 4Mt new supply growth (capex >\$75bn) as max. practical limit irrespective of Cu price<sup>5</sup> / BMO预计到2030年有900万吨的产量缺口；无论铜价如何，400万吨的新供应增长（资本支出>750亿美元）是最大的实际上限。
  - Equivalent to **8x new Escondida mines** over next 8 yrs<sup>6</sup> / 相当于未来8年8个Escondida新矿。

XAM's Kharmagtai positioned to add 1.5Mt Cu production between 2028 to 2057 / XAM的Kharmagtai项目将在2028年至2057年带来150万吨铜产量

Copper Supply vs Primary & Accelerated Energy Transition (AET-2) Demand<sup>4</sup> / 铜供应对比初级和加速能源转变(AET-2)需求<sup>4</sup>



Copper amongst most over-utilised relative to geological endowment<sup>7</sup> / 相对于地质禀赋而言，铜是被过度利用最多的资源之一。<sup>7</sup>



<sup>1</sup> <http://info.gorozen.com/2021-q1-market-commentary-problems-with-copper>

<sup>2</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/research/copper-discoveries-declining-trend-continues>

<sup>3</sup> <https://www.angloamerican.com/~media/Files/A/Anglo-American-Group/PLC/media/presentations/2022pres/bank-of-america-duncan-wanblad-presentation-2022.pdf>

<sup>4</sup> <https://www.woodmac.com/news/opinion/will-a-lack-of-supply-growth-come-back-to-bite-the-copper-industry/>

<sup>5</sup> <https://www.ft.com/content/975b92c0-8f70-48c2-8e50-f615db68228d>

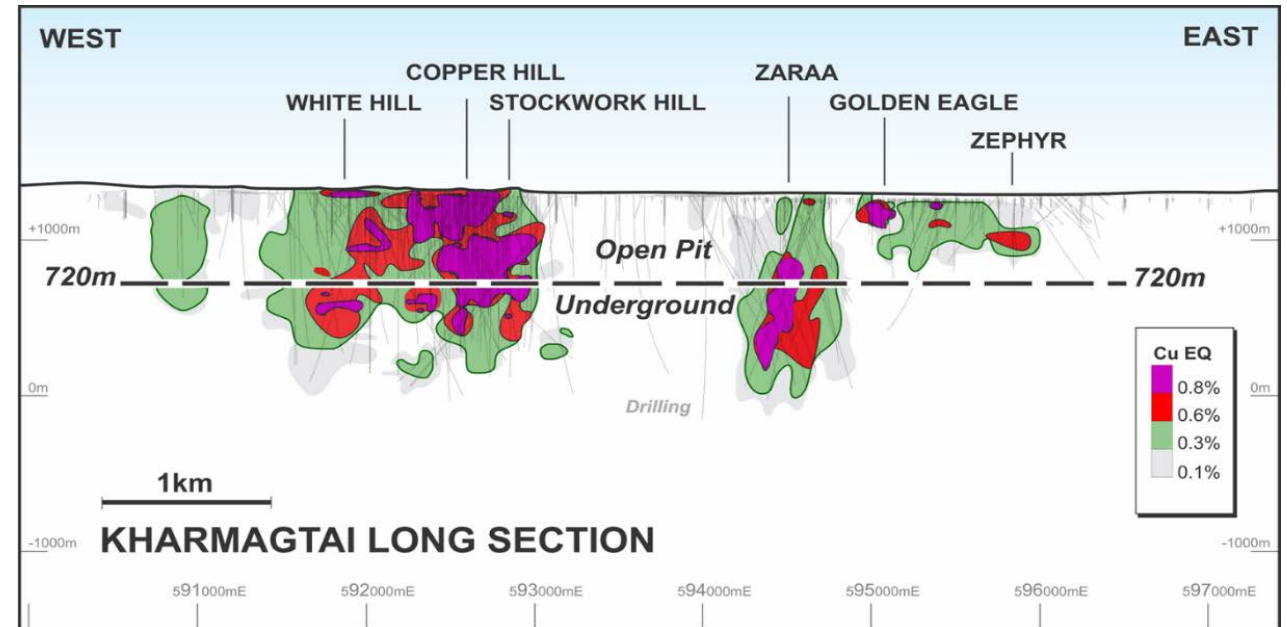
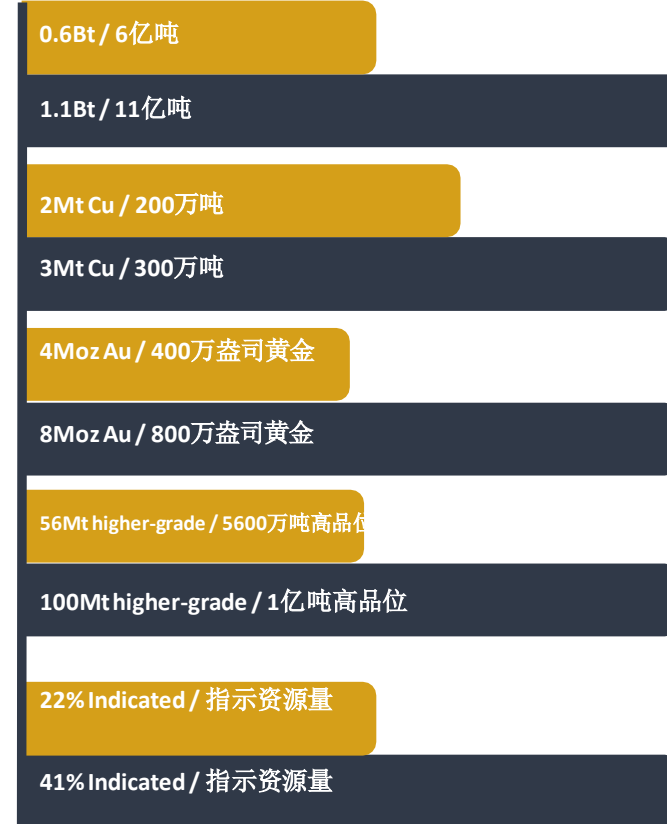
<sup>6</sup> <https://aheadoftheherd.com/8-escondidas-needed-over-the-next-eight-years/>

<sup>7</sup> <https://cdn-ceo-ca.s3.amazonaws.com/1g9df18-Global-Metals-Mining-King-Copper-once-and-future-14-September-2020-Bernstein.pdf>

# Kharmagtai is a Tier 1 scale, Near Surface Resource / Kharmagtai是一级规模的、近地表资源

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**Doubled higher-grade zones (>0.8% CuEq); strong potential for continued growth /**  
**高品位区增加一倍(>0.8%铜当量); 继续增长的强大潜力**



- Resource **open along strike** & at **depth** / 资源沿走向和向深处开放
- Additional **high-grade bornite** intercepts have extended mineralisation since the 2021 Resource model<sup>4</sup> / 自2021年资源模型以来, 更多的高品位斑铜矿矿段扩展了矿化结构。

## 2022-2023 Drilling / 2022-2023年钻探

- Reinvigorated **discovery exploration** & **high-grade focussed extension** drilling program being planned, with rigs ready to go / 正在计划发现勘探和高品位扩展区域的钻探计划, 钻机已准备就绪。
- ~30,000 metres infill drilling targeted during PFS / 预可行性研究阶段加密钻探约3万米

<sup>1</sup> ASX/TSX Announcement 18 December 2018 – Technical Report to support Kharmagtai Mineral Resource / 2018年12月18日在ASX/TSX的声明 – 支持Kharmagtai矿产资源量的技术报告

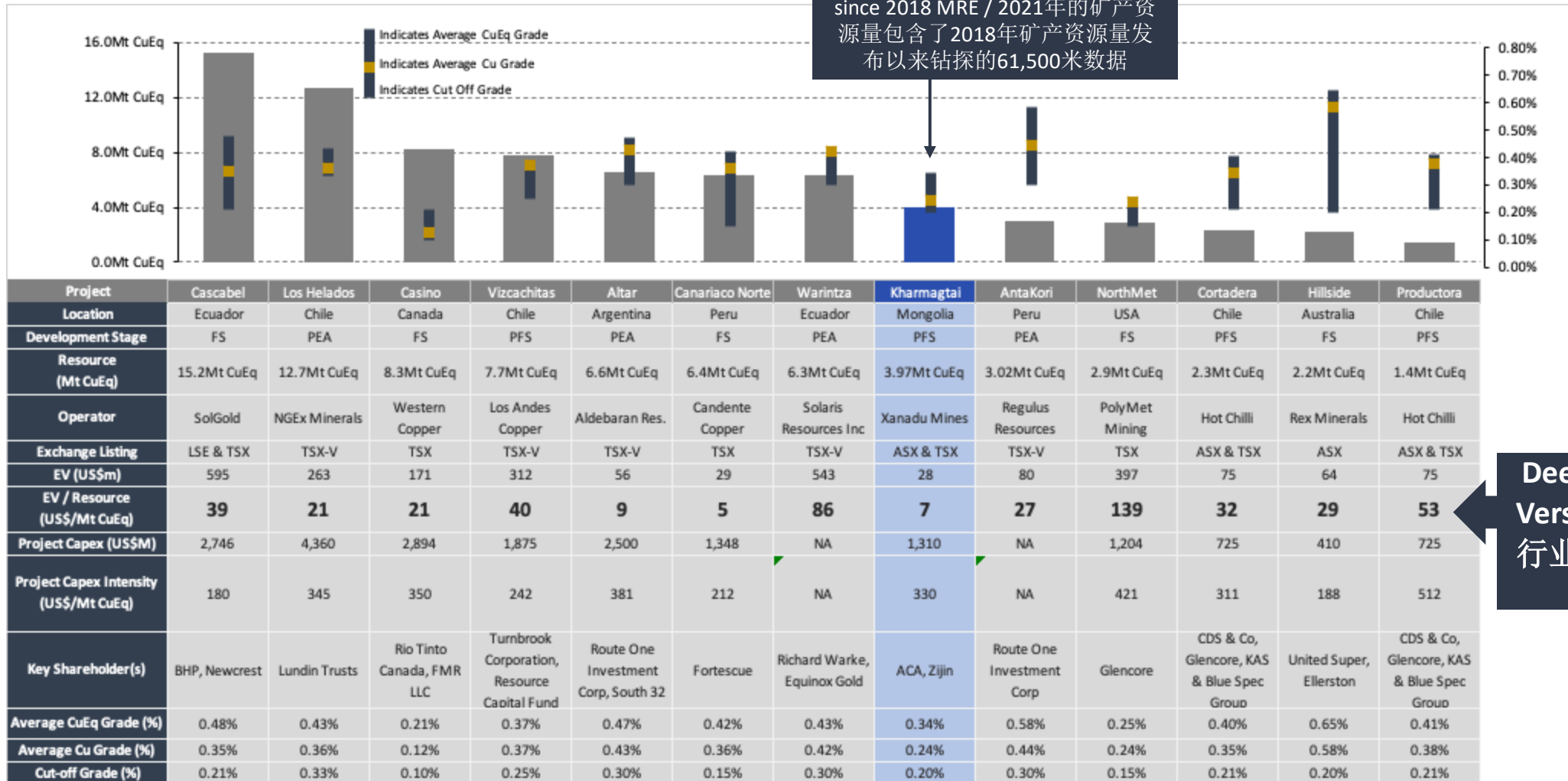
<sup>2</sup> ASX/TSX Announcement 28 February 2022 – Kharmagtai Technical Report / 2022年2月28日在ASX/TSX的声明 – Kharmagtai技术报告

<sup>3</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1 Billion Tonnes / 2021年12月8日在ASX/TSX的声明 – Kharmagtai矿产资源量增加到11亿吨

<sup>4</sup> ASX/TSX Announcement 1 December 2021 – Further Extensions to High Grade Zones at Stockwork Hill / 2021年12月1日在ASX/TSX的声明 – 在Stockwork Hill的高品位区进一步延伸

# Best Ranked Copper Resource on ASX / 澳交所排名最高的铜资源 XANADU MINES

Ascending global ranks - one of the largest undeveloped Resources controlled by a junior / 全球排名上升 - 由一家初级公司控制的最大的未开发资源之一



Deeply Discounted Versus Peers / 与同行业公司相比大幅折价

Source: Company Disclosure, EV in USD as at 21/9/22 / 来源: 公司披露信息, 企业价值以美元为单位, 为2022年9月21日数据  
CuEq calculations and benchmarking data in Appendix, slide 19 / 铜当量计算和基准数据见第19页附录  
Capex Intensity calculated as Project Capex / Mineral Resource / 资本开支强度计算为项目资本开支



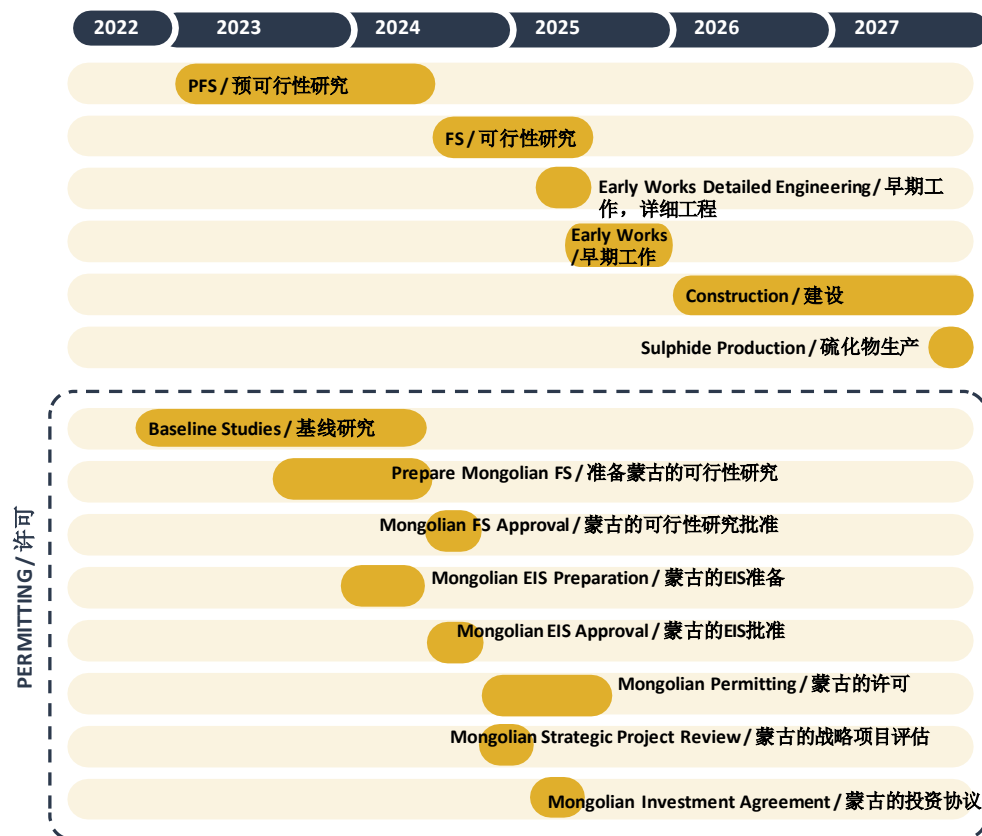
# Achievable Pathway to Production / 投产的可实现路径

