



Orion Minerals

ASX/JSE RELEASE: 14 October 2019

Investor Presentation

Orion Minerals Ltd (**ASX/JSE: ORN**) advises that its Managing Director and CEO, Errol Smart, is presenting to investors in China this week and is pleased to provide a copy of the presentation, with the translated version provided as an Appendix.

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Managing Director and CEO

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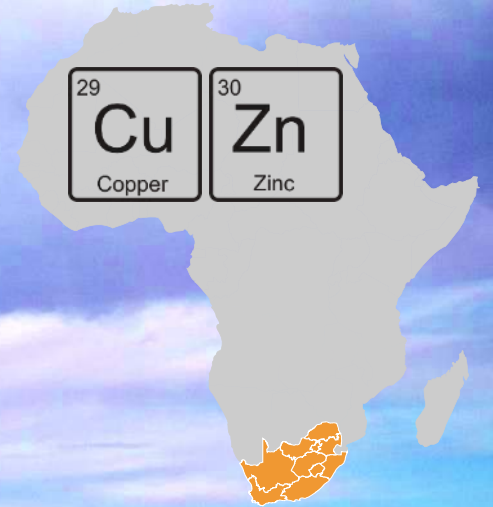
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Orion Minerals

ASX/JSE: ORN



DELIVERING THE PRIESKA PROJECT

A strong foundation for near-term development and long-term growth

Investor Presentation: October 2019

DISCLAIMER



Orion Minerals

This presentation contains summary information about Orion Minerals Ltd and its subsidiaries (Orion or Company) and their activities and is current as at 7 October 2019. The information in this presentation is a general background and does not purport to be complete or provide all information that an investor should consider when making an investment decision.

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Certain statements contained in this presentation, including information as to the future financial or operating performance of

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- 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; and
- may include, among other things, statements regarding

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The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward looking statements.

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All information in respect of Exploration Results and other technical information should be read in conjunction with the relevant ASX announcements released by the Company.

Orion is not aware of any new information or data that materially affects the information for the Mineral Resource and confirms that

all material assumptions and technical parameters underpinning the estimates in the relevant Orion ASX releases (as referenced in the presentation) continue to apply and have not materially changed. Orion confirms that the form and context in which the Competent Person's findings are presented have not materially changed.

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ORION MINERALS – COMPELLING INVESTMENT CASE



THE OREBODY

- Globally significant VMS Resource: 30.49Mt @ 1.2% Cu, 3.7% Zn
- Mineral Reserve: 13.62Mt @ 1.06% Cu, 3.18% Zn

FOUNDATION PHASE (10 YR) BFS OUTCOMES

- Initial 10-year, 2.4Mtpa operation targeting 22ktpa Cu & 70ktpa Zn
- Strong operating margins and financials
 - Pre-tax free cash flow of A\$1.1bn (post-tax A\$819m)
 - Pre-tax NPV_{8%} of A\$574m (post-tax A\$408m)
 - Peak funding of A\$378m
 - Payback period of three years from first production
 - All-in sustaining margin of 44%

PERMITTING

- Environmental Authorisation awarded July 2019
- Mining Right for initial 24 years (renewable) granted August 2019

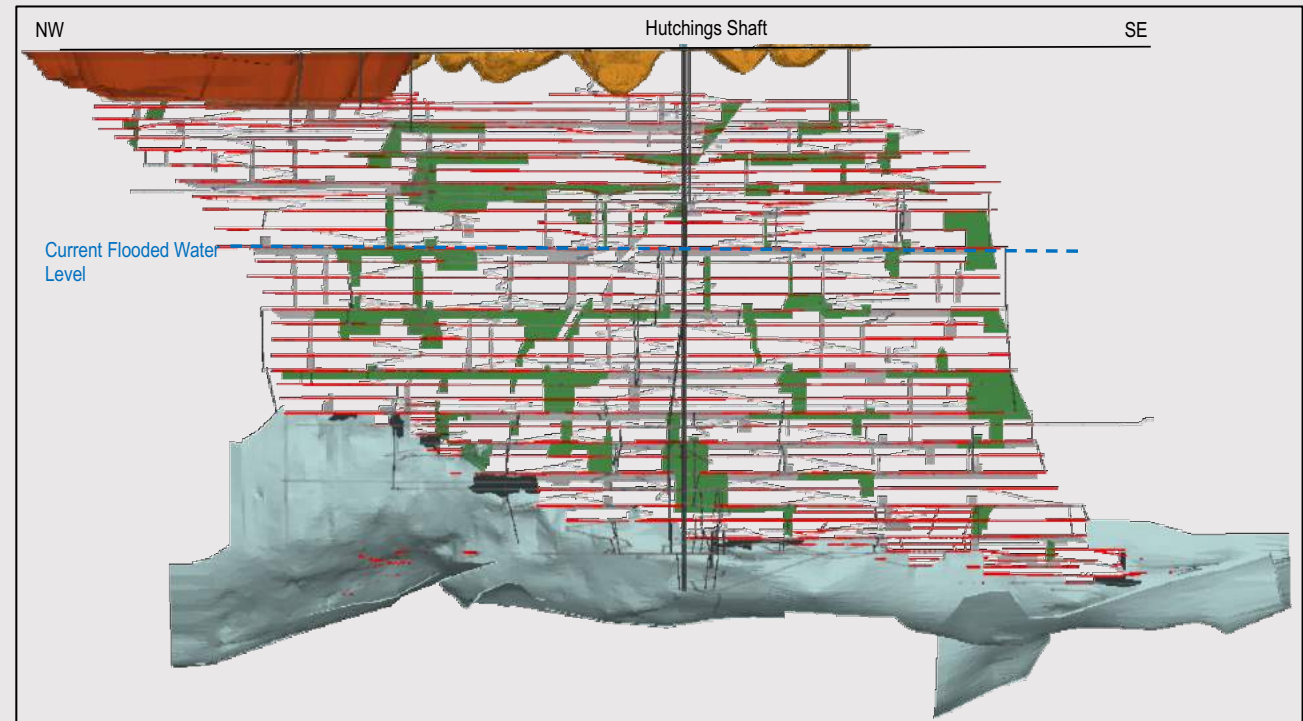
THE FUTURE

- Exceptional exploration and growth pipeline



PRIESKA: REAWAKENING A GLOBAL VMS GIANT

- World-class orebody – recorded as a Top 30 global VMS deposit
- Located in Northern Cape Province, 270km south-west of regional capital, Kimberley
- Established mining region, yet least populous region of South Africa
- Historically mined by AngloVaal (1971-1991)
- Recorded historical production of 1Mt of Zn and 430kt of Cu from 46.8Mt of sulphide ore milled*
- Extensive infrastructure in place
- Near-mine exploration and further expansion potential



PRIESKA: DEVELOPING A NEW MINE IN THE FOOTPRINT OF AN OLD ONE

Extensive infrastructure already in place:

- Primary shafts and underground decline roadways
- Sealed access roads to project site
- 48km via bitumen road to existing rail siding
- Four high-voltage regional lines linked to national electricity grid
- 175MW operational solar power plants in area with additional 675MW approved and 300MW pending authorisation
- 800km rail link to major bulk commodity and deep-water ports
- Bulk water pipeline supplies to site
- Good contractor accommodation facilities ~3km from site
- Low environmental sensitivity – existing mine footprint



PRIESKA: MINE OF THE FUTURE

Implementing a modern operating philosophy (4IR enabled) can contribute to achieving quantum changes in key output parameters that are traditionally slow to improve or have regressed in the local mining industry, including:

- Safety and health improvements
- Improved environmental conditions, reduced pollution and contamination
- Improved energy efficiency and lower energy costs
- Productivity improvements
- Operating cost reductions

**Benchmark
Globally**

**Implement
Enablers**

**Be Fast
Followers**

**Always Make
Commercial
Sense**

STRONG CASHFLOW



KEY SOCIAL IMPACTS OF THE PROPOSED MINE

EMPLOYMENT CREATION

- Estimated that 846 people (operational Phase) will be employed
- Empirical multiplier effect potentially creates 2,500 associated jobs

INCREASE IN GROSS DOMESTIC PRODUCT

- District GDP increase expected of 20.3% at optimal mining
- Combined multipliers may increase local economy by 30%
- Local sourcing of select goods and services

CREATE THE POTENTIAL FOR BENEFICIAL MULTIPLIERS

- Mine support services will develop locally
- Increase in residents promoting infrastructure upgrades
- Stimulation of related synergic industries