Gated to Pre-Feasibility following robust Scoping Study / 强劲的概括研究后进行预可行性研究<sup>1</sup>

**STRATEGY:** develop Kharmagtai 15mtpa starter mine while **FULL EXTENT** of mineral system is being defined. 30mtpa expanded operation to be funded via starter mine cash flow, taking advantage of expected strong Resource growth along the way. / **策略:** 在确定矿产系统的全部范围的同时, 开发Kharmagtai 每年1500万吨的启动矿。通过启动矿的现金流为每年3000万吨的扩大运营提供资金, 同时利用预期的强大资源增长。

## Project Timeline / 项目时间表

Key expected milestones: / 预期的关键里程碑:



First production by 4Q'2027.  
Targeting opex & capex improvements, **maximising production** schedule economically. / 到2027年第四季度开始生产。以改善运营开支和资本支出为目标, 以经济的方式最大化生产

Clear permitting pathway mapped with **experienced Mongolian development team** ensuring compliance / 与经验丰富的蒙古开发团队一起绘制了清晰的许可路径图, 确保合规性

## Scoping Study Financials / 概括研究财务数据

Project Financial Summary / 项目财务数据概览	Low / 低值	Base / 基准	High / 高值
Net Revenue (US\$M) / 净收入 (百万美元)	15,200	16,100	17,100
EBITDA (US\$M) (百万美元)	5,880	6,770	7,660
Net Cash Flow (US\$M) / 净现金流 (百万美元)	2,590	3,420	4,240
NPV (8% discount) / 净现值 (折现8%)	405	630	850
IRR / 内部收益率	16%	20%	25%
Capital Payback / 资本回收期	7 years / 7年	4 years / 4年	4 years / 4年
Sensitivities / 敏感度	Low / 低值	Base / 基准	High / 高值
Cu price (US\$/lb) / 铜价 (美元/磅) (+/-10%)	3.60	4.00	4.40
Au price (US\$/oz) / 铜价 (美元/盎司) (+/-5%)	1,615	1,700	1,785
Life of Mine Capex (US\$M) / 矿山寿命期间资本开支 (百万美元) (+/-10%)	2,046	1,860	1,674

<sup>1</sup> ASX/TSX Announcement 6 April 2022 – Scoping Study Kharmagtai Copper-Gold Project / 2022年4月6日在ASX/TSX的声明–Kharmagtai铜-金项目的概括研究

# Favourable ESG Environment = Short Time to Production

## / 有利的ESG环境 = 投产时间短

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Mongolia is a **proven & growing** mining-driven economy / 蒙古国是一个成熟的、以采矿业为主导的经济体。

- ▶ **Pro-mining jurisdiction** – in 2020, mining accounted for 23% of Mongolia's GDP & **70% of export revenues**<sup>1</sup> / 支持采矿业的管辖权 - 2020年，矿业占蒙古国内生产总值的23%，占出口收入的70%。
- ▶ **Significant mining region** – tops Investment Monitor's 2021 Mining Vulnerability Index<sup>1</sup>, followed by Zambia & Australia / 重要的采矿地区 - 在《投资观察》2021年矿业脆弱性指数<sup>1</sup>中排名第一，其次是赞比亚和澳大利亚
- ▶ **Stable democratic system** – 30-yr history of democratic elections / 稳定的民主制度 - 30年的民主选举历史
- ▶ **Social License to Operate** – enabling **short lead times to mine production** / 社会经营许可证 - 使矿山生产的准备时间更短
- ▶ **Excellent established infrastructure** – leveraging rail, power & water for **low capex intensity development** / 优良的基础设施 - 利用铁路、电力和水，实现低资本开支开发
- ▶ **Ideal location** – flat ground, sparse population & proximal to customers **minimises technical, ESG & concentrate marketing risks** / 理想的位置 - 地势平坦，人口稀少，靠近客户，将技术、环境治理和精矿营销风险降至最低

...On the doorstep of world's largest consumer / 在世界最大消费国的门口

77% of Mongolia's external trade was with China between 2011 – 2021 / 2011-2021年期间，蒙古国77%的对外贸易是与中国进行的<sup>2</sup>

Copper (27%) & Coal (27%) accounted for majority of Mongolia's total exports to China over the same period / 铜（27%）和煤（27%）占同期蒙古国对中国出口总额的大部分<sup>2</sup>

China accounted for ~52% refined copper consumption globally in 2021 / 2021年，中国占全球精炼铜消费量的~52%<sup>3</sup>

China's global consumption of refined copper up 4% yoy to 1.87Mt in 1H 2022 / 2022年上半年中国总的精炼铜消费量同比增长4%至187万吨<sup>3</sup>



<sup>1</sup><https://investmentmonitor.ai/business-activities/extractive-industries/mongolia-and-australia-among-countries-that-will-suffer-the-most-in-a-mining-downturn>

<sup>2</sup> The Current situation for Foreign Trade between Mongolia and China, Future Trend / 蒙古国与中国之间的对外贸易现状及未来趋势 [https://www.mongolbank.mn/documents/press\\_conference/20220621\\_06.pdf](https://www.mongolbank.mn/documents/press_conference/20220621_06.pdf)

<sup>3</sup> Global refined copper consumption distribution 2021, by region / 2021年全球精炼铜消费分布，按地区划分 <https://www.statista.com/statistics/693466/distribution-of-global-refined-copper-consumption-by-region/>

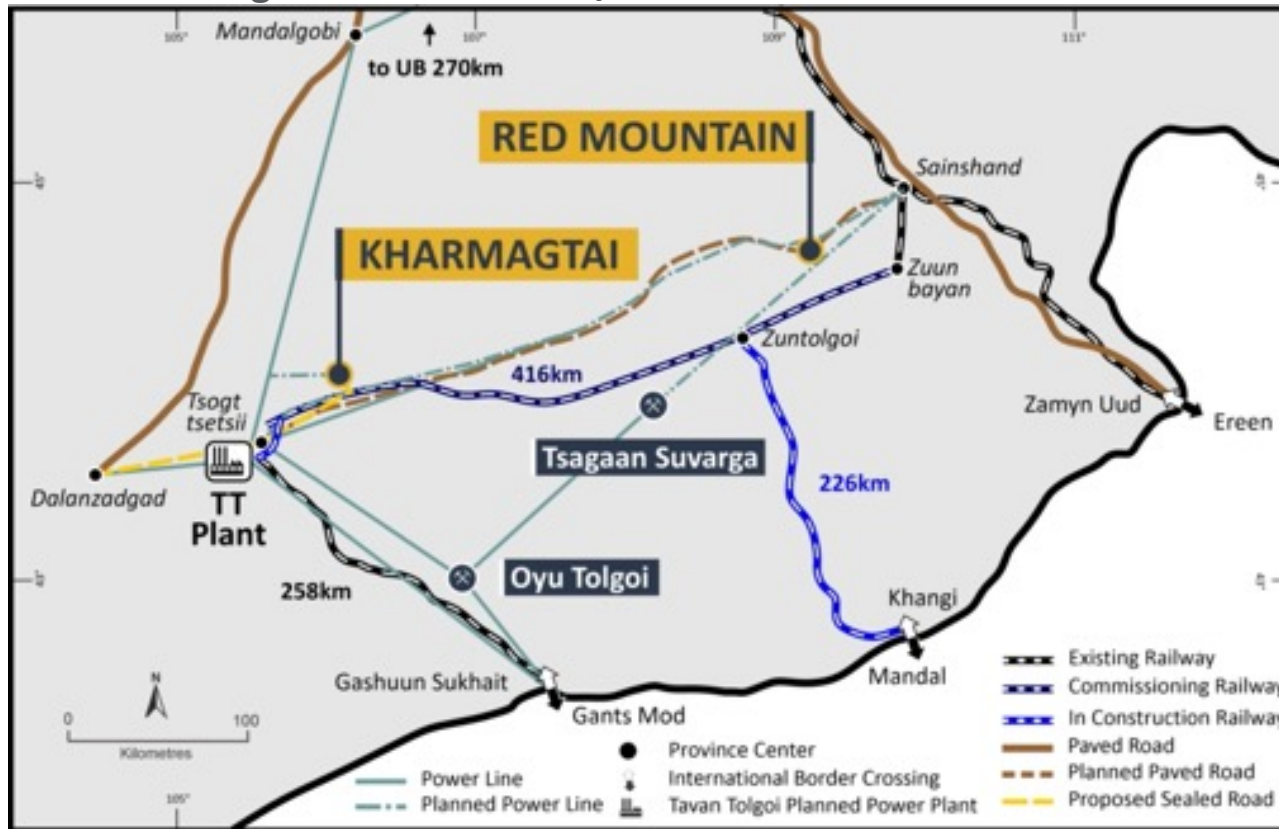
<sup>4</sup> China steps up copper imports despite renewed slowdown / 尽管中国经济再次放缓，但仍加大了铜的进口力度 <https://www.reuters.com/markets/commodities/china-steps-up-copper-imports-despite-renewed-slowdown-andy-home-2022-08-02/>

# New Infrastructure Enhances Customer Links / 新的基础设施加强了客户联系

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Mongolia investing for more globally competitive South Gobi mining products / 蒙古国为提高South Gobi采矿产品的全球竞争力进行投资

## South Gobi Regional Infrastructure / South Gobi区域基础设施



## Rail & Road / 铁路与公路

- New rail line commissioning between Zuunbayan & Tsogtsetsii, linking to trans-Mongolia railway. New sealed road follows rail line. / Zuunbayan和Tsogtsetsii之间的新铁路线投入使用，连接到跨蒙古国铁路。新的公路沿着铁路线。
- New rail lines south to China from Tavan Tolgoi (operational) reduces transport cost by 75%<sup>1</sup> & Zuntolgoi (in construction) / Tavan Tolgoi（已运营）向南到中国的新铁路线降低了75%的运输成本<sup>1</sup>和Zuntolgoi（建设中）。
- 22km line network / 连接Gashuun Sukhait和Zuunbayan铁路线的22公里线路正在建设中，将connecting Gashuun Sukhait & Zuunbayan rail lines in construction, linking mining region to China & wider Mongolian采矿区与中国和更广泛的蒙古国网络连接起来。

## Power / 电力

- New Tavan Tolgoi power plant construction awaiting tender process / 新的Tavan Tolgoi电厂建设正在等待招标程序
- Additional power lines link region to Tavan Tolgoi / 更多的电力线将该地区与Tavan Tolgoi连接起来



Train operating on South Gobi railway / South Gobi铁路线上的列车

<sup>1</sup> <https://www.globaltimes.cn/page/202209/1275099.shtml>



# Mongolia Policy Reforms to Incentivise Mining

## / 蒙古国鼓励采矿的政策改革

Seeking to **boost investor confidence**; potential to be a miner's destination of choice

/ 寻求增强投资者信心; 有可能成为矿企的首选目的地

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### Law reform coming soon / 很快进行法律改革<sup>1, 2, 3</sup>

- Newly appointed **pro business** ministers announced (during quick Cabinet reshuffle) for mining, economy & development, and secretariat chief / 宣布新任命的亲商部长（在快速内阁改组期间），负责采矿、经济和发展，以及秘书处主任。
- Expected to shape a more investor friendly mining sector; **revisions to Mining Law expected in 2023**. *Law of Mongolia on Minerals (2006)* has been stable for some time now, with no amendments passed since 2019. / 预计将塑造一个对投资者更友好的采矿业; 预计在2023年对《采矿法》进行修订。《蒙古国矿产法》（2006年）已经稳定了一段时间，自2019年以来没有通过任何修订。
- Revisions to Investment Law also on the agenda, including establishment of Investor Protection Council / 对《投资法》的修订也在议程上，包括建立投资者保护委员会
- Aimed at **boosting investment, the economy & investor confidence** / 旨在提升投资、经济和投资者信心

### Aligned with 'New Revival Policy' framework / 与 "新复兴政策" 框架保持一致<sup>4, 5</sup>

- Framework designed to create favourable business environment, improve foreign & domestic investment climate, as well as **fiscal reform** / 旨在创造有利的商业环境、改善外国和国内投资环境以及财政改革的框架
- Policy implementation aims to: / 政策实施的目标是:
  1. **increase mineral export volumes** / 提升矿产出口数量
  2. **improve capacity of border checkpoints, and** / 提升边境检查点的能力
  3. **accelerate infrastructure & energy construction projects.** / 加快基础设施和能源建设项目



XAM board & management catching up with the team, preparing for PFS kick off later this year / XAM董事会与管理层与团队成员，准备今年末开始的预可行性研究

<sup>1</sup> <https://thediplomat.com/2022/09/mongolia-unveils-new-pro-business-cabinet/>

<sup>2</sup> <https://montsame.mn/en/read/302312>

<sup>3</sup> <https://uk.practicallaw.thomsonreuters.com/w-017-7372?transitionType=Default&contextData=%28sc.Default%29>

<sup>4</sup> <https://montsame.mn/en/read/285624>

<sup>5</sup> <https://montsame.mn/en/read/303729>



# Multiple Upside Opportunities at Kharmagtai

## / Kharmagtai的多个提升机会

Leverage **smart mining** technologies & **reignite exploration** / 充分利用智能采矿技术，重新启动勘探

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### Process Oxidised Material to Minimise Waste / 加工氧化材料以尽量减少废物

- Scoping Study mines & processes only main underlying sulphide Resource / 概括研究仅对主要的潜在硫化物资源进行开采和加工
- Up to 90Mt partially oxidised material in upper 30m / 上层30米有高达9千万吨的部分氧化物质
- Processing could lift economics; generate **additional cash flow** & **offset pre-strip cost** / 加工可以提高经济效益；产生额外的现金流，并抵消预剥离成本

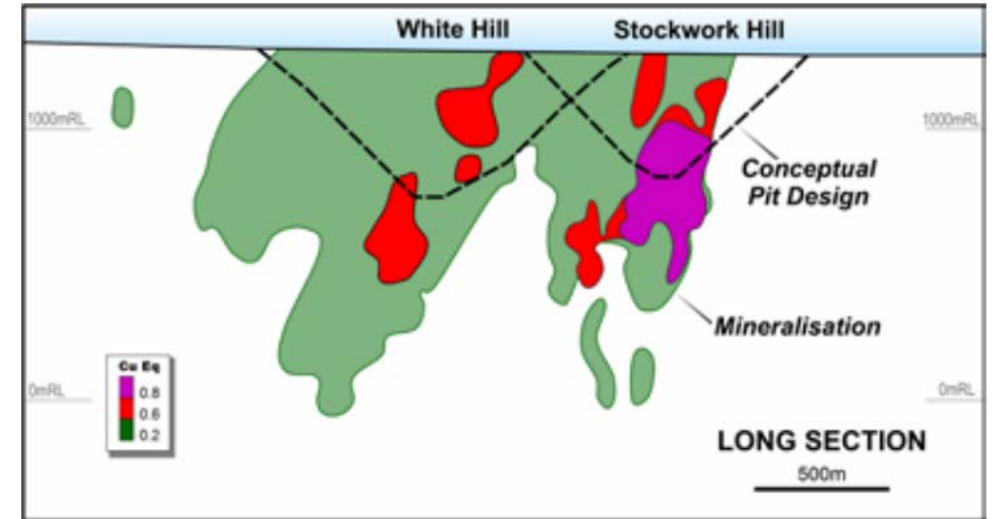
### Technology to Expand Footprint Sustainably / 以可持续方式扩大足迹的技术