LOCAL AND BEE ENTERPRISE DEVELOPMENT

- Will create opportunities for local entrepreneurs



PRIESKA BFS HIGHLIGHTS



FOUNDATION PHASE



LOM EXTENSION PHASE

- Demonstrates compelling investment case to establish financially robust mine with initial 10-year life
 - Pre-tax free cash flow of A\$1.1bn (post-tax A\$819m)
 - Pre-tax NPV_{8%} of A\$574m (post-tax A\$408m)
 - Peak funding of A\$378m
 - Payback period of three years from first production
 - All-in sustaining margin of 44%
 - Optimisation studies continue
 - Investigating by-product production
- LOM extensions leveraging off Foundation Phase development and requiring limited or no additional capital works
 - Tonnage targeted
 - Remainder of current Global Resource, 9.13 Mt at 1.4% Cu and 3.6% Zn
 - Evaluating existing pillar extraction (7-8 million tonnes) after voids are paste filled
 - High grade strike extensions of resource requiring additional drilling, not yet in JORC resource

PRIESKA: NEXT STEPS

FOUNDATION PHASE

- Orion progressing key commercial work streams:
 - Permitting
 - Concentrate marketing
 - Project financing
- Final investment decision targeted in H2 2019
- Commencement of construction targeted for early 2020
- Ongoing optimisation studies
- Evaluating by-product production and sales
 - Barite
 - Pyrite

LOM EXTENSION PHASE

- Resource extension drilling to commence following establishment of underground drilling platforms
 - targeting strike extensions and folded limb of the main Prieska VMS lens, which remains open
- Exploration for near mine satellite bodies to continue from surface

CORPORATE STRUCTURE



Orion Minerals

- Primary listing on the ASX.
- Secondary listing on Main Board of the Johannesburg Stock Exchange.

Capital structure summary

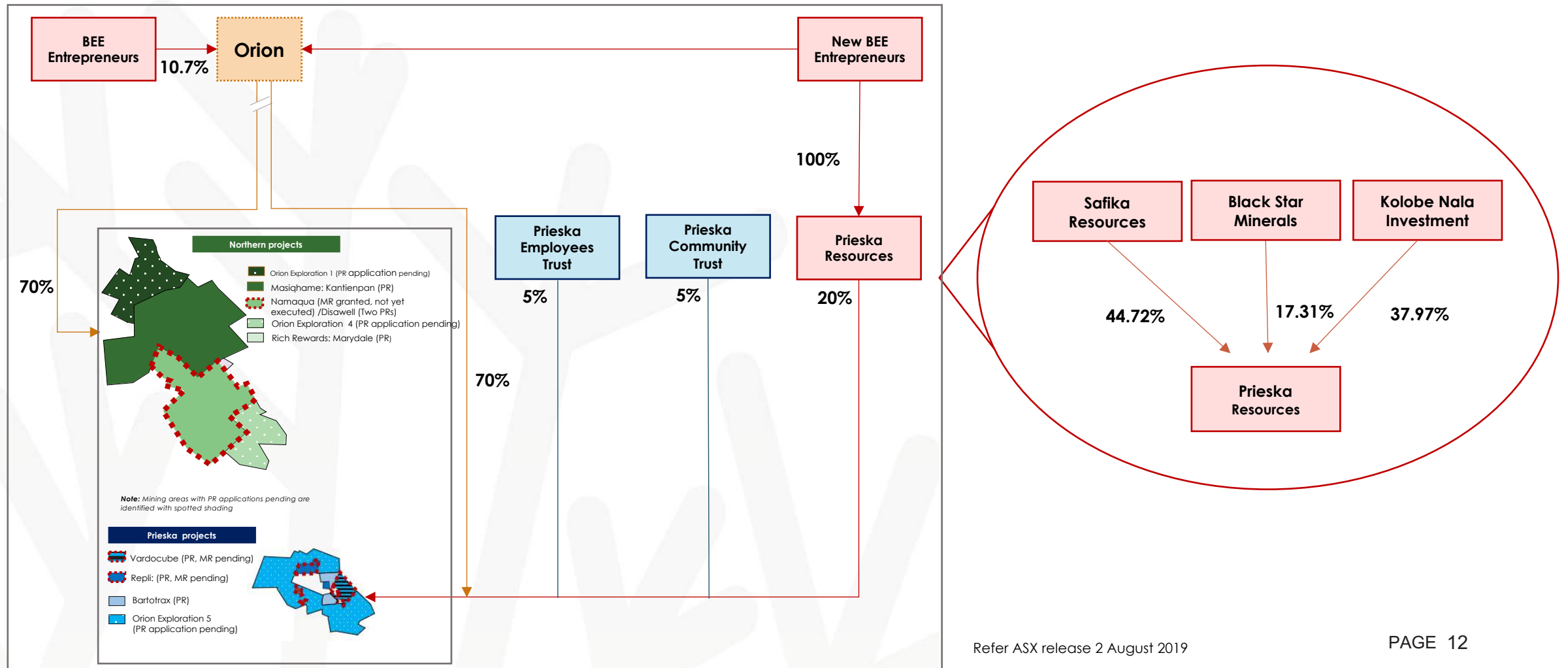
| | |
|---|--------|
| Shares on issue ¹ | 2,473M |
| Options on issue | 312M |
| Market capitalisation (3.0cps (ASX)) ² | \$74M |
| Convertible loan (2.6cps convert, 12% interest, Jan'20 term) ³ | \$3.9M |
| AASMF loan ⁴ | \$1.7M |
| Cash on hand ⁵ | \$1.4M |

Significant shareholders

| | % |
|--|-------------|
| Tembo Capital | 24.1 |
| Independence Group NL | 6.2 |
| Wyllie Group | 6.0 |
| Tarney Holdings | 4.5 |
| Silja Investment & Alexander Haller ⁶ | 3.2 |
| Total | 44.0 |

1. Fully paid ordinary Orion shares (**Shares**) on issue as at 24 Sep'19. On 12 Sep '19, in terms of the BEE restructure, the Company issued 86.1M Shares to existing BEE shareholders. The remaining Shares to be issued to BEE shareholders (48.9M Shares), will be issued following satisfaction of certain conditions precedent, which is expected to occur shortly. Refer to ASX releases 12 Sep'19 and 13 Sep'19 for information relating to the BEE restructure.
2. Closing price of ORN Shares on the ASX on 23 Sep'19. Closing price of ORN Shares on the JSE on 23 Sep'19 was ZAR0.30.
3. Orion announced on 25 Jan'19 that it had entered into a \$3.6M loan facility with Tembo Capital (excluding capitalised interest and fees) (**Loan Facility**). Under the terms of the Loan Facility, Tembo may at its election, have the balance of the Loan Facility settled by the issue of Shares at a deemed issue price of 2.6cps (subject to receipt of shareholder approval). Refer to ASX release 25 Jan'19 and the Company's Annual Financial Report for the period ended 30 Jun'19 for additional information. Balance shown as at 30 Jun'19.
4. Refer to the Company's Annual Financial Report for the period ended 30 Jun'19 for information related to the loan agreement (ZAR14.25M) that Repli has entered into with AASMF. Balance shown as at 30 Jun'19.
5. Cash on hand at 30 Jun'19. **Following financial year end and completed in Sep'19, Orion received \$3.34M to finalise Tranche 2 of the \$8M capital raising announced to the ASX in Apr'19.**
6. Alexander Haller is deemed to have a relevant interest in securities held by Silja Investment.