- Bulk ore sorting (BOS) & coarse particle flotation recovery (CPR) to **optimise mill feed grade/recovery, minimise energy/water consumption & reduce milling cost** / 大块矿石分选（BOS）和粗粒浮选回收（CPR），以优化加工厂给矿品位/回收率，最大限度地减少能源/水的消耗，并降低研磨成本。
- Deepest pits currently defined to ~600m. In pit crush and convey to optimise & deepen pits to **capture greater extent of higher-grade zones.** / 目前最深的矿坑已确定为约600米。在矿坑中进行破碎和输送，以优化和加深矿坑，以获取更多的高品位区域。
- Electrified mining equipment to **reduce emissions & haulage cost** / 电气化采矿设备减少排放和运输成本

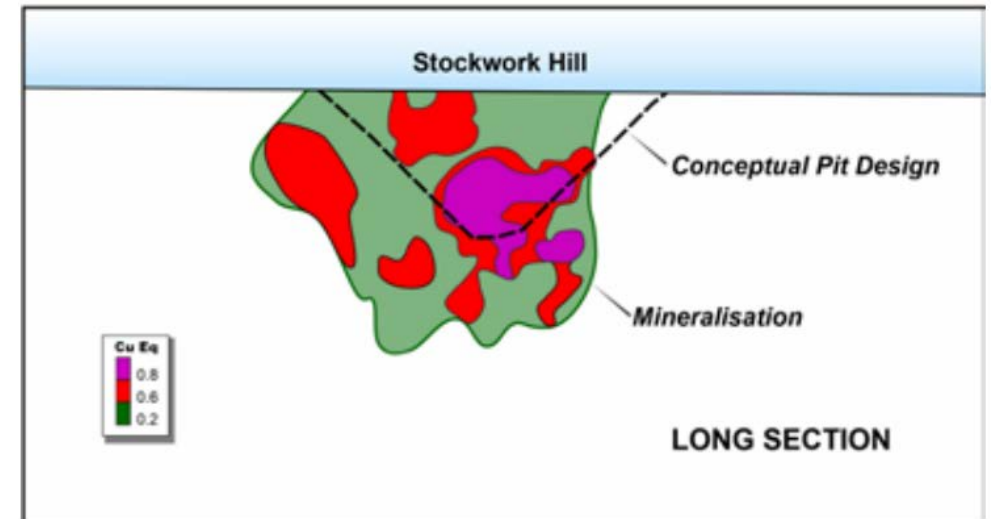
### Exploration Upside focussed on Higher-Grade / 勘探潜力集中在更高品位区域

- Resource **open in all directions**, representing only ~30% of 8km long Kharmagtai mineralised complex / 资源量向所有方向开放，仅占8公里长的Kharmagtai矿化综合体的约30%。
- **Higher-grade** bornite mineralisation only recently drilled in lower portions of Stockwork Hill, representing **significant upside** to expand existing Resource / 最近才在Stockwork Hill较低部分钻探到高品位的斑铜矿，这意味着有很大的潜力扩大现有资源量
- Several **near surface targets** across tenement warrant follow-up drill testing / 整个矿区的几个近地表靶区需要后续钻探测试
- **>20** exploration targets across 66.5km<sup>2</sup> lease ranked & **drill tested over next 12 months** / 在未来12个月内，在66.5平方公里的土地上有20个以上的勘探靶区，并进行钻探。

ASX/TSX Announcement Scoping Study Kharmagtai Copper-Gold Project / 在ASX/TSX公告了Kharmagtai铜-金项目的概括研究



Kharmagtai Resource within Open Pit in Long Section / 纵剖面显示了露天矿坑的Kharmagtai资源量



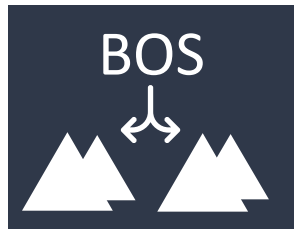
Stockwork Hill Long Section showing current resource, proposed open pit and high-grade blocks below pit outline open along strike and at depth. / Stockwork Hill纵剖面图显示了目前的资源量、拟议的露天矿和矿坑轮廓以下的高品位区块，沿走向和深度开放。

# Sustainable Minerals Processing Becoming the Norm

## /可持续的矿产加工成为常态

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Bulk Ore Sorting (BOS) & Coarse Particle Recovery (CPR) **Reduce Energy & Water Consumption** / 大块矿石分拣 (BOS) 和粗颗粒回收 (CPR) 减少能源和水的消耗



Technologies such as BOS and CPR rapidly becoming business as usual for large scale base & precious metal miners to sustainably achieve **low cost production** & generate **fewer wet tailings**. / BOS和CPR等技术迅速成为大型基本金属和贵金属矿企的常规业务，以可持续地实现低成本生产并产生较少的湿尾矿。

### Examples / 示例<sup>1</sup>:

- **First Quantum Kansanshi Cu** – world's largest 2800tph BOS operating since May 2022 / 自2022年5月开始运营的世界最大的BOS—每小时2800吨
- **Newcrest Cadia Cu Au** – first full scale CPR operating since August 2018 / 自2018年8月开始运营的第一个满产的CPR
- **AngloAmerican multiple mines** – BOS & CPR helping to significantly reduce energy & water consumption, in line with their 2030 Sustainable Mining Plan targets / **AngloAmerican 多个矿山** - BOS和CPR帮助大幅减少能源和水的消耗，以符合其2030年可持续采矿计划的目标
- **Capstone Pinto Valley Cu Mo** – CPR pilot plant enabled up to 8% increase in Cu recovery, lower grinding costs, less water & energy consumption and better tailings stability / CPR试验工厂使铜的回收率提高了8%，研磨成本降低，水和能源消耗减少，尾矿稳定性提高。

BOS & CPR minerals processing technologies will be evaluated for Kharmagtai Cu Au PFS / BOS和CPR矿物加工技术将在Kharmagtai铜、金预可行性研究中进行评估



AngloAmerican Bulk Ore Sorter – BOS



Cadia Coarse Particle (Flotation) Recovery – CPR

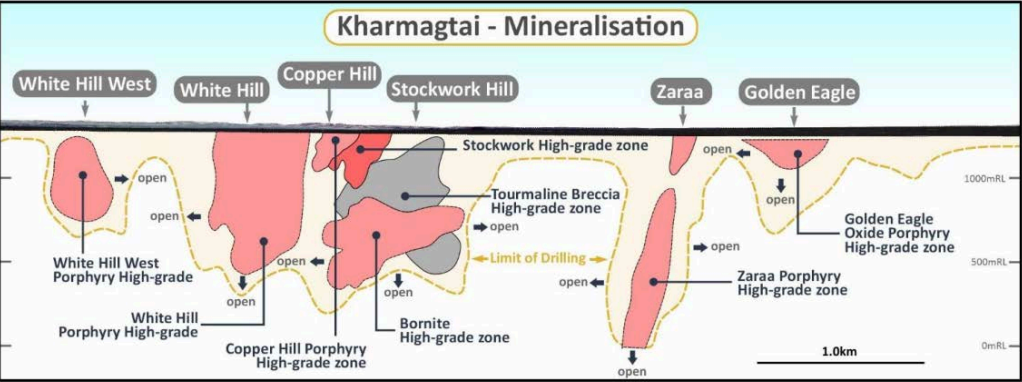
<sup>1</sup> <https://nextore.com.au/worlds-largest-sorting-plant-now-in-operation/>, <https://www.thechemicalengineer.com/features/reducing-the-daily-grind/>, <https://www.angloamerican.com/futuresmart/stories/our-industry/mining-explained/bulk-ore-sorting-and-coarse-particle-recovery-leading-the-way-in-mineral-processing-innovation>, <https://www.mining.com/capstones-pinto-valley-mine-fully-permitted-to-2039/>, <https://skillings.net/capstone-mining-recent-project-developments/>

# High Impact Discovery: Not If, But When? / 重大发现：不是能否发现，而是何时发现？

Higher-grade **depth limit untested** – potential for “Hugo North” material growth / 未测试高品位的最大深度 – “Hugo North”有潜力大幅增长

- Kharmagtai system edges remain open, including at depth with **limited drilling below 800m** / Kharmagtai系统的边缘仍然是开放的，包括在800米以下的有限钻探。
- Oyu Tolgoi’s highest grade deposit, Hugo Dummett North **starts at 800 – 900m depth** / Oyu Tolgoi的最高品位矿床，Hugo Dummett North从800-900米深处开始。

Kharmagtai Mineralisation – Limits of Drilling / Kharmagtai矿化结构-钻探限度



Higher-grade offset structure at depth remains possible; stacked porphyry discovery below Kharmagtai orebody likely / 深处有更高品位的断裂结构仍有可能；Kharmagtai矿体下方可能发现叠层斑岩

Comparator / 对比角度	Hugo North (HN) <sup>1</sup>	Kharmagtai (KH)	KH vs HN Scorecard / 记分卡
Mineralisation / 矿化结构	Quartz stockwork with <b>bornite rich core</b> , zoning out to chalcopyrite & pyrite / 富含斑铜矿岩芯的石英网状脉，分区为黄铜矿和黄铁矿	Stockwork Hill has <b>bornite rich core</b> , zoning out into chalcopyrite & pyrite / Stockwork Hill有富含斑铜矿的岩芯，分为黄铜矿和黄铁矿。	<div>✓</div> <div>✓</div>
Cu & Au Grades / 铜和金品位	Starts <b>below 900m</b> and increases to the north, reaches max horizontal thickness at 1,160m depth / 始于地下900米，向北增加，在1160米深度达到最大水平厚度	Starts <b>at surface</b> and increases with depth / 始于地表，随深度增加	<div>✓</div>
Au : Cu Ratio / 金：铜比率 <sup>2</sup>	<ul style="list-style-type: none"><li>• Up to 1:10 in south / 南部最高1:10</li><li>• Up to 1:1 in north / 北部最高1:1</li><li>• Best Au grades associated with bornite / 最好的黄金品位与斑铜矿相关</li></ul>	<ul style="list-style-type: none"><li>• Up to 2:1 at surface / 地表最高2:1</li><li>• Up to 5:1 at depth / 深处最高5:1</li><li>• Higher Au grades (avg 3:1) in bornite zone / 较高黄金品位（平均3:1）位于斑铜矿区</li></ul>	<div>✗</div>
Depth / 深度	<b>Starts at 800 – 900m / 始于800 – 900米</b>	<b>Limited drilling below 800m / 800米以下钻探有限</b>	

<sup>1</sup> [https://www.researchgate.net/publication/276086472\\_The\\_Giant\\_Oyu\\_Tolgoi\\_Porphry\\_Copper-Gold\\_Deposit\\_Discovery\\_History\\_and\\_Exploration\\_Implications\\_South\\_Gobi](https://www.researchgate.net/publication/276086472_The_Giant_Oyu_Tolgoi_Porphry_Copper-Gold_Deposit_Discovery_History_and_Exploration_Implications_South_Gobi)

<sup>2</sup> shown as Au (g/t) : Cu (%) / 表示为黄金（克/吨）：铜(%)

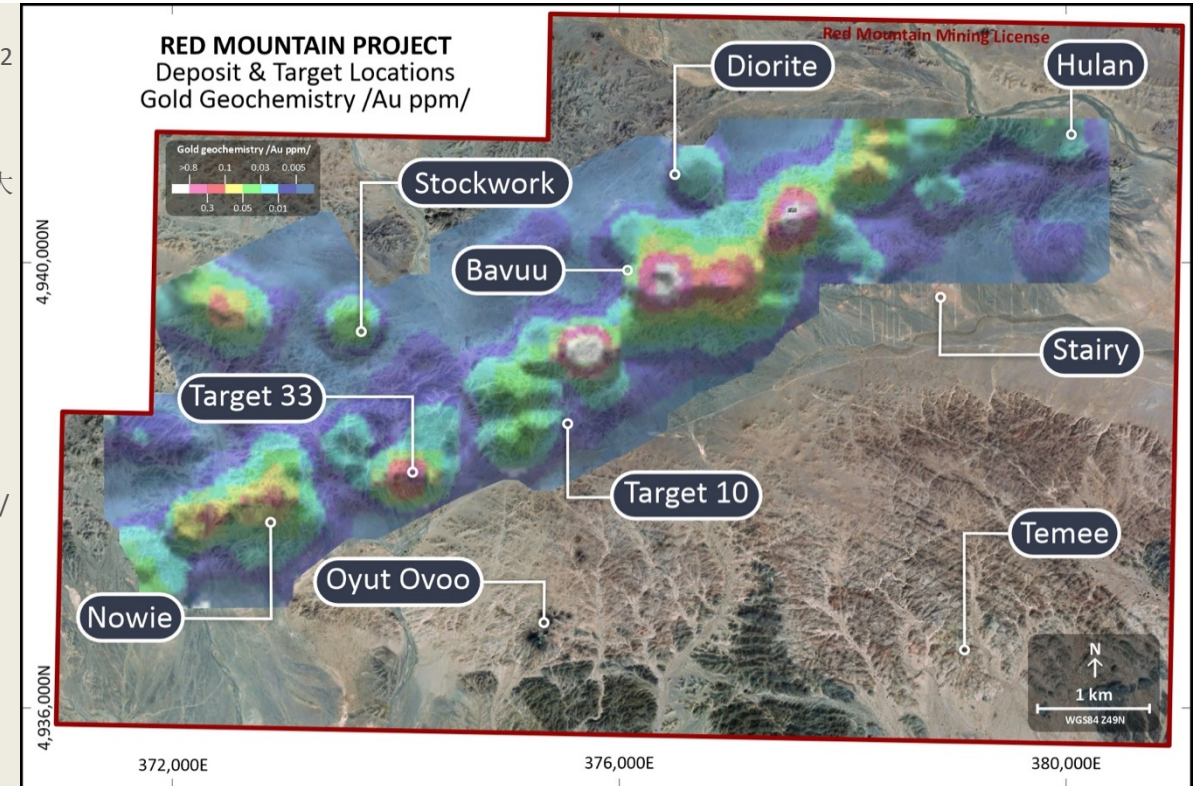


# Red Mountain Exploration Firing Up / Red Mountain的勘探正在如火如荼地进行

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New broad gold zones expand & open up potential for more / 新的大范围黄金区扩大并开发出更多的潜力