PIVOTAL \$8M CAPITAL RAISING AND BEE TRANSACTION



APPENDICES



BANKABLE FEASIBILITY STUDY DASHBOARD



| Price and FX Assumptions | Unit | Value | Financial Performance | Unit | Value |
|--|---------|---------------|--|----------|-------------|
| Metal price – Cu | USD/t | 6,834 | NPV pre-tax (post-tax) @ 8.0% discount rate | AUD M | 574 (408) |
| Metal price – Zn | USD/t | 2,756 | IRR pre-tax (post-tax) | % | 38% (33%) |
| Exchange rate | ZAR:USD | 14.5 :1 | Payback from first production | years | 2.9 |
| Exchange rate | ZAR:AUD | 10 : 1 | Undiscounted free cash flow pre-tax (post-tax) | AUD M | 1,127 (819) |
| Exchange rate | AUD:USD | 1.45 : 1 | Peak funding | AUD M | 378 |
| Production Metrics | Unit | Value | Project Cost Metrics | Unit | Value |
| Life of Mine | Years | 9.7 | Average cash operating unit cost (C1) | AUD/t | 80 |
| Treatment plant capacity | Mtpa | 2.4 | All-in-sustaining cost per unit ROM t | AUD/t | 94 |
| ROM Plant Feed – tonnage | kt | 20,827 | All-in-sustaining cost per unit Cu_Eq t sold | AUD/t Cu | 5,470 |
| ROM Plant Feed – grade - Cu | % | 1.1% | All-in-sustaining cost per unit Zn_Eq t sold | AUD/t Zn | 1,582 |
| ROM Plant Feed – grade - Zn | % | 3.4% | Price received (net of NSR) - Cu | AUD/t Cu | 9,785 |
| Concentrate tonnage - Cu | kt | 790 | Price received (net of NSR) - Zn | AUD/t Zn | 2,830 |
| Concentrate tonnage - Zn | kt | 1,180 | All-in-sustaining margin | % | 44% |
| Concentrate grade – Cu U/G (O-Pit) | % | 23.8% (25.6%) | Operating breakeven grade (Cu_Eq) | % | 1.2% |
| Concentrate grade – Zn U/G (O-Pit) | % | 49.9% (35.5%) | | | |
| NSR as % of metal price – Cu U/G (O-Pit) | % | 98.7% (91.2%) | | | |
| NSR as % of metal price – Zn U/G (O-Pit) | % | 71.3% (53.7%) | | | |
| Metal sold (in concentrates) - Cu | tonnes | 189,000 | Project Cash Flows | Unit | Value |
| Metal sold (in concentrates) - Zn | tonnes | 580,000 | LoM net revenue | AUD M | 3,284 |
| Total Sales as Cu equivalent | tonnes | 357,000 | LoM operating costs (+ Royalty and Tax) | AUD M | 1,673 |
| Total Sales as Zn equivalent | tonnes | 1,230,000 | Project Start-up Capital Expenditure | AUD M | 402 |
| | | | Sustaining Capital Expenditure | AUD M | 83 |

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 or financial forecast information will be realised.

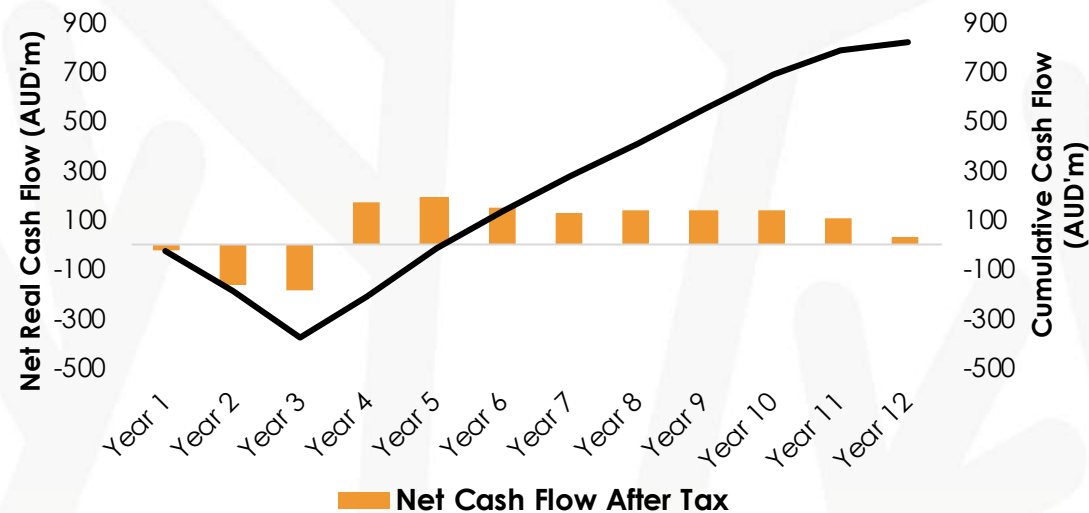
Table: Key BFS Results for the Foundation Phase of the Prieska Copper-Zinc Project. Note that the Study estimation accuracy level is $\pm 15\%$.

CONSTRUCTION MILESTONES

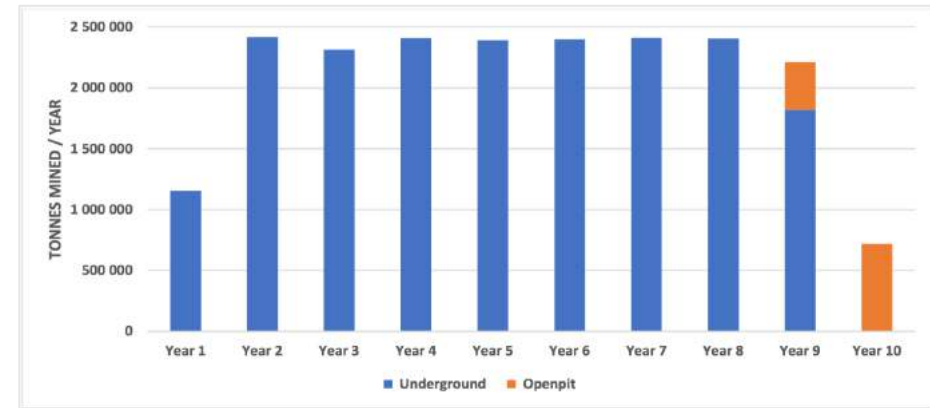
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MINING PRODUCTION PROFILE

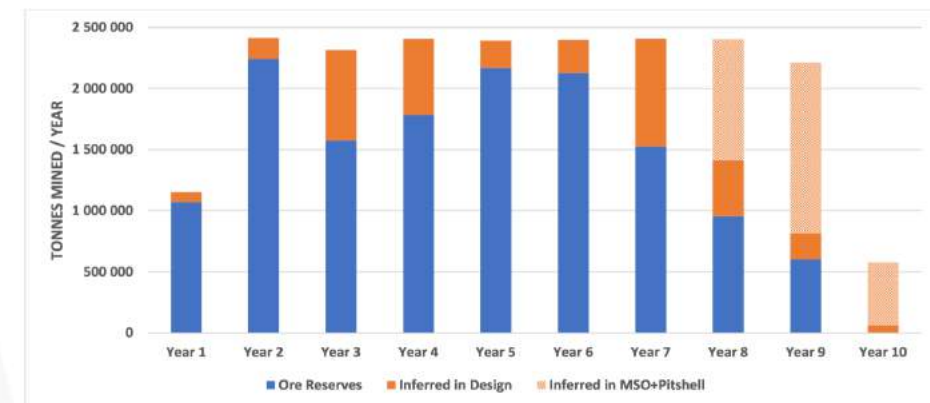
- Underground mining for majority of the Foundation Phase
- Small open pit mined on retreat
- Underground mining to commence on completion of:
 - mine dewatering
 - shaft refurbishment
- Underground establishment program of 23 months before first ore mined
- Underground mining will build up over 14 months to steady-state run-of-mine production rate of 200ktpm or 2.4Mtpa



MILLED ORE SOURCES



MILLED ORE JORC CATEGORIES



MINERAL RESOURCE

| Total Prieska Project Mineral Resource for Repli + Vardocube Tenements (Effective Date: 11 January 2019) | | | | | | |
|--|----------------|-------------------|----------------|------------|------------------|------------|
| Mineral Resource | Classification | Tonnes | Cu (tonnes) | Cu (%) | Zn (tonnes) | Zn (%) |
| Deep Sulphide Resource | Indicated | 18,507,000 | 217,000 | 1.17 | 667,000 | 3.60 |
| | Inferred | 10,219,000 | 117,000 | 1.1 | 417,000 | 4.1 |
| + 105m Level Resource | Indicated | 624,000 | 10,000 | 1.54 | 19,000 | 3.05 |
| | Inferred | 1,138,000 | 17,000 | 1.4 | 16,000 | 1.4 |
| Total | Indicated | 19,131,000 | 227,000 | 1.18 | 686,000 | 3.59 |
| | Inferred | 11,357,000 | 134,000 | 1.2 | 433,000 | 3.8 |
| Grand Total | | 30,488,000 | 361,000 | 1.2 | 1,119,000 | 3.7 |
| Deep Sulphide Resource bottom cut-off = 4% Equivalent Zn; +105m Level Mineral Resource bottom cut-off = 0.3% Cu. Mineral Resources stated at zero % cut-off. Tonnes are rounded to thousands, which may result in rounding errors. | | | | | | |