- New exploration program kicked off August 2022 to expand upon prior trenching & drilling / 新的勘探计划于2022年8月启动，以扩大先前的槽探和钻探。
- Good start – broad zones of **shallow gold** intercepted at Target 33 (T33) / 良好的开端--在33号靶区(T33)见到了大范围的浅层黄金<sup>1</sup>:
  - OUTF109: 66m @ 0.37g/t Au from 26m, / 自26米见到金品位0.37克/吨的66米矿段
  - Including **18m @ 0.81g/t Au** from 50m, / 包括自50米见到金品位0.81克/吨的18米矿段
  - Including **10m @ 1.23 g/t Au** from 58m / 包括自58米见到金品位1.23克/吨的10米矿段
- Latest T33 trenching **expanded 350m x 80m zone** of highly anomalous gold, including >1g/t Au higher-grade core / 最新的T33槽探扩大了350米x80米的高度异常黄金区，包括大于1克/吨金的高品位岩芯
- One of many **high-quality targets** in the exploration pipeline / 勘探管线中的许多高品质靶区之一
- High priority targets for drilling have started to be defined post trenching, with **drill testing to kick off soon** / 高度优先的钻探靶区已开始槽探后被确定，钻探测试将很快启动
- Current exploration programs seeks to expand strike extent of shallow high-grade epithermal gold & copper-gold-silver skarn mineralisation / 目前的勘探计划旨在扩大浅层高品位热液型金矿和铜金银矽卡岩矿的走向范围
- In contrast to Kharmagtai, targeting **smaller scale, higher-grade** deposits enabling **lower capex development** / 与Kharmagtai不同的是，它的目标是规模较小、品位较高的矿床，能够实现较低的资本支出开发



<sup>1</sup> ASX/TSX Announcement 27 September 2022 – Broad Shallow Gold Zone at Red Mountain / 2022年9月27日在ASX/TSX的声明 – 在Red Mountain的大范围浅层黄金区



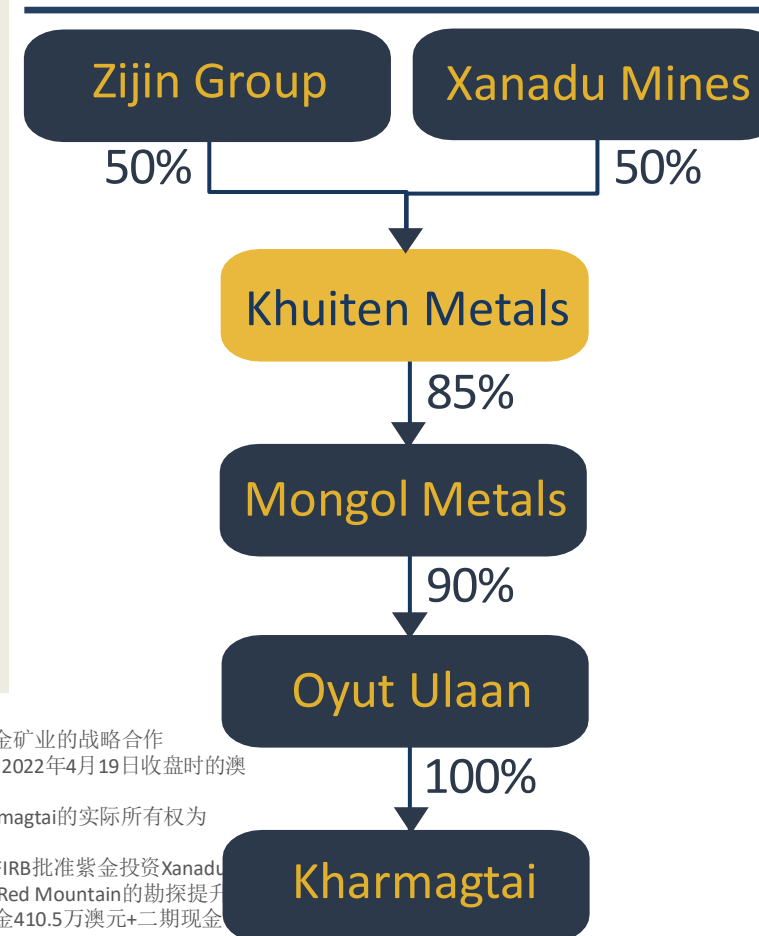
# Funded via Strategic Partnership with Zijin Mining / 与紫金矿业战略合作获得资金

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Three phases of investment<sup>1</sup> totalling US\$43M<sup>2</sup> (A\$58M<sup>2</sup>) / 三期投资<sup>1</sup>总计4300万美元（5800万澳元<sup>2</sup>）

- Phase 1 (completed) **A\$5.6M cash** @ 4cps representing **38% premium** for 9.9% minority stake in XAM / 一期（已完成）560万澳元现金@每股4分，溢价38%，获得XAM的9.9%股权
- Phase 2 **A\$5.7M cash** increasing to 19.99% XAM / 二期570万澳元现金，对XAM的持股提高到19.99%
- Phase 3 **US\$35M cash** invested in Khuiten Metals, forming **50-50 JV** in Kharmagtai controlling entity: / 三期对Khuiten Metals投资350万美元现金，形成Kharmagtai控股实体的**50-50合资企业**
  - US\$20M ringfenced to fully fund PFS, including infill drilling / 2000万美元专门用于为预可行性研究提供资金，包括加密钻探
  - US\$15M to fund high impact exploration / 1500万美元用于有高度影响力的勘探
- Phases 2-3 subject to remaining regulatory & shareholder approvals, noting **FIRB approval received August 2022** / 第2-3期取决于剩余的监管和股东的批准，注意2022年8月收到了FIRB批准<sup>4</sup>
- Phases 2-3 are at an advanced stage, with full funding targeted during **December 2022 Quarter** / 第2-3期已进入后期阶段，目标是在2022年12月期间获得全部资金<sup>5</sup>

Post-Deal Asset Ownership / 交易后资产所有权<sup>3</sup>  
*Kharmagtai controlled by Khuiten Metals / Kharmagtai被Khuiten Metals 控制*



Post-Deal XAM Shareholders / 交易后XAM股东

Top 20 hold 50% / 前20大股东持有50%

20%	Zijin / 紫金矿业
15%	ACA
15%	Top 20 excl Zijin & ACA / 不包括紫金和ACA的前20大股东
5%	Board & Management / 董事会和管理层
45%	Other Holders / 其他持有人

Post-Deal XAM Share Capital / 交易后XAM股权结构

1,548M	Shares on Issue / 15.48亿：已发行
A\$50M	Market Cap @ A\$0.032 / 5000万澳元：市值@ A\$0.032
A\$34M	Cash / 3400万澳元：现金 <sup>6</sup>
A\$16M	Enterprise Value / 1600万澳元：企业价值

<sup>1</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining / 2022年4月19日在ASX/TSX的声明 – 与紫金矿业的战略合作

<sup>2</sup> Currency conversion based on AUD:USD = 0.7387 as at 19 Apr 2022 close (transaction announcement date) / 货币转换基于2022年4月19日收盘时的澳元：美元=0.7387（交易公告日）。

<sup>3</sup> Effective ownership of Kharmagtai by each of Xanadu and Zijin is 38.25% (= 50% \* 85% \* 90%) / Xanadu和紫金各自对Kharmagtai的实际所有权为38.25% (=50% \* 85% \* 90%)

<sup>4</sup> ASX/TSX announcement 22 August 2022 – FIRB approves Zijin investment in Xanadu / 2022年8月22日在ASX/TSX的声明 – FIRB批准紫金投资Xanadu

<sup>5</sup> ASX/TSX announcement 24 August 2022 – Exploration Ramps up at Red Mountain / 2022年8月24日在ASX/TSX的声明 – 在Red Mountain的勘探提升

<sup>6</sup> Post-Deal Cash = Current cash A\$4.105M + Phase 2 cash A\$5.44M + 50% of Phase 3 cash A\$24M / 交易后现金 = 当前的现金410.5万澳元+二期现金544万澳元+三期现金的50%-240万澳元

# Investment Highlights / 投资亮点

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Funded Copper Gold Development + Future Discoveries / 有充足资金用于铜金开发+未来发现的潜力

Quality  
Projects /  
高品质的项目

Measured  
Approach /  
慎重的方法

## MAJOR COPPER GOLD RESOURCE / 重大铜金资源量

Kharmagtai maiden Ore Reserve in 2023 / 2023年首份Kharmagtai储量

Kharmagtai MRE: 1.1Bt containing 3Mt Cu & 8Moz Au, incl. 100Mt @ >0.8% CuEq. / Kharmagtai矿产资源量: 11亿吨, 包括300万吨铜和800万盎司黄金, 包括铜当量品位>0.8%的1亿吨以上<sup>1</sup>

## FAST TRACKING DEVELOPMENT / 快速推进开发

PFS fully-funded; targeting FID by mid 2024. / 预可行性研究的资金充足, 目标是到2024年中期进行FID

First production 2027-28 from processing sulphides; additional cashflow potential from partially oxidised material processing. / 2027-28年通过加工硫化物进行首次生产; 有可能通过加工部分氧化材料获得额外的现金流

## FUNDED & WELL POSITIONED / 资金充足且具有优势

Zijin strategic investment<sup>2</sup>: A\$11M in XAM & US\$35M in Kharmagtai. / 紫金矿业战略投资<sup>2</sup>: 投资XAM 1100万澳元, 投资Kharmagtai 3500万美元

Strengthens funding, technical capability. De-risks concentrate marketing & logistics. / 加强融资, 技术能力, 降低精矿营销和物流的风险

## MONGOLIA SEEKS TO BOOST MINING / 蒙古国努力促进矿业发展

Stable, educated democracy. / 稳定、民主

Mining-driven economy; low ESG risk & established infra. / 矿业主导的经济, 低ESG风险和成熟的基础设施

Pro business govt seeking mining foreign investment growth; mining law revisions expected in 2023. / 亲商政府矿业的外国投资增长, 预计2023年修订矿业法

## EXCELLENT LEADERSHIP / 优秀的领导团队

Management & Board track record of discovery, development and M&A. / 管理层和董事会拥有发现、开发和并购的成功履历

Supported by World-class Advisory Team. / 由世界级的顾问团队支持

## AMBITIOUS EXPLORATION / 雄心勃勃的勘探

Funded for future high impact discoveries at both Kharmagtai (untested depth & lateral potential) & Red Mountain (up to 16% Cu). / 为未来在Kharmagtai (未经测试的深处和横向潜力) 和Red Mountain (高达16%铜) 的有重大影响的发现提供资金

## GROWTH POTENTIAL / 发展潜力

Kharmagtai open in all directions, with strong depth potential. / Kharmagtai向所有方向开放, 在深处有强大的潜力

Highly prospective Red Mountain / Red Mountain高度有前景

New project generation. / 生成新项目

## ESG FOCUS / 专注ESG

Operating to highest ESG standards, with strong community engagement. / 按照最高的ESG标准运营, 并有强大的社区参与

Sustainability Report available on website / 可持续发展报告可在网站上查阅<sup>3</sup>

<sup>1</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au / 2021年12月8日在ASX/TSX的声明 – Kharmagtai项目的资源量提升到11亿吨, 包含300万吨铜和800万盎司黄金

<sup>2</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining / 2022年4月19日在ASX/TSX的声明 – 与紫金矿业的战略合作

<sup>3</sup> ASX/TSX Announcement 9 June 2022 – Sustainability Report 2021 / 2022年6月9日在ASX/TSX的声明 – 可持续发展报告2021

# Thank you / 谢谢

XANADU MINES

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Executive Chairman and Managing Director

执行董事会主席兼董事总经理

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# APPENDIX

XANADU MINES



# Competent Person's Statement

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code 2012') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The Information contained in this announcement has been presented in accordance with the JORC Code 2012.

**Mineral Resources:** The information in this announcement that relates to Mineral Resources is based on information compiled by Mr. Robert Spiers who is responsible for the Mineral Resource estimate. Mr Spiers is a full-time Principal Geologist employed by Spiers Geological Consultants (SGC) and is a Member of the Australian Institute of Geoscientists with sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as the "Qualified Person" as defined in the CIM Guidelines and National Instrument 43-101. Mr Spiers consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

**Exploration Results:** The information in this announcement that relates to Exploration Results is based on information compiled by Dr Andrew Stewart who is responsible for the exploration data, comments on exploration target sizes, QA/QC and geological interpretation and information. Dr Stewart, who is an employee of Xanadu and is a Member of the Australasian Institute of Geoscientists, has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as the "Competent Person" as defined in the 2012 Edition of the "Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves" and the National Instrument 43-101. Dr Stewart consents to the inclusion in the report of the matters based on this information in the form and context in which it appears

# Board & Management – Proven & Experienced Team

Track record of discovering & developing successful porphyry copper-gold mines

XANADU MINES

## BOARD



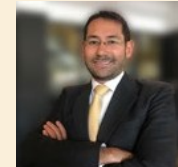
**GANBAYAR  
LKHAGVASUREN**  
COUNTRY MANAGER & EXECUTIVE DIRECTOR



**COLIN  
MOORHEAD**  
EXECUTIVE CHAIRMAN &  
MANAGING DIRECTOR



**MICHELE  
MUSCILLO**  
NON-EXECUTIVE DIRECTOR



**TONY  
PEARSON**  
NON-EXECUTIVE DIRECTOR



**MUNKHSAIKHAN  
DAMBIINYAM**  
CHIEF OPERATING OFFICER

MONGOLIA EXPERTISE



**ANDREW  
STEWART**  
VICE PRESIDENT EXPLORATION



**MAT  
BROWN**  
CHIEF GEOLOGIST

DEEP EXPLORATION SKILLS



**SPENCER  
COLE**  
CHIEF DEVELOPMENT OFFICER  
CHIEF FINANCIAL OFFICER

COMMERCIAL CAPABILITY

# Kharmagtai Resource 2021 vs 2018

Larger, more tightly domained, and significantly more gold

Resource	Cutoff (% CuEq)	Classification	Tonnes (Mt)	Grades			Contained Metal			
				CuEq (%)	Cu (%)	Au (g/t)	CuEq (Mlbs)	CuEq (kt)	Cu (kt)	Au (koz)
2021 <sup>1</sup>	0.2(OC) 0.3(UG)	Indicated	455	0.4	0.3	0.2	4,078	1,850	1,250	3,700
		Inferred	664	0.3	0.2	0.2	5,140	2,330	1,680	4,100
2018 <sup>2</sup>	0.3(OC) 0.5(UG)	Indicated	131	0.5	0.4	0.4	1,570	710	480	1,500
		Inferred	477	0.4	0.3	0.2	4,350	1,970	1,500	2,930

<sup>1</sup> ASX/TSX Announcement 28 February 2022 – Kharmagtai Technical Report, ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

<sup>2</sup> ASX/TSX Announcement 18 December 2018 – Technical Report to Support Kharmagtai Mineral Resource Upgrade

# Copper Equivalent Benchmarking

Global Project	Resource Date	Resource Mt				Au g/t			Cu %			Au Moz			Cu Mt			CuEq	
		Meas	Ind	Inf	Total	Meas	Ind	Inf	Meas	Ind	Inf	Meas	Ind	Inf	Meas	Ind	Inf	%	Mt
Altar	22/03/21	622	576	189	1,387	0.10	0.08	0.06	0.44%	0.42%	0.42%	2.0	1.5	0.4	2.7	2.4	0.8	0.47%	6.6
AntaKori	31/01/19	0	250	267	517	0.00	0.29	0.26	0.00%	0.48%	0.41%	0.0	2.3	2.2	0.0	1.2	1.1	0.58%	3.0
Canariaco Norte	28/02/22	424	671	411	1,505	0.07	0.05	0.04	0.48%	0.39%	0.32%	0.9	1.1	0.5	2.0	2.6	1.3	0.42%	6.4
Cascabel	20/04/22	1,192	1,470	544	3,206	0.39	0.14	0.24	0.48%	0.28%	0.24%	14.9	6.6	4.2	5.7	4.1	1.3	0.48%	15.2
Casino	29/04/22	188	2,303	1,413	3,903	0.40	0.17	0.14	0.24%	0.13%	0.10%	2.4	12.5	6.3	0.5	3.0	1.4	0.21%	8.3
Cortadera	31/03/22	0	471	108	579	0.00	0.12	0.08	0.00%	0.36%	0.28%	0.0	1.8	0.3	0.0	1.7	0.3	0.40%	2.3
Hillside	May 2015	72	151	114	337	0.16	0.13	0.10	0.55%	0.59%	0.60%	0.4	0.6	0.4	0.4	0.9	0.7	0.65%	2.2
Kharmagtai	8/12/21	0	487	664	1,151	0.00	0.20	0.20	0.00%	0.30%	0.20%	0.0	3.1	4.2	0.0	1.5	1.3	0.34%	4.0
Warintza	1/04/22	0	579	887	1,466	0.00	0.03	0.01	0.00%	0.47%	0.37%	0.0	0.6	0.3	0.0	2.7	3.3	0.42%	6.1
Los Helados	26/04/19	0	2,099	827	2,926	0.00	0.15	0.10	0.00%	0.38%	0.32%	0.0	10.1	2.6	0.0	8.0	2.6	0.43%	12.7
NorthMet	19/11/19	319	403	415	1,137	0.03	0.03	0.03	0.24%	0.23%	0.24%	0.3	0.4	0.4	0.8	0.9	1.0	0.25%	2.9
Productora	31/03/22	0	253	90	343	0.00	0.08	0.03	0.00%	0.41%	0.29%	0.0	0.6	0.1	0.0	1.0	0.3	0.41%	1.4
Vizcachitas	10/05/19	254	1,030	789	2,073	0.00	0.00	0.00	0.44%	0.39%	0.34%	0.0	0.0	0.0	1.1	4.0	2.7	0.37%	7.7

Mineral Resource used in benchmarking include Inferred, Indicated, and Measured classifications. Resource tonnes and grades are as reported by each company.

Copper equivalent grades were calculated by Xanadu Mines using the formula:

$$\text{CuEq} = \text{Cu} + \text{Au} * 0.60049 * 0.86667$$

Where :

- Cu = copper grade (%)
- Au = gold grade (grams per tonne (g/t))
- 0.60049 = conversion factor (Au to Cu); and
- 0.86667 = relative recovery of Au to Cu (86.67%)

These equivalent formulas were based on the following parameters (prices in USD):

- Cu price = 3.4 \$/lb
- Au price = 1,400 \$/oz
- Cu recovery = 90%
- Au recovery = 78%; and
- Relative recovery of Au to Cu = 78%/90% = 86.67%

Metals prices, Au-Cu conversion factor, and Au-Cu relative recovery factors are as defined in the 2021 Xanadu Mineral Resource Upgrade<sup>1</sup>



# Positioning as the Cadia Hill of Mongolia

Kharmagtai stacks up well on **strip ratio, scale & copper grade**

## First 5yrs of production<sup>2</sup>:

		Kharmagtai (KH) Scoping Study	Cadia Hill (CH) Actuals
Material Mined	Mt	210	298
Ore Mined <sup>1</sup>	Mt	110	79
Ore Processed	Mt	70	79
Strip Ratio		0.9	2.8
Ore Processing rate	Mtpa	15	16
Avg Milled Grade:			
Copper	%	0.29	0.19
Gold	g/t	0.30	0.77
Avg Metal Recovery:			
Copper	%	90	81
Gold	%	78	74
Metal Produced:			
Avg Copper	ktpa	37	24
Avg Gold	kozpa	110	288
Copper	Mt	0.20	0.12
Gold	Moz	0.50	1.44

<sup>1</sup> Cadia Hill ore mined not reported, assumed ore mined = ore processed

<sup>2</sup> Sources: Kharmagtai Copper-Gold project Scoping Study; Cadia Valley Operations Technical Report, 2 Mar 2012



Cadia Hill



Kharmagtai

# Zijin Deal Transforms Xanadu<sup>5</sup>

Funded to develop Kharmagtai while retaining control

- Transaction implies 100% value of Kharmagtai is **US\$92M** (**A\$124M<sup>1</sup>** or A\$29/t CuEq MRE)
- Xanadu **retains control** of Kharmagtai
  - Khuiten Metals controls Kharmagtai
  - 50-50 JV in Khuiten Metals
  - Xanadu **remains JV operator**
- Change of control in XAM requires a post-deal offer from Zijin, subject to XAM **shareholder approval**
- Kharmagtai funded through PFS (12-18 months); supported by solid discovery exploration budget
- Xanadu well-funded to explore 100% owned Red Mountain

## Before Zijin Transaction

**A\$37M**

Market Cap as @ 31/3/22  
A\$0.029/Share

**76.5%**

XAM ownership of  
Kharmagtai

**A\$1M**

Cash Balance  
as @ 31/3/22

**A\$36M**

Enterprise Value  
as @ 31/3/2022

## After Zijin Transaction

**A\$124M (US\$92M)**

Implied 100% value of  
Kharmagtai<sup>4</sup>

**38.25%**

XAM ownership of  
Kharmagtai<sup>2</sup>

**A\$58M**

Cash Injected<sup>3</sup>

<sup>1</sup> US\$35M / 38.25% effective ownership = US\$92M

<sup>2</sup> 50-50 JV in Khuiten Metals which holds 76.5% of Kharmagtai = 38.25%

<sup>3</sup> Cash Injected = (Zijin A\$11M placement) + (Khuiten Metals JV investment of US\$35M for Kharmagtai development)

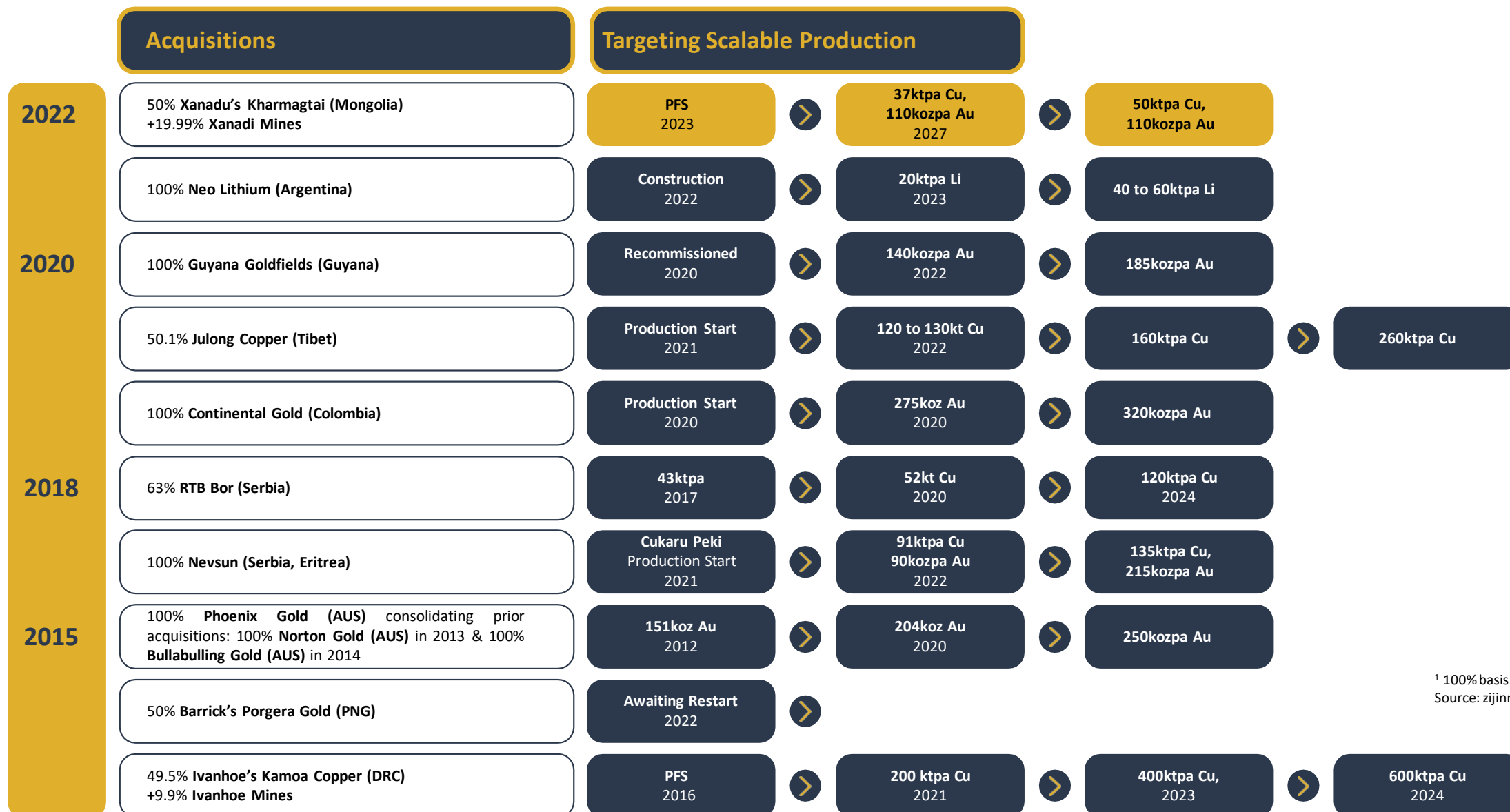
<sup>4</sup> Conversion based on AUD:USD = 0.7387 as at 19 Apr 2022 close (transaction announcement date)

<sup>5</sup> ASX/TSX Announcement 19 April 2022 – Strategic Partnership with Zijin Mining

# Zijin strategy is to acquire, control & scale-up

Aligns to Kharmagtai 2-stage expansion

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<sup>1</sup> 100% basis  
Source: zijinmining.com



# Who is Zijin Mining Group?

A global copper & gold mining major

- Zijin brings **capability** and **balance sheet** to build a large-scale copper-gold mine like Kharmagtai
- **US\$51 billion** market capitalization, listed on Hong Kong & Shanghai exchanges
- **Global Top 10 copper producer**, 2021 mining production 584kt copper, 1.68 Moz gold and 396kt zinc
- Vertically integrated: **mining, smelting & refining** assets
- Operating assets across **14 countries & 5 continents**
- **Experienced Joint Venture partner**, examples include Kamo-a-Kakula copper-mine (Ivanhoe) & Porgera gold-silver mine (Barrick)

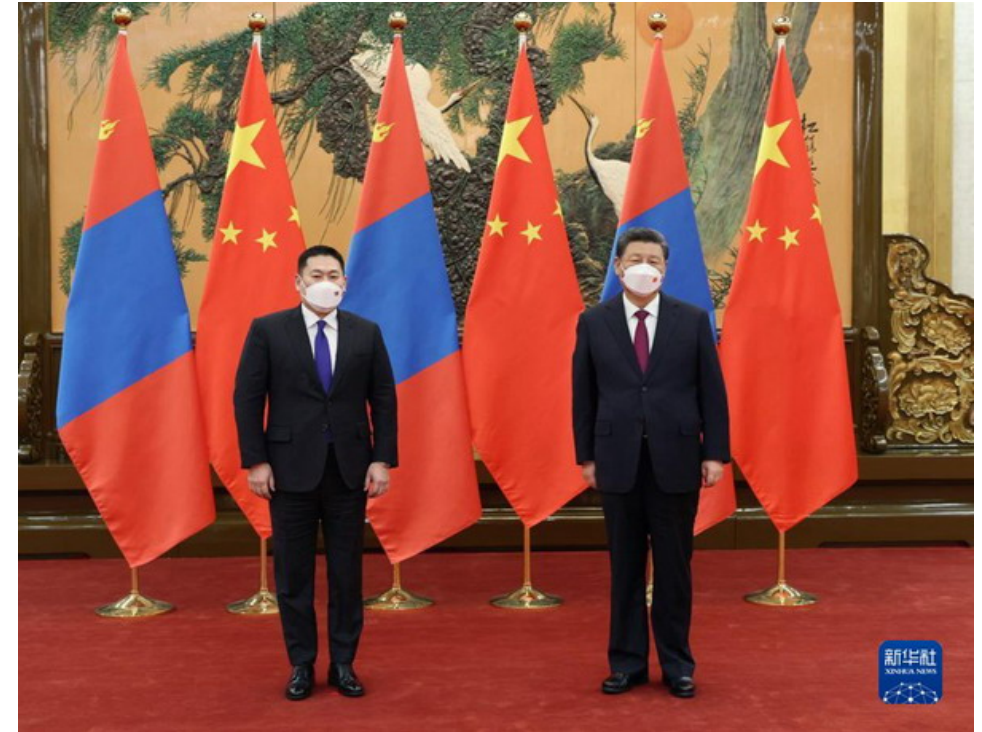


# Mongolia-China Growing Strategic Partnership

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Zijin transaction echoes strengthening relationship

- Recent heads of state engagement confirms **alignment** of Mongolia's **New Revival Policy** with China's **Belt and Road Initiative** and Five-Year Plan <sup>1</sup>
- Mongolia confirmed this bilateral relationship as the model for other global relationships
- Zijin strategic partnership with Xanadu demonstrates this growing inter-country engagement
- Xanadu transaction **aligns with Zijin 2022 Strategy**<sup>2</sup>, targeting:
  - ✓ Large projects with best-in-class resources delivering sustainable growth
  - ✓ Responsible, green, high-tech mining
  - ✓ Good upside potential & strong synergies
  - ✓ Merger and acquisition to accelerate growth