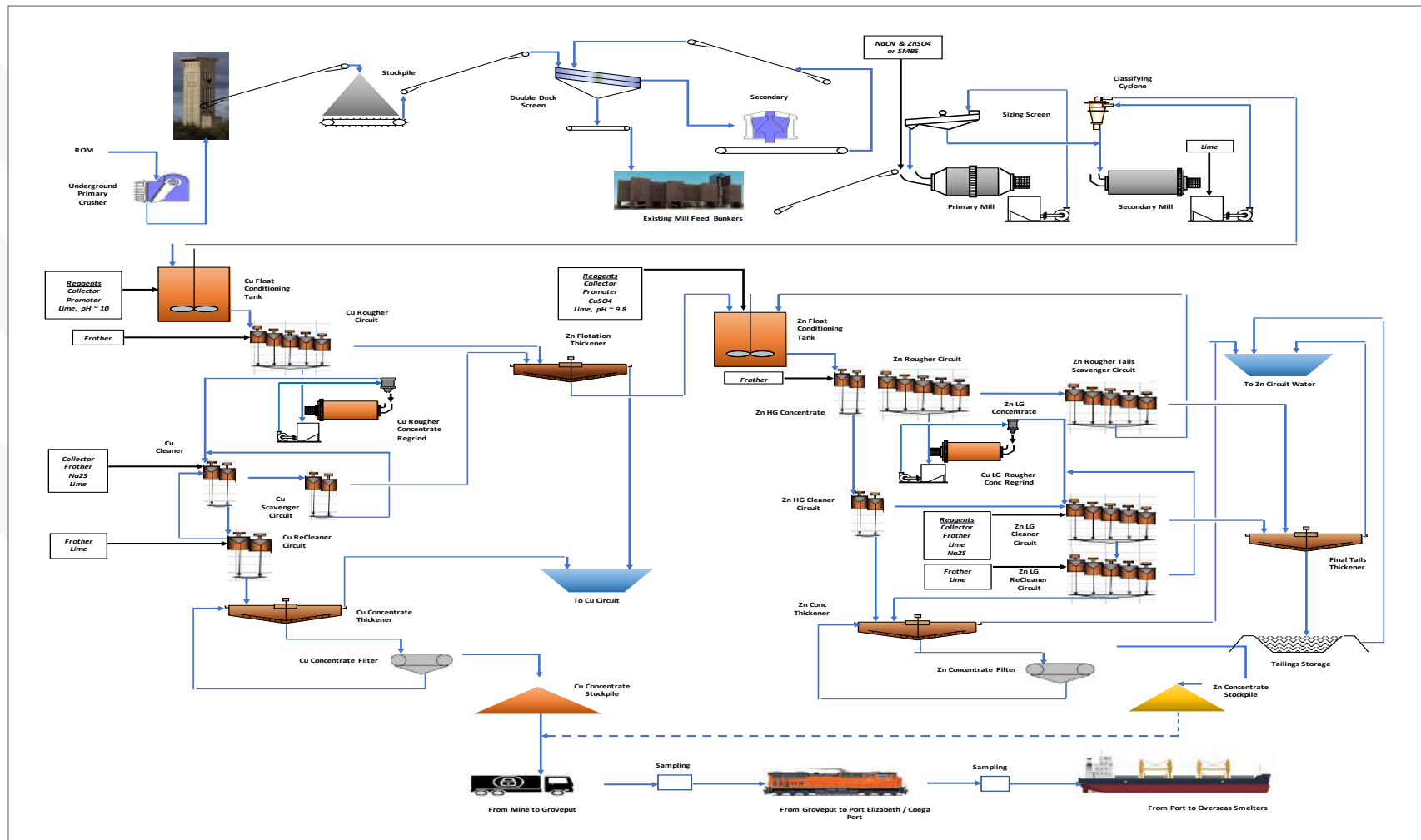
The Mineral Resources are inclusive of the Mineral Reserves

MINERAL RESERVE

| Preiska Project Ore Reserves Estimate (Effective Date: 16 June 2019) | | | | | | | | |
|--|----------------------------|--------------|-------------------|------------|-------------------|------------|-------------------|------------|
| Deposit | Ore Reserve Classification | Tonnage (Mt) | Cu | | Zn | | Cu Equivalent | |
| | | | Metal Tonnes (kt) | Grade (%) | Metal Tonnes (kt) | Grade (%) | Metal Tonnes (kt) | Grade (%) |
| + 105 Supergene | Probable | 0.48 | 7 | 1.5 | 16 | 3.3 | 11 | 2.2 |
| Deep Sulphide | Probable | 13.14 | 136 | 1.0 | 417 | 3.2 | 257 | 2.0 |
| Total | Probable | 13.62 | 143 | 1.1 | 433 | 3.2 | 268 | 2.0 |

Prieska Ore Reserves calculated using financial assumptions and modifying factors stated in the Study. Tonnes are rounded to thousands, which may result in rounding errors.

MINE FACE TO MARKET

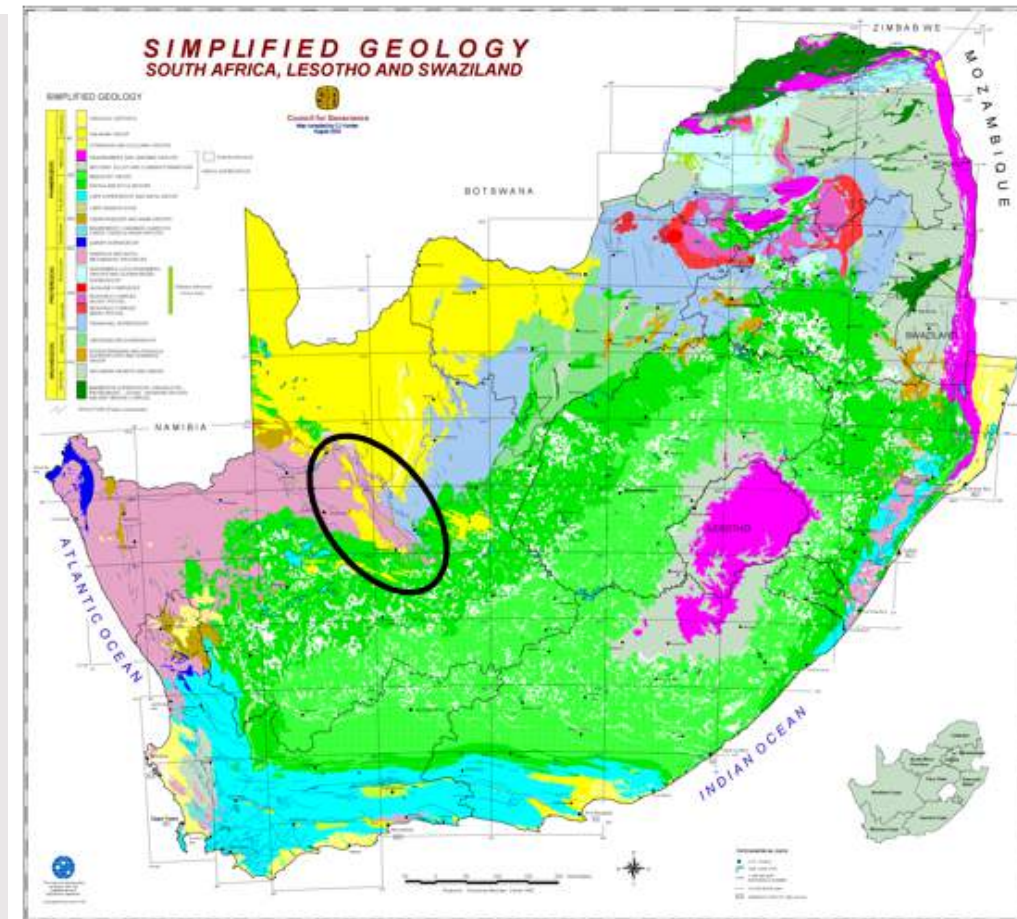


A DOMINANT LAND-HOLDING IN AN UNDER-EXPLORED MINERAL BELT



Orion Minerals

- Highly prospective yet under-explored mineral province
- 22 identified VMS occurrences historically confirmed by major mining houses
- Reputed to have the highest concentration of zinc on the African continent¹:
 - Large-scale sediment-hosted deposits classified as Broken Hill, SEDEX and VMS
 - >40Mt of contained zinc
- Several known intrusive Ni-Cu-PGE occurrences with limited modern exploration
- Potential for discovery of high-grade Ni-Cu deposits



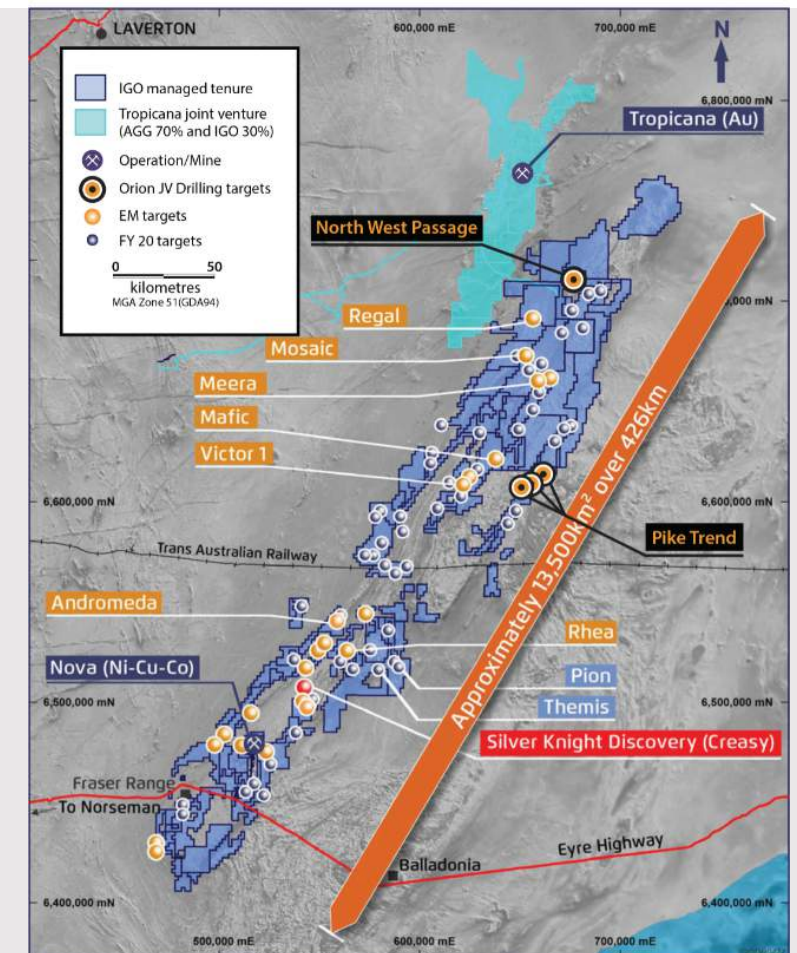
FRASER RANGE AUSTRALIA: IGO JV – ORN FREE CARRIED



“We have a conviction the (Nova) system is much larger than we believed, and the increased probability of additional discoveries means we are motivated to significantly increase our spending in 2020.” – IGO Managing

Director Peter Bradford, quoted on Miningnews.net, 31 July 2019

- IGO has commenced drilling on the North West Passage Ni-Cu JV geophysical prospect
- Drilling will also test combined Ni-Cu Intrusive and Cu-Zn VMS targets identified at the Pike, Pike-Eye and Hook Prospects
- Drilling forms part of a larger exploration program across the northern part of the Fraser Range and it is expected that, following completion of drilling at the North West Passage, drilling will move to the highly prospective Pike Trend (IGO 70% : Orion 30%) during the latter part of 2019