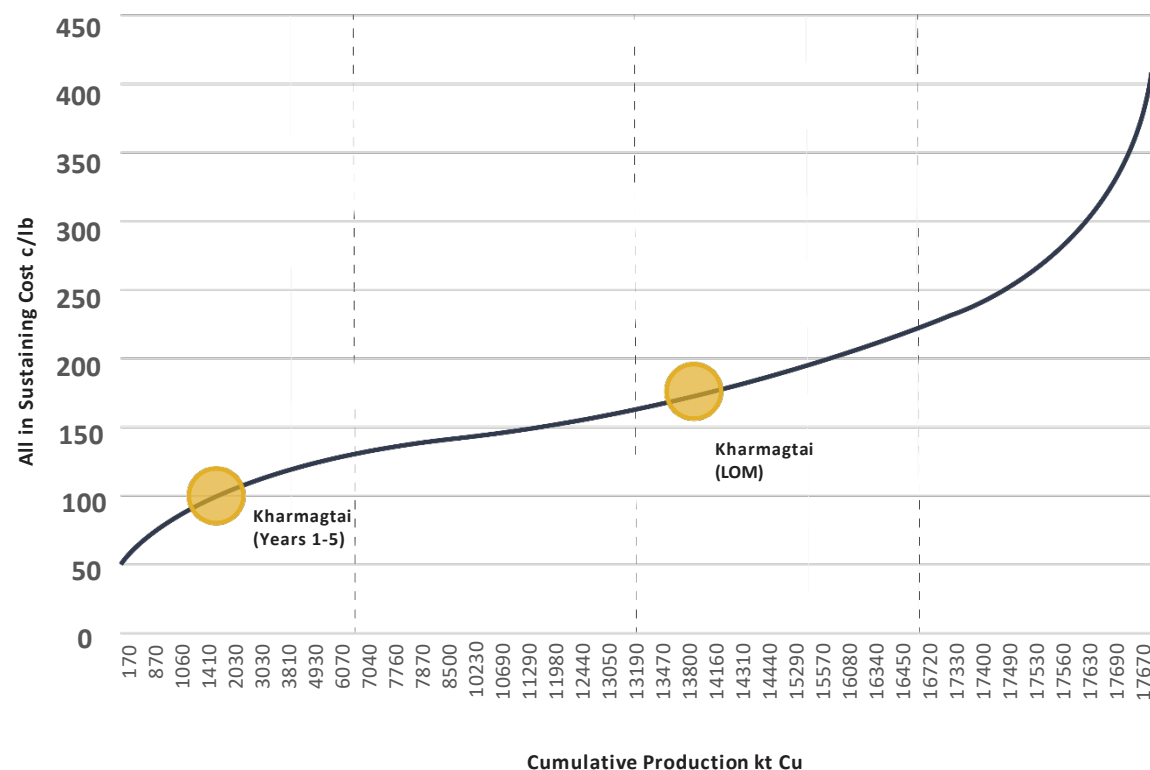
<sup>1</sup> Ministry of Foreign Affairs of the People's Republic of China 6 February 2022 – Xi Jinping Meets with Mongolia Primer Minister Luvsannamsrai Oyun-Erdene; [www.fmprc.gov.cn/mfa\\_eng/zxxx\\_662805/202202/t20220207\\_10639712.html](http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/202202/t20220207_10639712.html)

<sup>2</sup> Source: Zijinmining.com

# Starter Mine Expanded Post Capex Payback

Low AISC driven by **low strip** & **gold by-product credits**

## Competitive Cost Curve Positioning



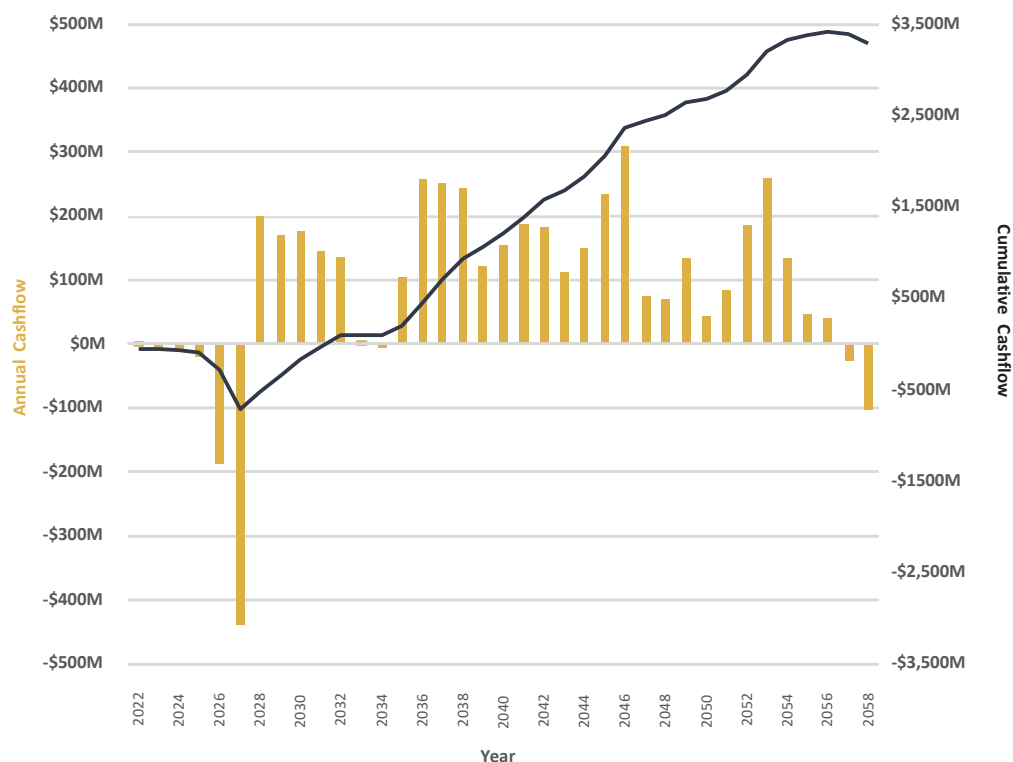
Area	Measure	Unit	Stage 1 Initial	Stage 2 Expansion	LOM
Production	Period	Years	5	25	30
	Ore process rate.	Mtpa	15	30	15-30
	Feed from Indicated Resource	%	100%	50%	55%
	Ore processed	Mt	70	690	760
	Average copper grade	%	0.29	0.21	0.21
	Average gold grade	g/t	0.30	0.16	0.18
	Copper produced	Mt	0.2	1.3	1.5
	Gold produced	Moz	0.5	2.8	3.3
Capital	Project Capital	US\$M	690	620	1,310
	Sustaining Capital	US\$M	40	530	570
Operating Cost	All In Sustaining Costs	US\$/lb	1.02	1.99	1.87
Economic Assumptions	Copper Price	US\$/lb	4.00	4.00	4.00
	Gold Price	US\$/oz	1,700	1,700	1,700
Financials (after tax)	Net Present Value (NPV) @ 8%	US\$M			630
	Internal Rate of Return (IRR)	% (real)			20
	Capital Payback	Years	4	1	4
	Free Cash Flow (after tax)	US\$M (real)	155	3,260	3,420



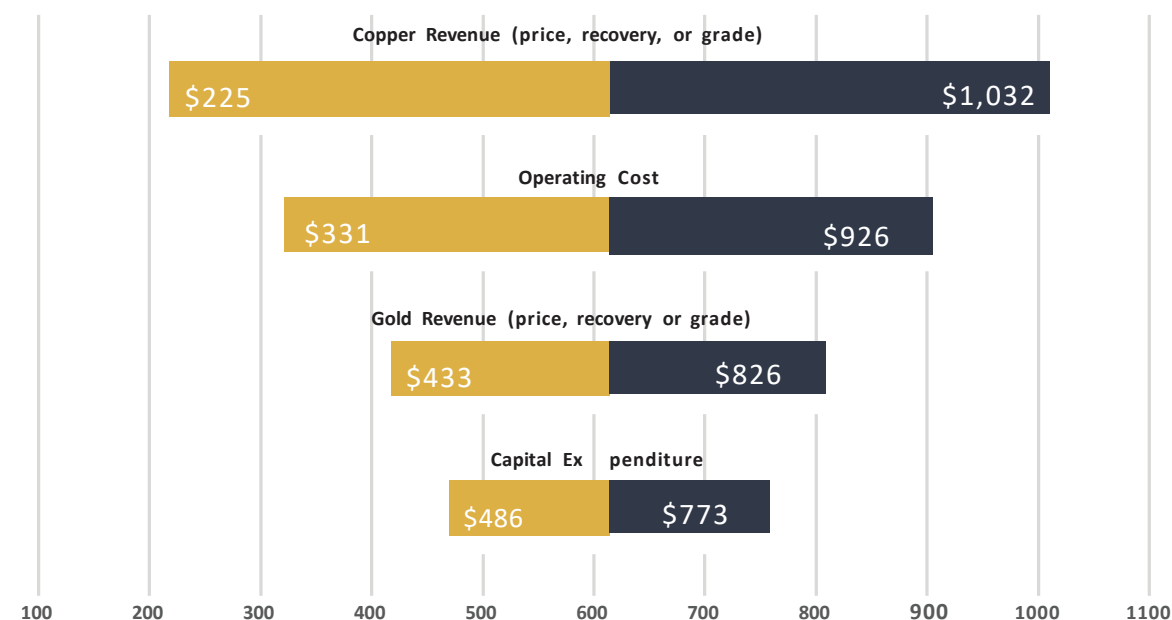
# Robust Cash Flows

Positive cash flow across wide range of scenarios

## Annual Cash Flow (US\$M)



- Kharmagtai starter mine cash flows funds expansion
- Strong earnings across +/- 20% sensitivity analysis range



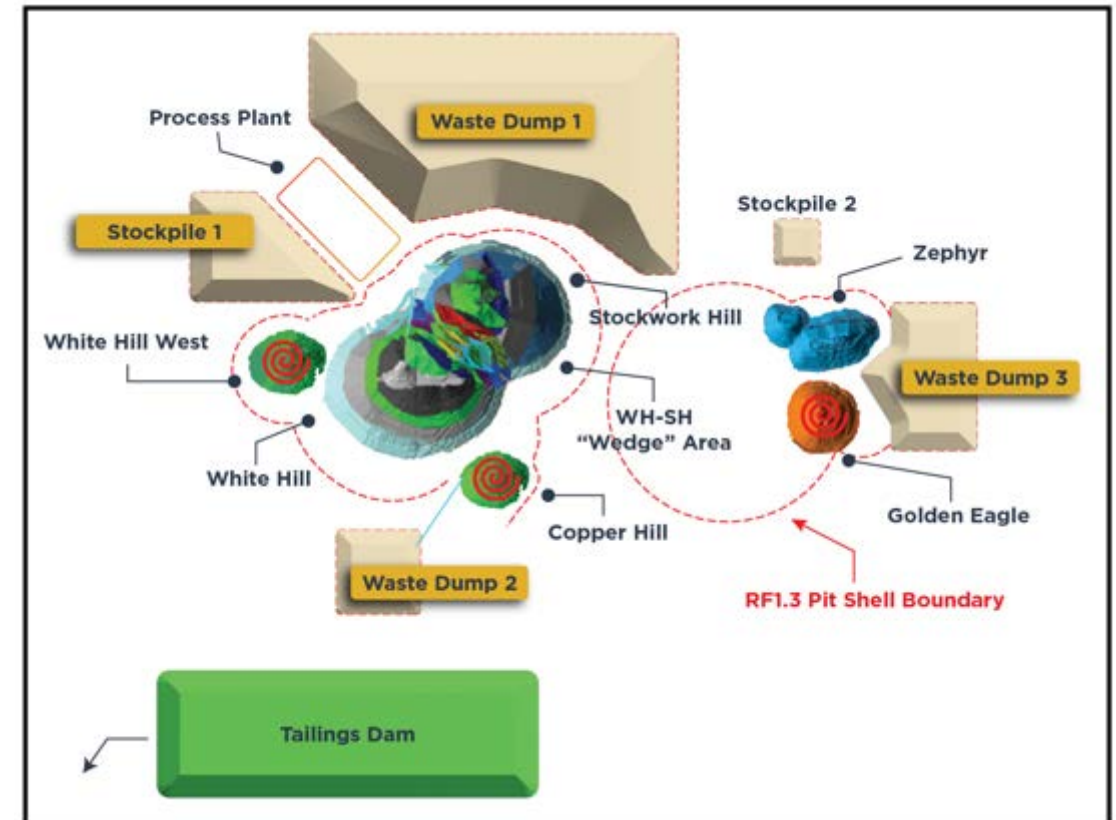
# Simple Site Layout

Plans ahead for future growth

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- Low complexity, minimising haul distance
- Tailings dam offsite to south using land features
- Stand off maintained for potential future pit expansion leveraging in pit crush and convey
- To be finalised in PFS