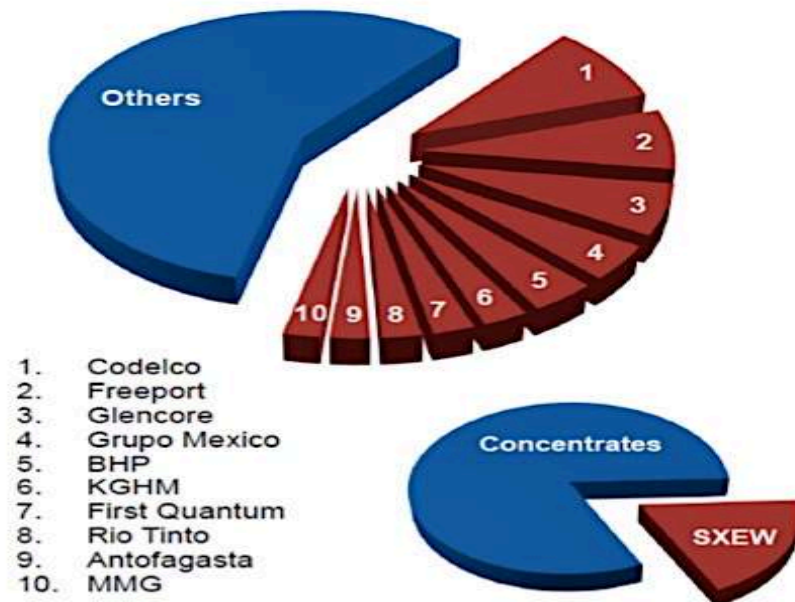


PROBLEM LOOMING: COPPER SUPPLY CHAIN

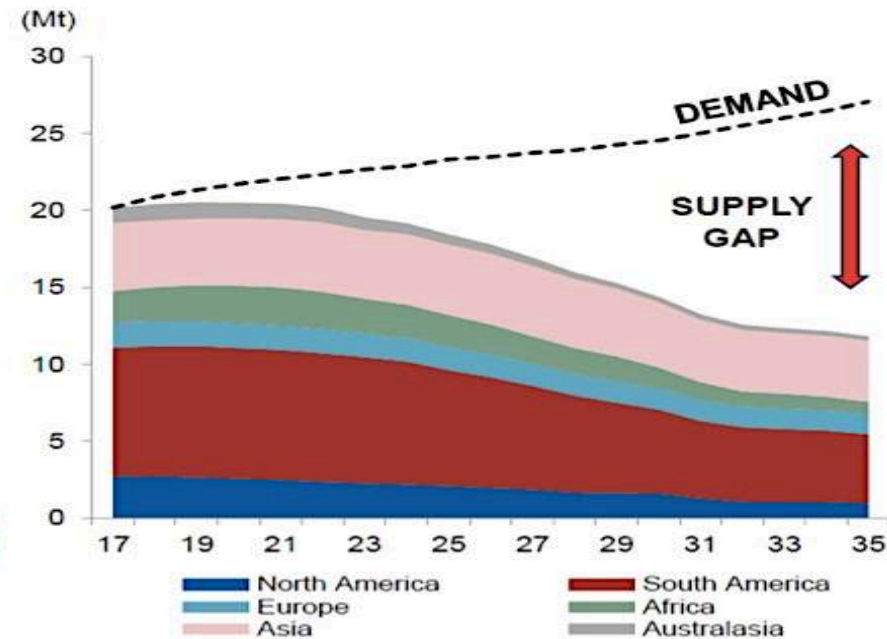
CRU

Without projects supply gap will exceed 15Mt by 2035

1. Copper Mine Production 2017: 20.4Mt

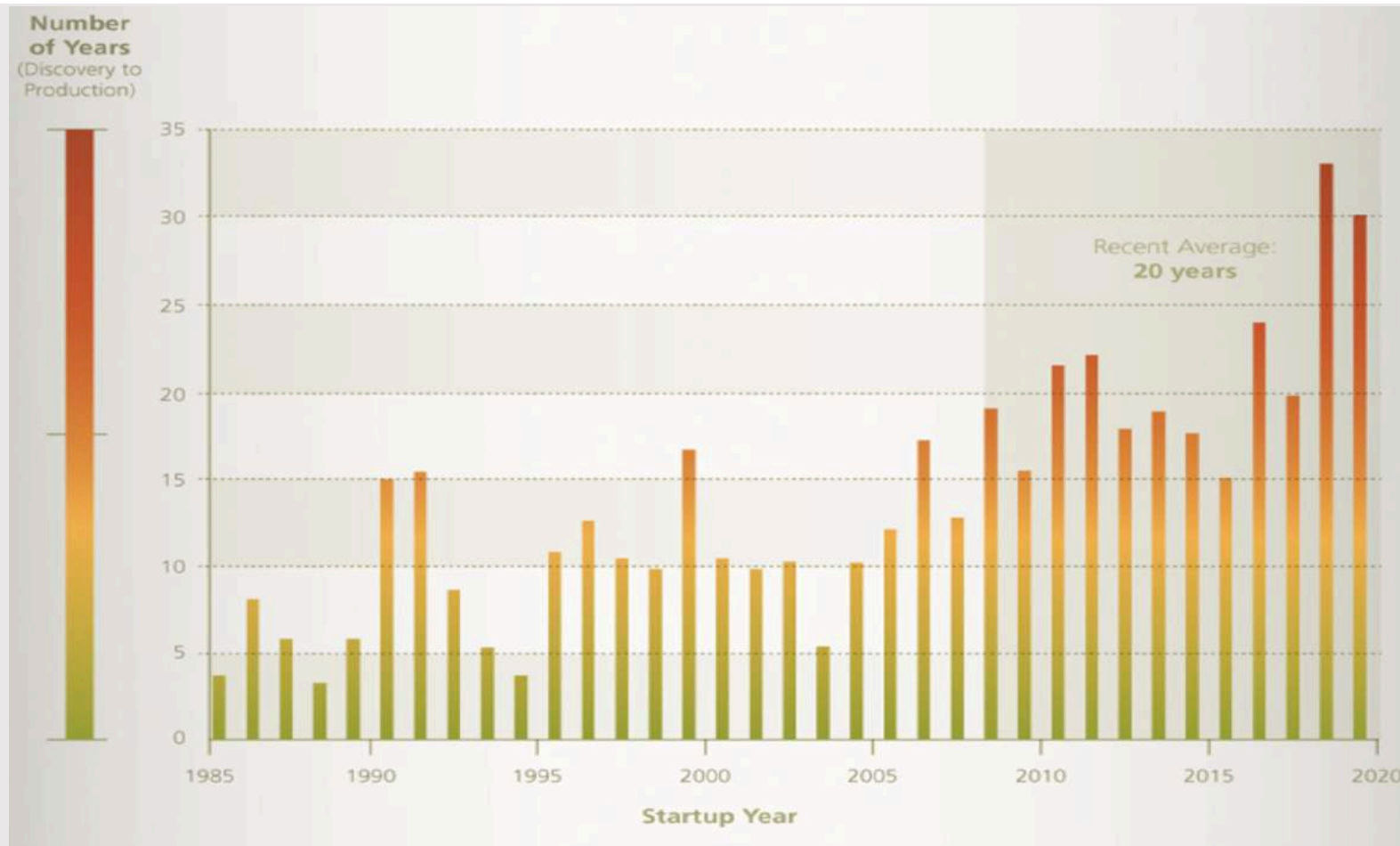


2. Committed* Mine Supply Forecast



* Committed = Existing Operations and Firm Expansions

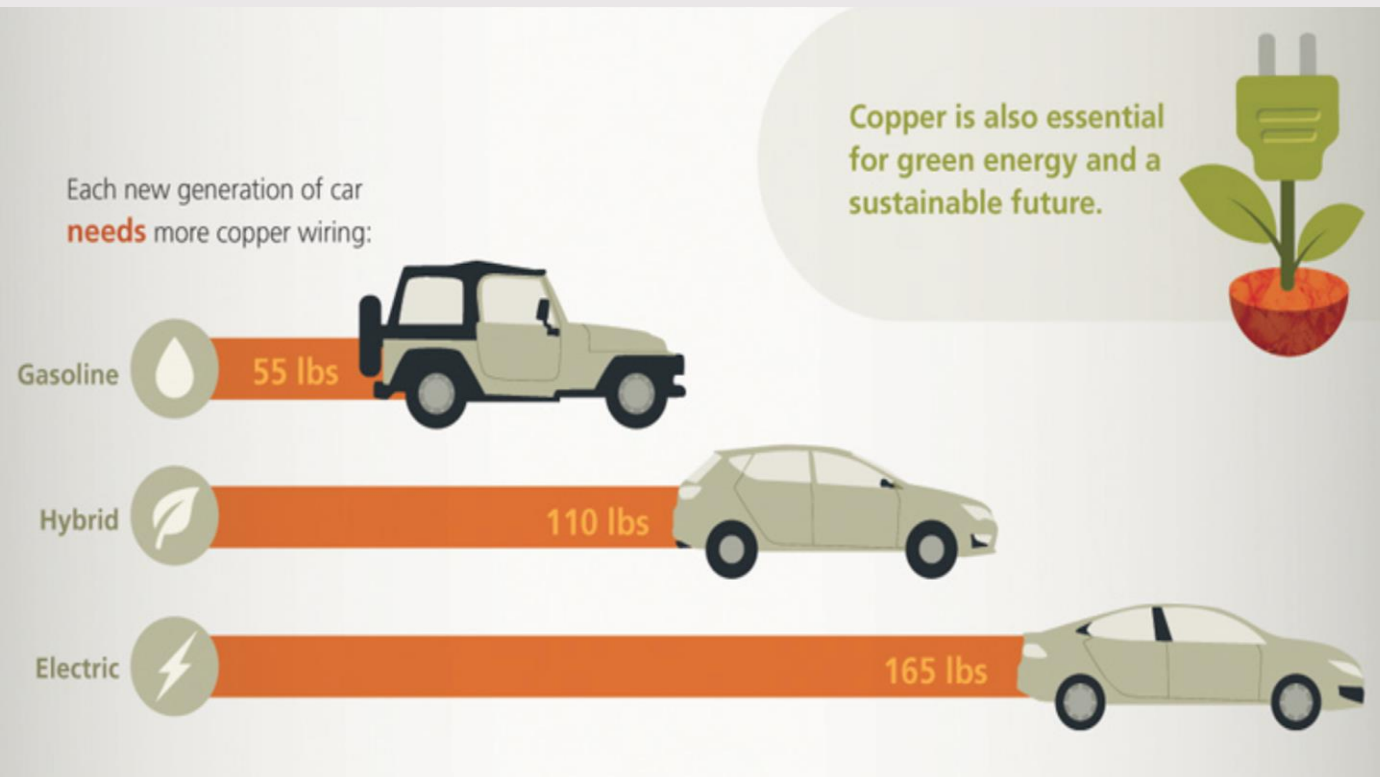
LARGE COPPER MINES HAVE A **VERY LONG LEAD TIME**



Not enough low cost production mines already in development

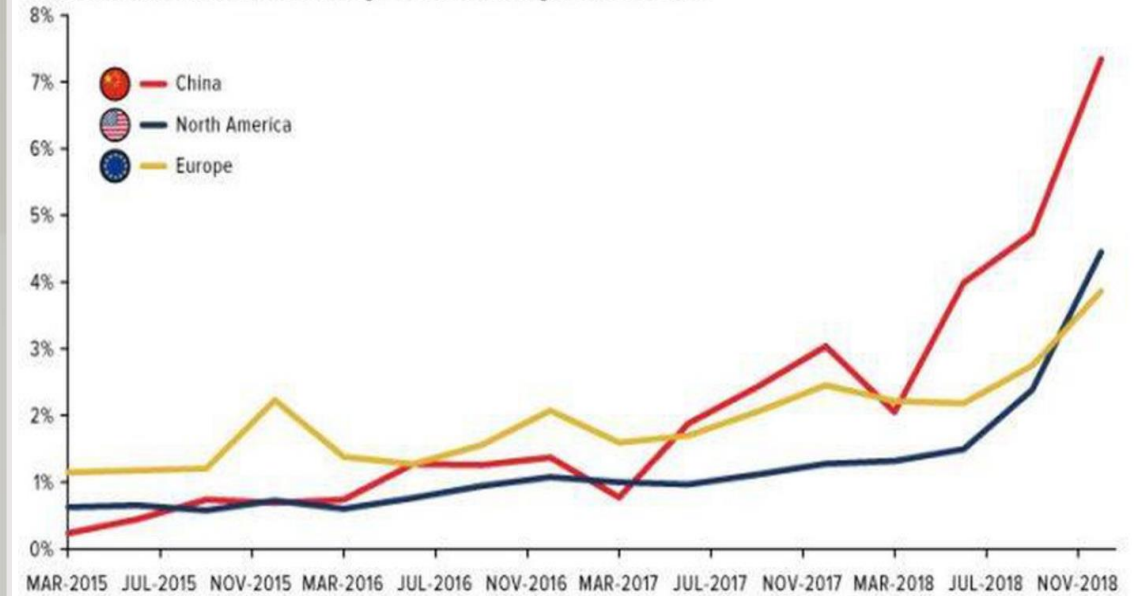
Existing LOMs may be extended with substantially higher metal prices

ADD A MAJOR NEW DEMAND DRIVER



China Leads the World in Electric Vehicle Adoption

Electric Vehicle Sales as a Percentage of Total Passenger Vehicle Sales



Source: China Association of Automotive Manufacturers, BNEF, U.S. Global Investors