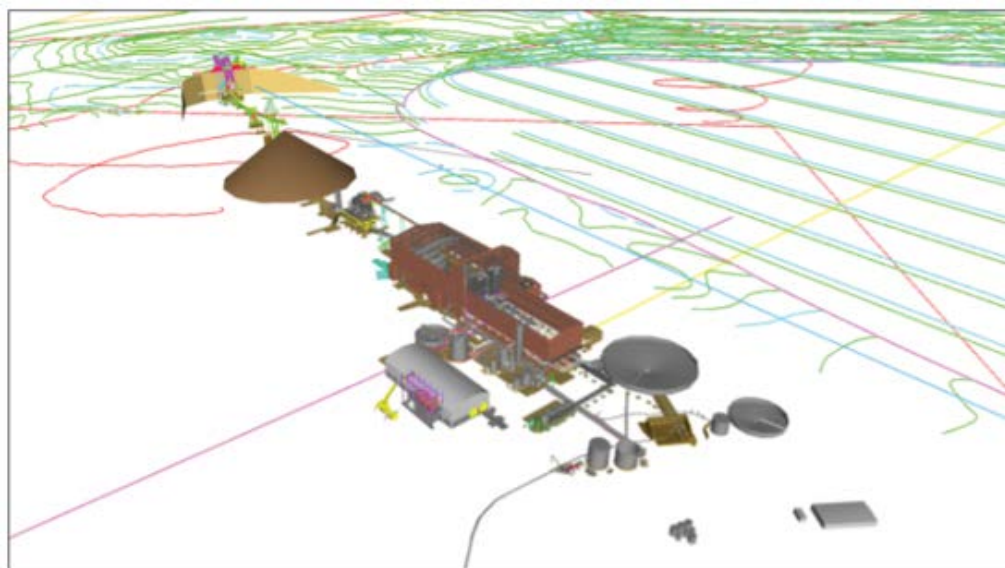
## Project Layout



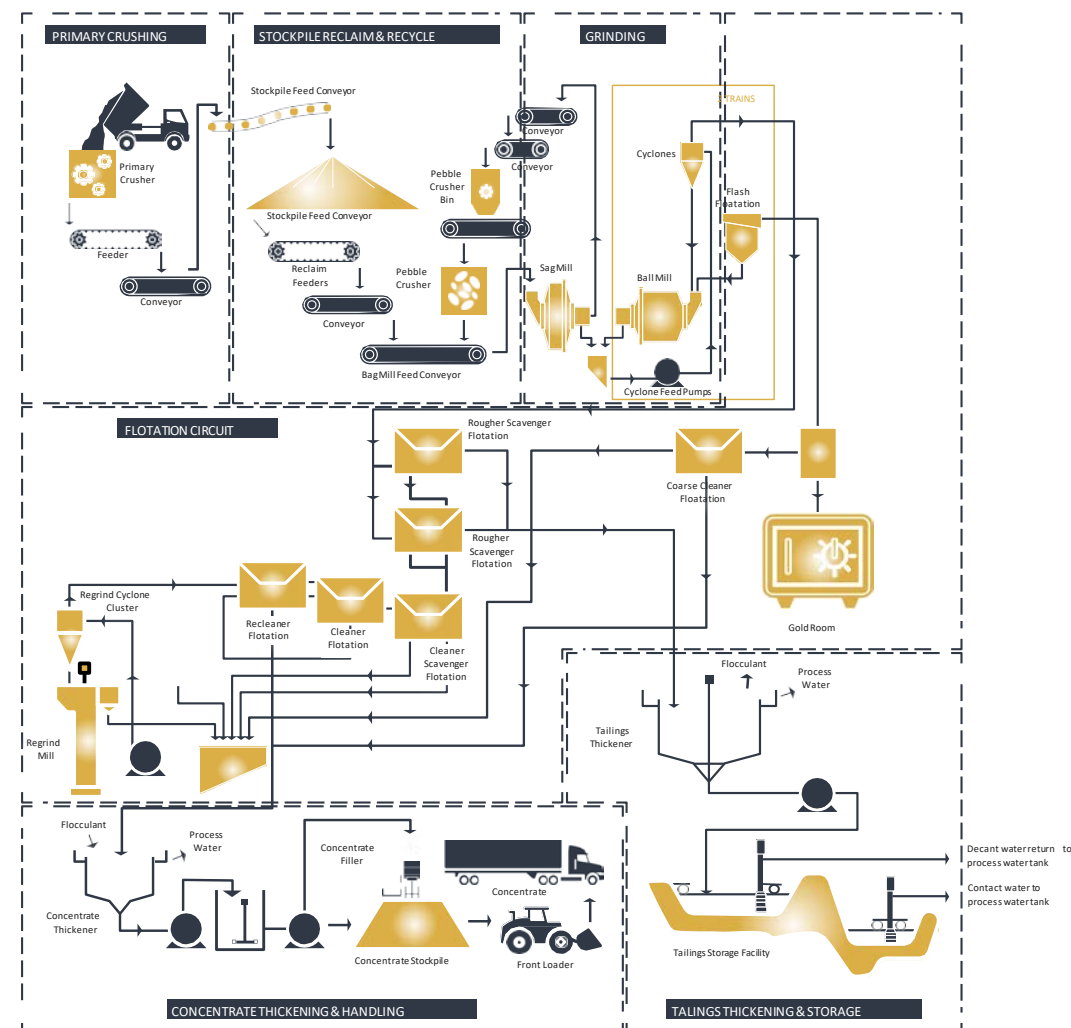
# Sulphide Flotation Process Plant

Conventional, low risk process flow & plant design

Processing Plant Layout



Process Flow Diagram



# Exploration Will Continue

Two active projects, seeking a third

## Kharmagtai (76.5%)<sup>1</sup>

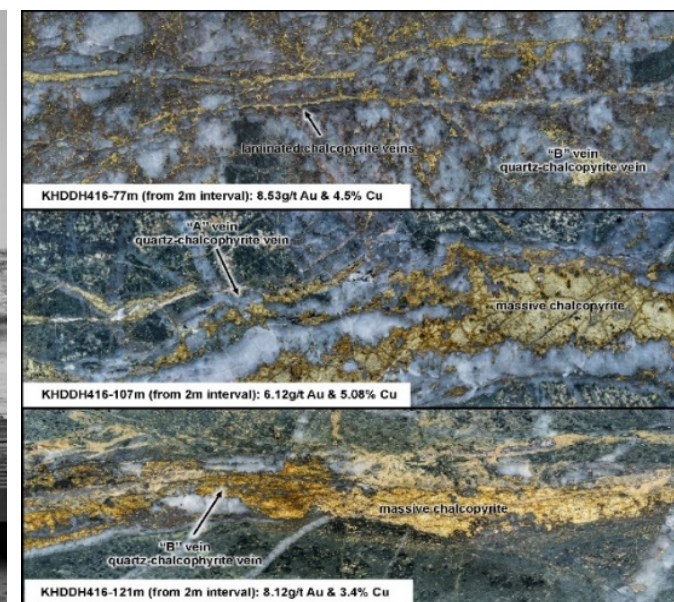
- Porphyry copper-gold
- Open in all directions & across the entire lease
- Bornite zones expanding at depth
- >20 high priority discovery targets identified for testing

## Red Mountain (100%)

- Drill testing near surface copper-silver skarns & epithermal mineralisation
- Follow-up higher-grade bornite & massive bornite copper-silver intersected in 2021<sup>2</sup>
- Large-scale porphyry system potential at depth remains

## New Project Generation

- Seeking third South Gobi project
- Completed on site investigations to identify potential new projects



<sup>1</sup> Will become 38.25% upon completion of 50-50 Joint Venture with Zijin Mining Group

<sup>2</sup> ASX/TSX Announcement 28 September 2021 – New High-Grade Bornite Intersections at Red Mountain



# Kharmagtai – Our Flagship Project

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A significant resource in a world class copper district

Granted mining licence with 30 yrs tenure & option to extend another 40 yrs

## Mineral Resource Estimate

- 1.1Bt MRE, containing 3Mt Cu & 8Moz Au<sup>1,2</sup>, including higher-grade zone 100Mt @ 0.8% CuEq<sup>1</sup>

## Scoping Study

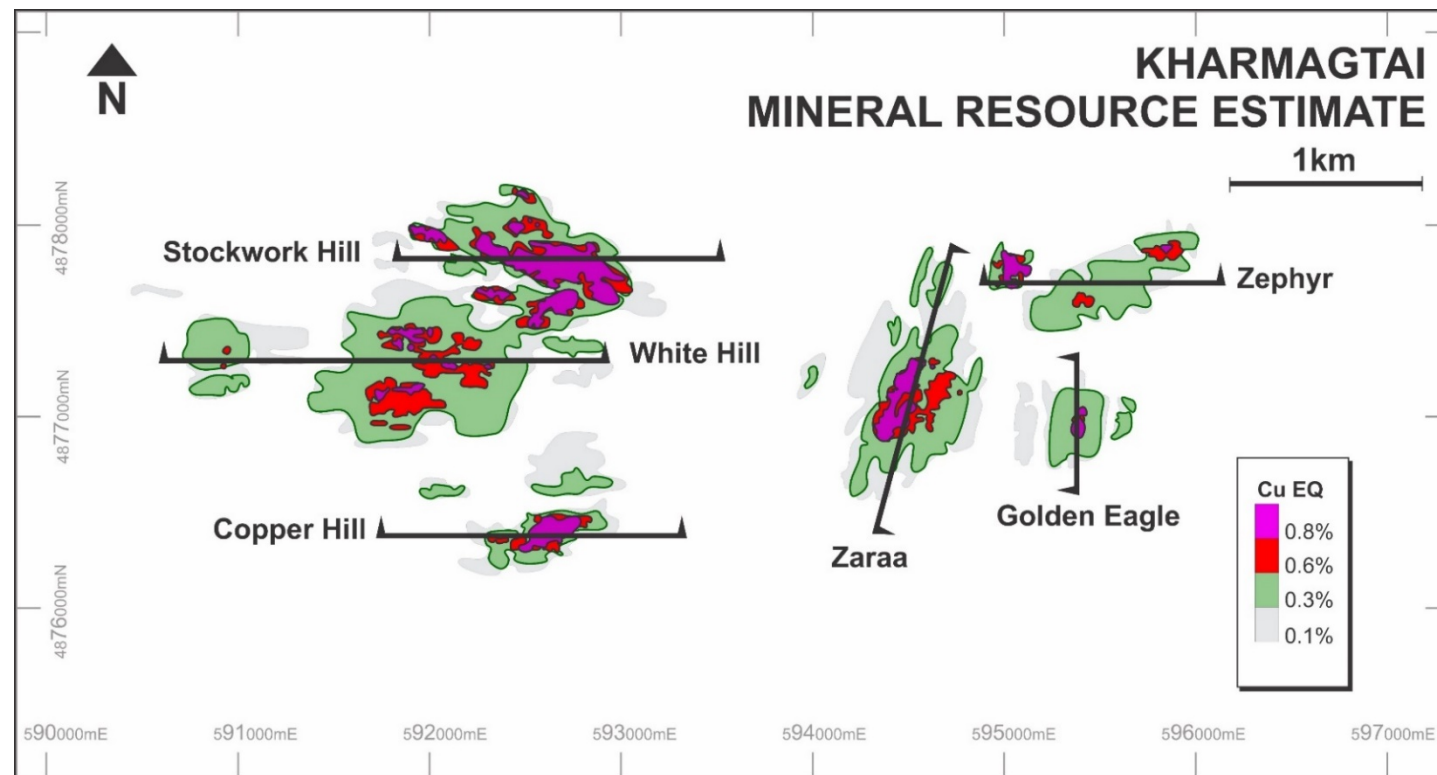
- 30-year life; producing 50ktpa Cu & 110kozpa Au; 0.9:1 strip ratio
- 20% IRR (16-25%); US\$630M NPV (405-850); and 4-year payback (4-7)

## Pre-Feasibility Study

- Fully funded by Zijin strategic partnership

## Future Exploration Potential

- Limited drilling below 400m is untapped opportunity
- Potential to link porphyry deposits at depth



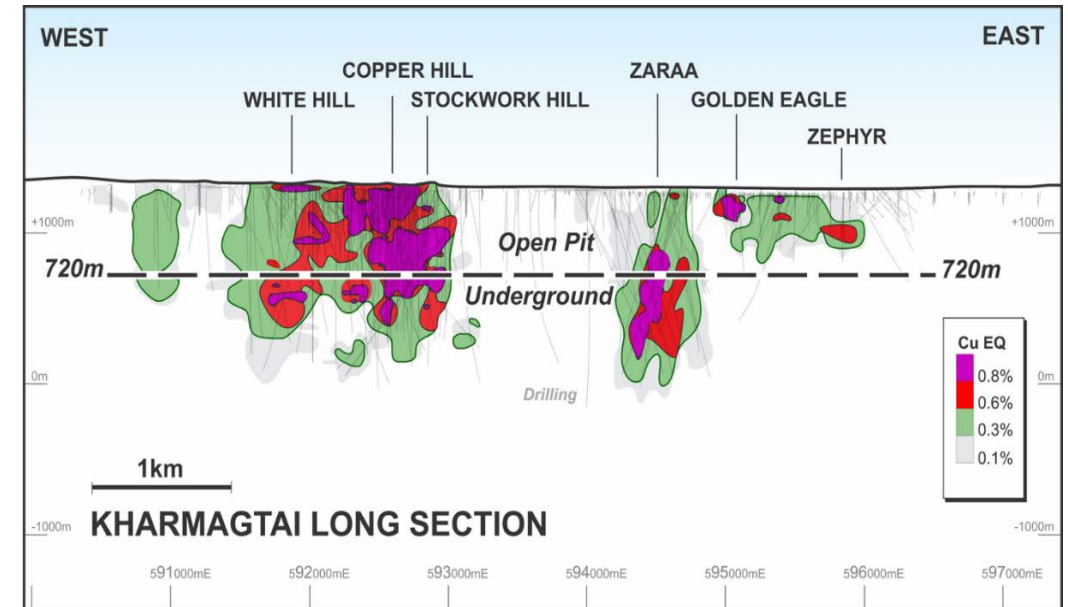
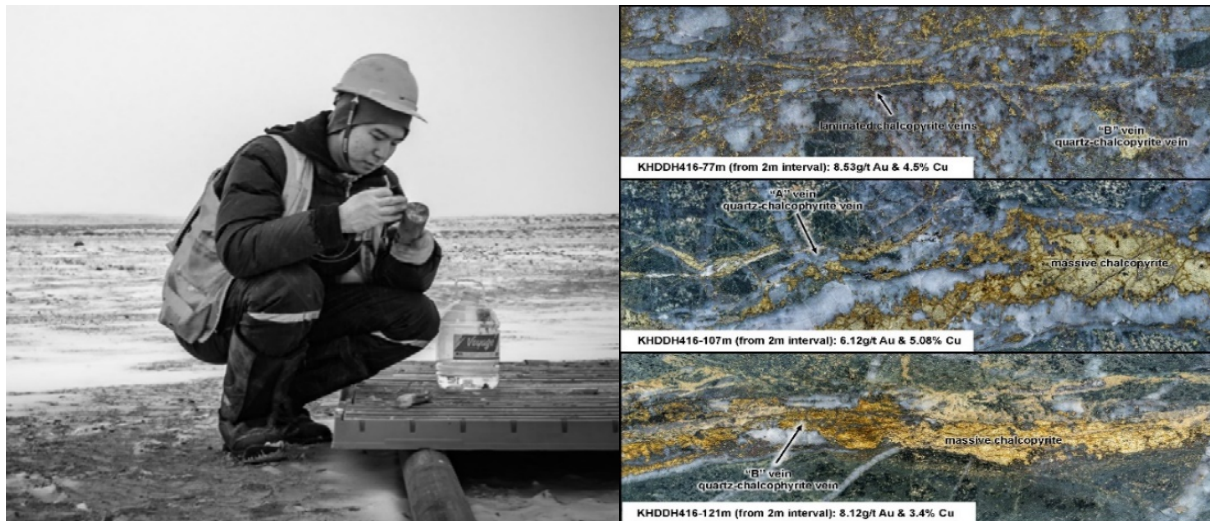
<sup>1</sup> ASX/TSX Announcement 28 February 2022 – Kharmagtai Technical Report, ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au

<sup>2</sup> Global Resource is 42% Indicated and 58% Inferred by tonnes, see Appendix 1 – Kharmagtai Resource

# Continued Exploration Targets High-Grade Growth

## Strong Growth Upside Beneath Current Bornite Zones

- ▶ Mineralised intrusive indicates still in shallow levels of system
- ▶ Deposits open in all directions, with significant upside at depth<sup>1</sup>
- ▶ Bornite zones starting to be uncovered
- ▶ Stockwork Hill – significant expansion upside along edges with high-grade blocks still open
- ▶ Zephyr – along strike potential with highest-grade blocks positioned at either end still open



<sup>1</sup> ASX/TSX Announcement 8 December 2021 – Kharmagtai Resource Grows to 1.1Bt containing 3Mt Cu and 8Moz Au