China Leads the World in Electric Vehicle Adoption U.S. GLOBAL INVESTORS

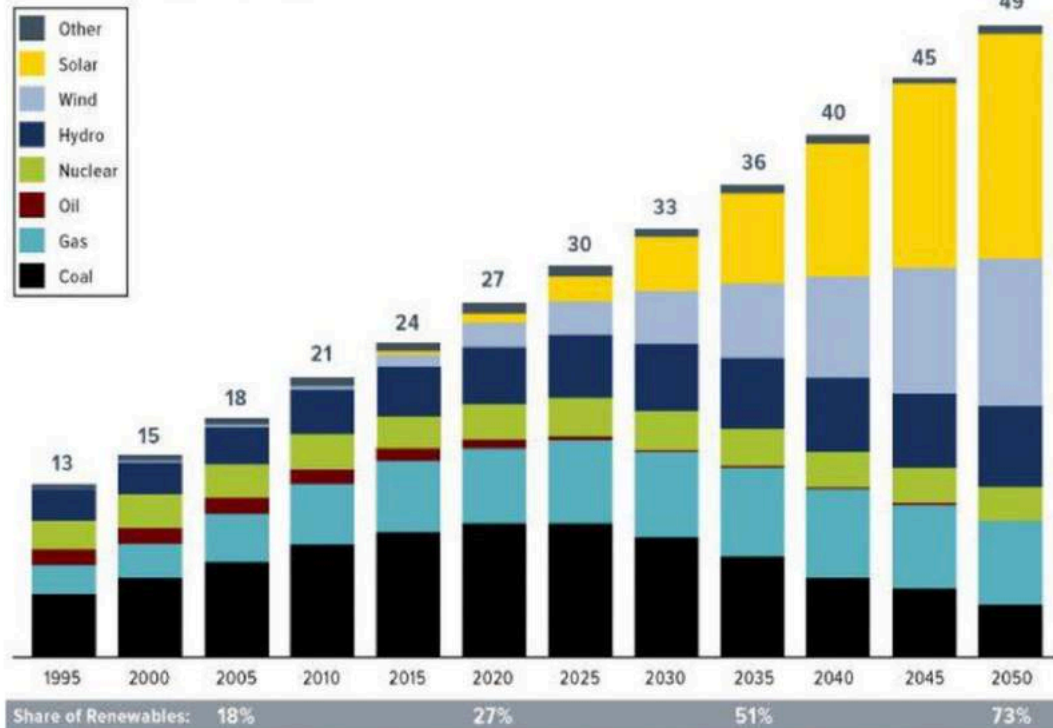
AND COPPER HUNGRY RENEWABLE ENERGY



Orion Minerals

Renewable Energy Projected to Account for Three Quarters of Global Power Generation by 2050

Thousands of Terawatt Hours (TWh)



*"Other" includes biomass, geothermal and marine.

Source: McKinsey Energy Insights' Global Energy Perspective (January 2019), U.S. Global Investors

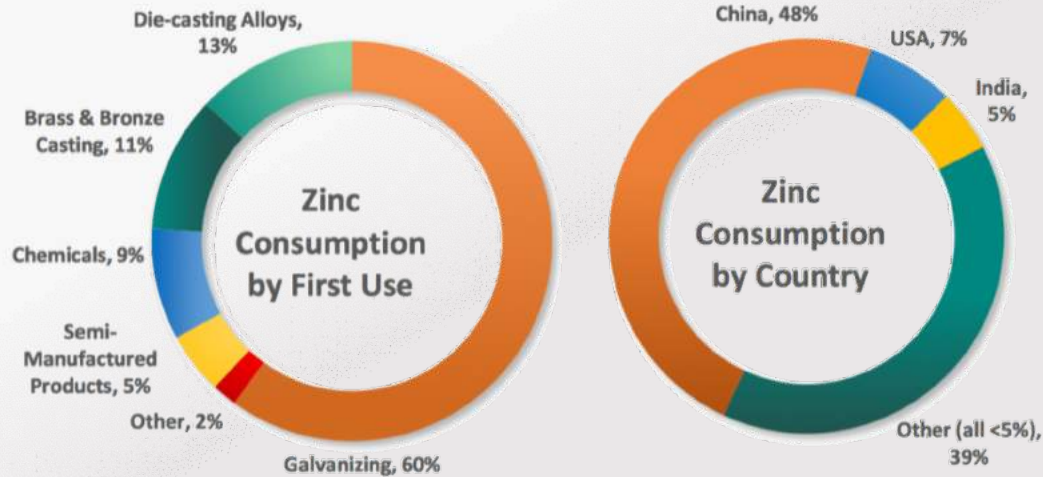
Renewable Energy Projected to Account for Three Quarters of Global Power Generation by 2050 U.S. GLOBAL INVESTORS

Copper is also essential for green energy and a sustainable future.



An average of 3.6 tonnes of copper is used for each MW of wind power capacity

ZINC DEMAND – CONSISTENT CONSUMPTION GROWTH

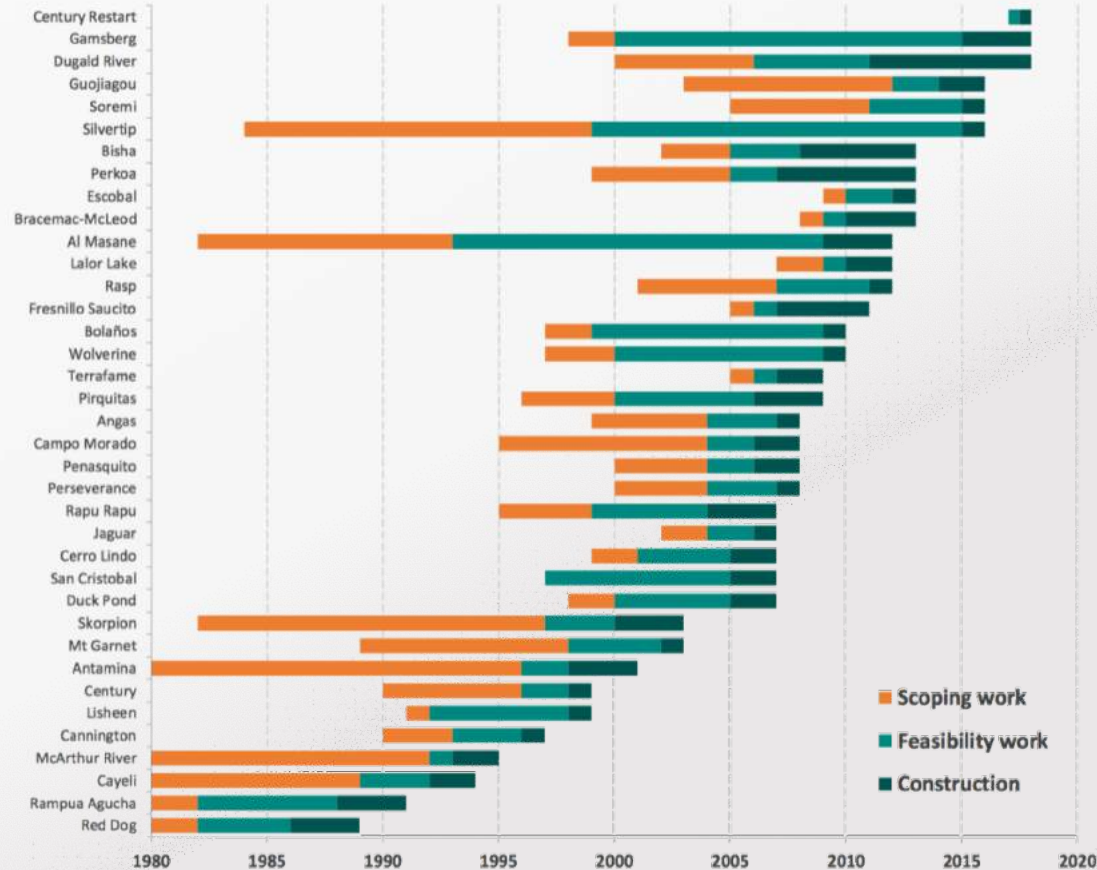


Source: Wood Mackenzie, June 2019

10 Year Zinc Outlook

- ~14,000,000t of zinc metal consumed in 2019
 - ~50% of both metal production & consumption occurs in China
 - Consumption dominated by Chinese living standard growth
 - Global demand forecast to grow by 1.5% annually to 2020-2030
- 230,000tpa new zinc production required to supply projected demand growth
 - Current supply attrition not being replaced in time

ZINC CONCENTRATE SUPPLY – NEW MINES TAKE TIME



Source: Wood Mackenzie, June 2018

- Globally, zinc project permitting, financing & development timelines are increasing
- Delays in new mine production continue:
 - Gamsburg (20-year development)
 - Dugald River (18-year development)