# Kharmagtai Prospective for New Discovery

New systems continue to be unlocked

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## EXPLORATION SCORECARD

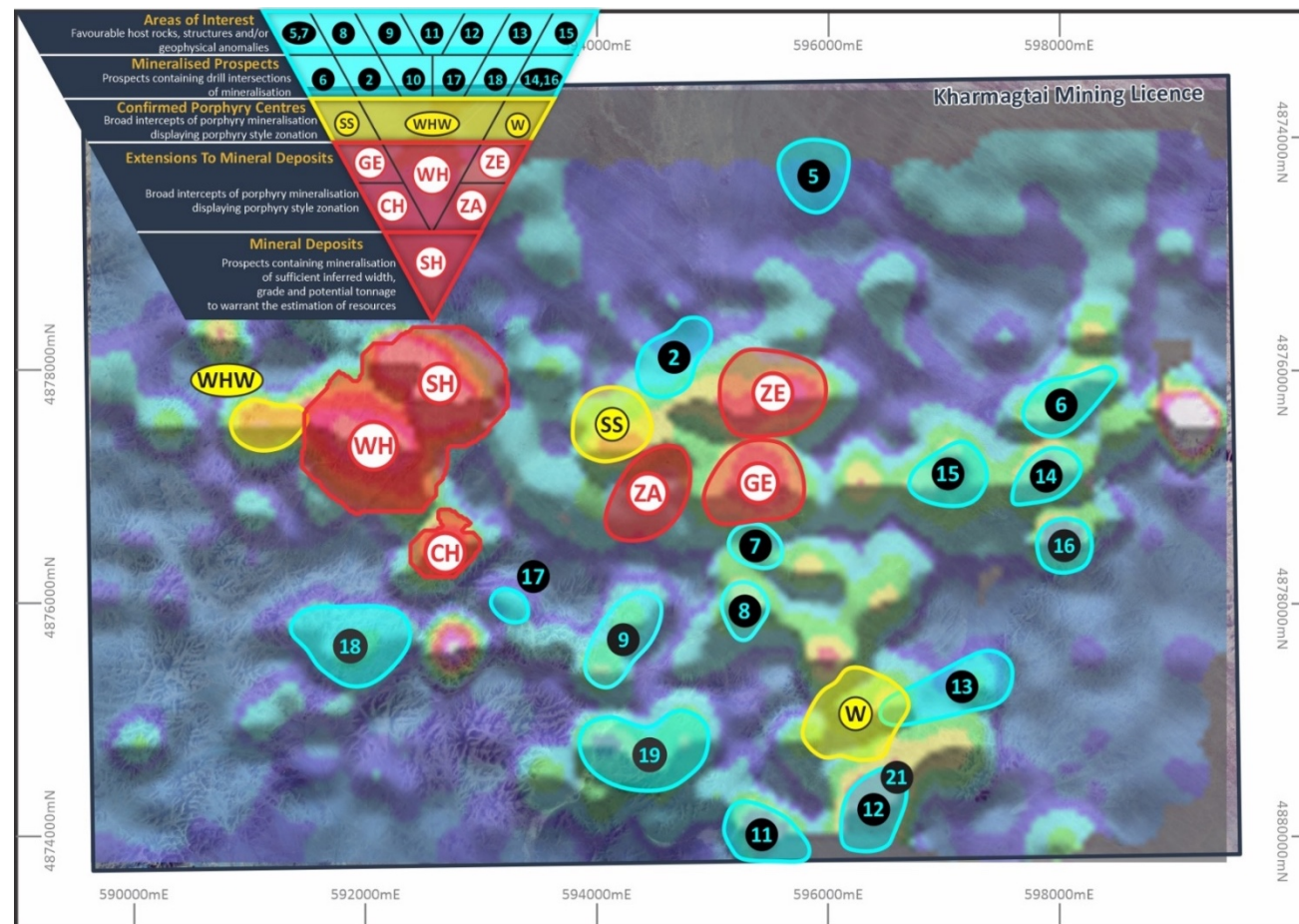
- 5 subsurface discoveries out of 10 prospects drilled
- <\$0.01/lb CuEq discovery cost vs ~\$0.07/lb industry avg<sup>1</sup>

## DISTRICT CONTINUES TO OPEN UP

- Multiple copper-gold porphyry intrusions
- Mineralised structures linked to faulting
- Increasing grade at depth

## PORPHYRY DEPOSITS EVOLVE OVER TIME

- Continued exploration for new high-grade systems
- Link existing systems at depth
- Highly prospective for new discovery
- Several priority targets drilled in 2021
- >20 targets to be drilled over next 12 months

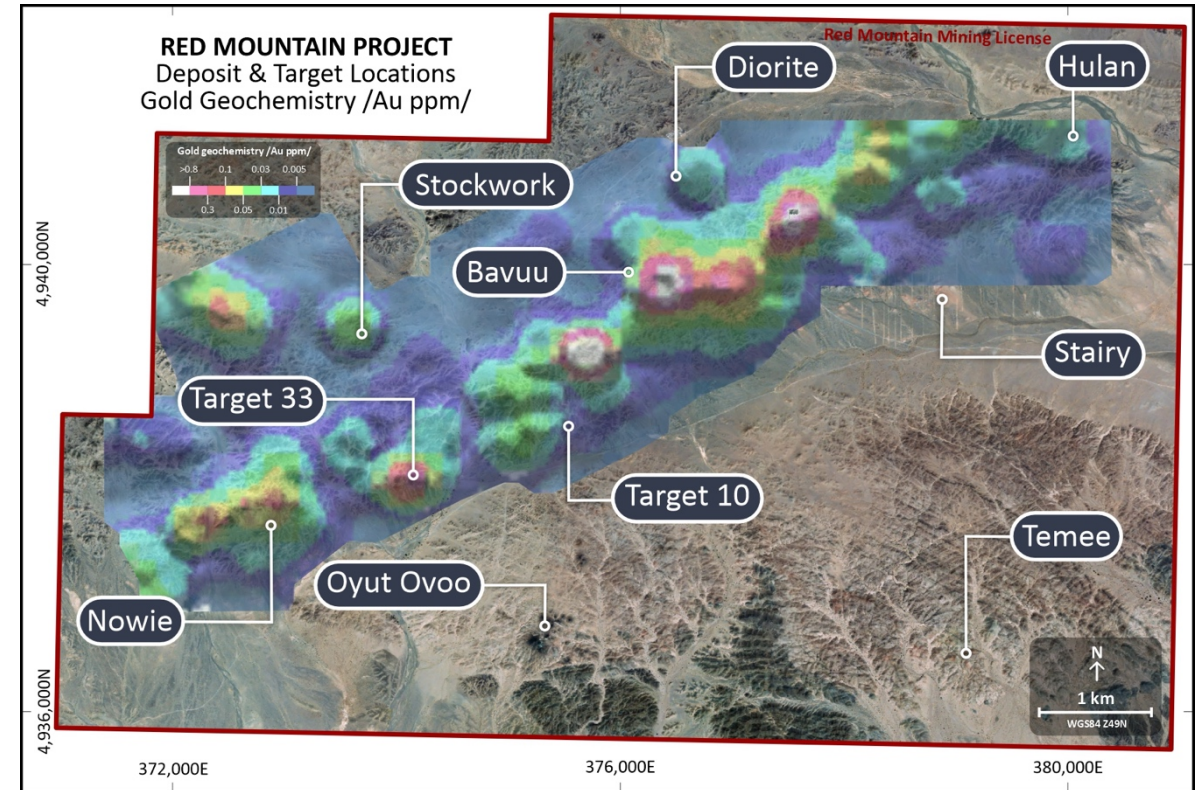


<sup>1</sup> Minexconsulting <https://minexconsulting.com/recent-trends-in-copper-exploration-are-we-finding-enough-2/>

# Red Mountain Highly Prospective

Already delivering exciting results

- ▶ Advanced exploration – multiple known targets:
  - Outcropping sulphides at surface, **up to 184m width**
  - 4 mineralised Cu-Au systems
  - 2 epithermal Au-Ag systems
  - High-grade diamond drill assays, **up to 16% Cu**
- ▶ Located 265km east of Kharmagtai
- ▶ 30-year extendable mining license
- ▶ Consolidated to 100% ownership in 2021<sup>1</sup>
- ▶ New exploration program kicked off August 2022



<sup>1</sup> ASX/TSX Announcement 27 October 2021 – Xanadu Consolidates 100% Ownership of Red Mountain



# Renewable Power Needs More Copper

Renewables & electrification drive decarbonisation

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- Wind & Solar between **3x** and **7x** more **copper intensive** than conventional electricity<sup>1</sup>; Wind requires up to **8,000 kg copper** per MW<sup>1</sup>
- Wind & Solar **carbon footprints** over the asset's lifespan are **1 to 4%** of coal-fired power & **3 to 9%** of natural gas, respectively<sup>2</sup>
- US requires **630GW wind & 450GW solar energy investment** to achieve 100% clean electricity by 2035<sup>3</sup>.
- US\$100bn **electrical grid upgrades required** to support US clean electricity targets, including construction of higher voltage DC transmission lines – all copper intensive<sup>4</sup>.

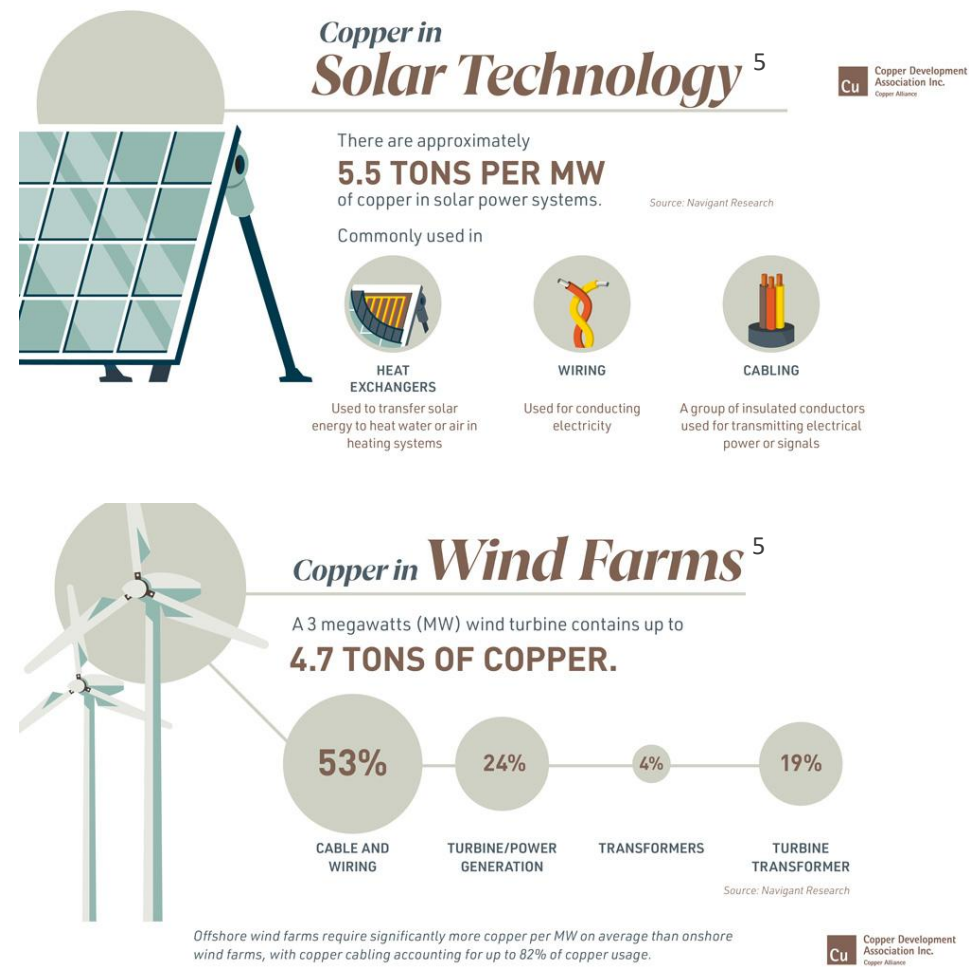
<sup>1</sup> <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary>

<sup>2</sup> <https://www.cnn.com/2022/04/13/green-energy-the-race-to-roll-out-super-sized-wind-turbines-is-on.html>

<sup>3</sup> <https://www.spglobal.com/marketintelligence/en/news-insights/research/national-clean-energy-standard-could-require-1000-gw-of-new-wind-solar-by-2035>

<sup>4</sup> <https://aheadoftheherd.com/the-us-has-a-metals-problem/>; <https://www.energy.gov/sites/default/files/2022-02/Electric%20Grid%20Supply%20Chain%20Report%20-%20Final.pdf>

<sup>5</sup> <https://www.copper.org/environment/sustainable-energy/renewables/>

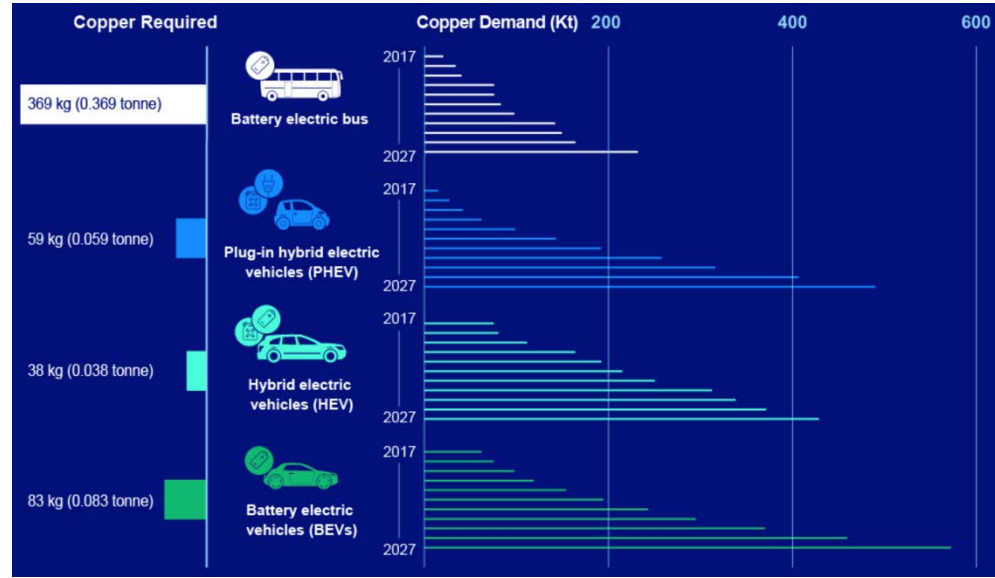


# Copper Anchors the EV Ecosystem

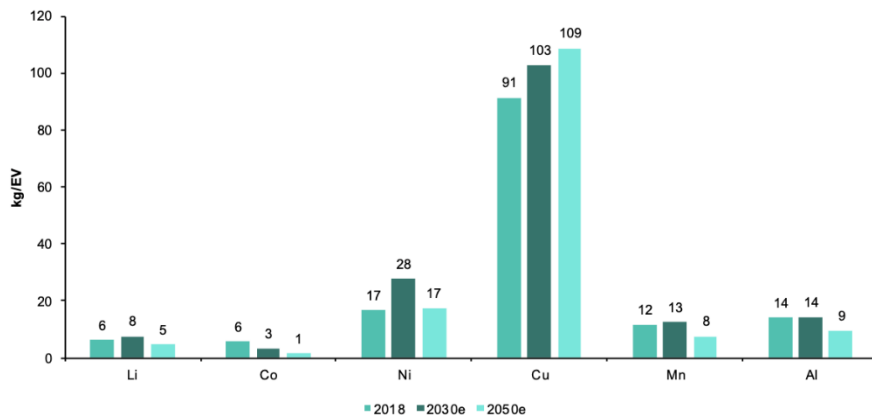
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EV production could be limited by copper availability

Copper Drives Bigger, Longer Range EVs (2017 to 2027e)<sup>1</sup>



Copper Demand Per EV Continues Growing (2018 to 2030e to 2050e)<sup>2</sup>



- Copper used in **more than just the battery**, also the motor, inverter/converter, cabling & internal charging requirements
- **EV infrastructure** associated with ultra fast charging of EVs, as well as grid investment all heavily reliant on copper
- Unlike other EV metals, **copper metal use per EV rises**, even after expected battery chemistry transition reduces metal requirements out to 2030 – 2050<sup>2</sup>
- If EV growth pursued aggressively, **copper demand for EVs could exceed renewable power**
- Tesla, GM, BMW & Toyota have direct mining/refining relationships for Li, Co & Ni, but not for Cu (yet)
- As supply pressure builds, automakers expected to pursue similar **direct sourcing strategy for Cu**

<sup>1</sup> <https://www.visualcapitalist.com/visualizing-coppers-role-in-a-low-carbon-economy/>

<sup>2</sup> <https://cdn-ceo-ca.s3.amazonaws.com/1g9df18-Global-Metals-Mining-King-Copper-once-and-future-14-September-2020-Bernstein.pdf>