Current development projects dominated by poor quality concentrate producers - unsustainable

Zinc Mine Development Timelines

(Average timeline from scoping study to operations)

All Zinc Projects Since 2000 9 Years

Current Top 10 Zinc Producers 13 Years



Orion Minerals

ASX/JSE: ORN

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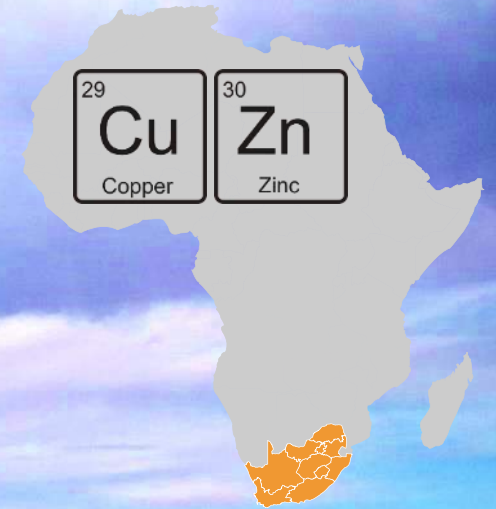
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PRIESKA铜锌矿项目



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- 涉及已知和未知的风险和不确定性，可能导致实际事件或结果与此类前瞻性陈述中反映的估计或预期事件或结果存在重大差异；和
- 除其他事项外，可能包括有关金属生产和价格，运营成本和结

果，资本支出，矿产储量和矿产资源以及预期品位和回收率的目标，估计和假设的声明，并且可能基于或可能基于假设以及与未来技术，经济，市场，政治，社会和其他条件有关的估计

- Orion 不承担任何因新信息，未来事件或结果或其他原因而公开更新任何前瞻性陈述的意图或义务。
- “相信”，“期望”，“预期”，“表明”，“考虑”，“目标”，“计划”，“打算”，“继续”，“预算”，“估计”“可能”，'will', 'schedule' 和类似的表达表示前瞻性陈述。

本演讲中的所有前瞻性陈述均受上述警告性陈述的限制。敬请投资者注意，前瞻性声明不能保证未来的表现，因此，告诫投资者不要因其内在的不确定性而过度依赖前瞻性声明。

有关勘探结果的所有信息和其他技术信息应与公司发布的有关 ASX 公告一起阅读。

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在法律允许的最大范围内，Orion 及其任何相关机构的公司，分支机构及其官员，雇员，代理，合伙人和顾问：

- 放弃发布信息的任何更新或修订以反映期望或假设的任何变化

的任何义务或承诺；

- 不要对本演示文稿中信息的准确性，可靠性或完整性做出任何明示或暗示的陈述或保证，也不得对任何前瞻性陈述或任何前瞻性陈述中明示或暗示的事件或结果实现的可能性作出任何明示或暗示的陈述或保证。；和
- 不承担这些前瞻性陈述的所有责任和义务（包括但不限于疏忽责任）。

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ORION MINERALS – 充满竞争力的投资标的

资源情况

- 世界级的VMS资源: 3049万吨 @ 1.2% 铜, 3.7% 锌
- 矿山储量: 1362万吨 @ 1.06% 铜, 3.18% 锌

基础阶段银行级可行性研究报告成果

- 最初10年中, 矿石年处理量240万吨, 预计年产铜2.2万吨, 锌7万吨
- 强劲营业利润率和财务情况
 - 税前自由现金流可达11亿澳元 (税后8.19亿澳元)
 - 税前净现值5.74亿澳元 (税后4.08亿澳元) *
 - 最大融资需求3.78亿澳元
 - 投资回收期约在投产后三年
 - 净利润率 (全成本后) 可达44%

权证审批情况

- 2019年7月获得环境相关授权
- 2019年8月获得为期24年的采矿权证 (可更新)

未来前景

- 拥有极大的勘探前景以及发展潜力

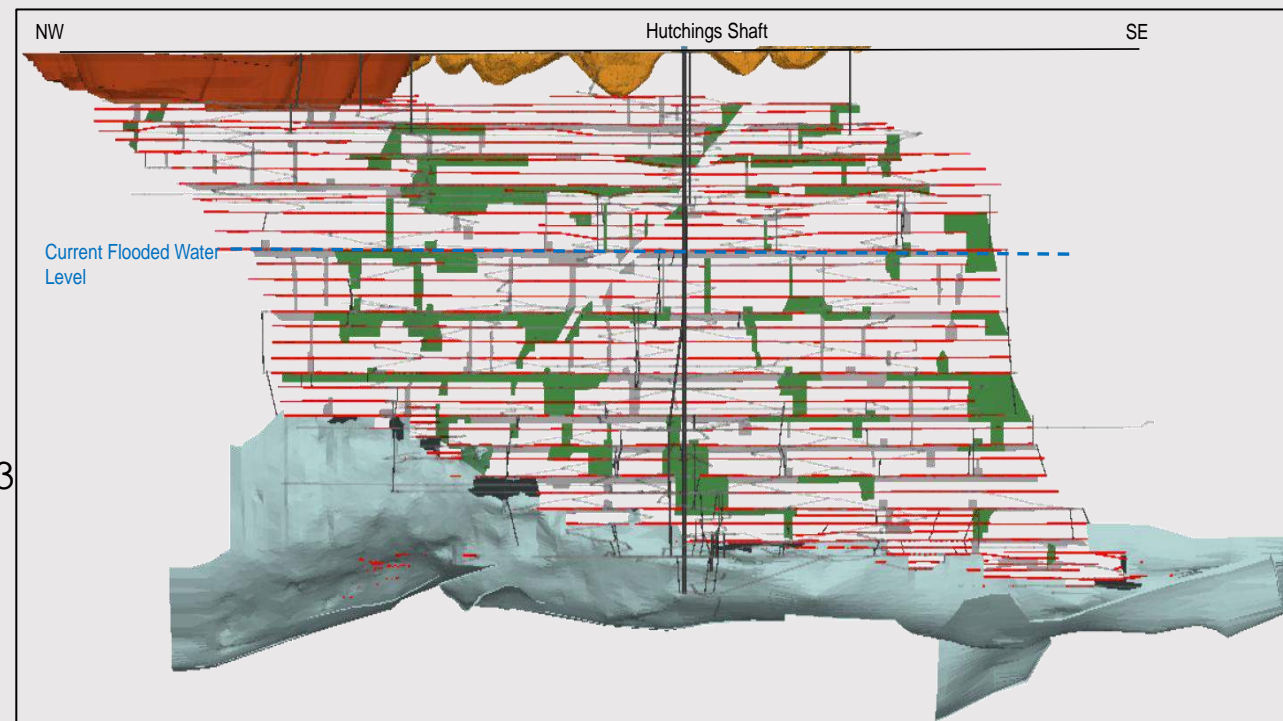
*折现率为8%

**参考2019年6月26日, 7月8日以及9月3日发布的公司公告



PRIESKA: 重启世界VMS巨头

- 世界级资产 –
有记录的世界前30大VMS矿区
- 项目坐落于北开普敦省，在省会金伯利西南270公里处
- 矿区已经建设完成，地处南非人群密度最低的地区
- 历史上曾由AngloVaal进行开采 (1971-1991年)
- 历史记录有4680万吨硫化矿完成处理，总产量达100万吨锌，43万吨铜
- 大量基础设施已就位
- 临近矿区的勘探和未来扩张有极大的潜力



PRIESKA: 正在开发一个全新矿山 在原有矿区的基础上

大量基础设施已就位:

- 主要竖井和地下下降巷道
- 封闭的道路直接连接矿区
- 拥有48公里的沥青马路直达铁路支线
- 4条高压电缆直接连接到国家电网
- 该地区已有175兆瓦的太阳能发电厂，此外675兆瓦已获得批复，300兆瓦正在等待政府审批
- 800公里的铁路运输可直达主要的深水港
- 矿区已有充足的水供应
- 良好的住宿设施——距离矿区约3公里
- 基于原有矿山的基础，项目的环境敏感性很低



PRIESKA: 开采未来

通过实施现代化运营模式（第四次工业革命），可以使已经在当地矿业行业中发展缓慢甚至开始倒退的方面有巨大的改观，包括以下几个方面：

- 安全卫生条件提升
- 改善环境条件，减少污染物的产生和排放
- 提升能源利用效率并降低能源成本
- 提高生产效率
- 削减运营成本

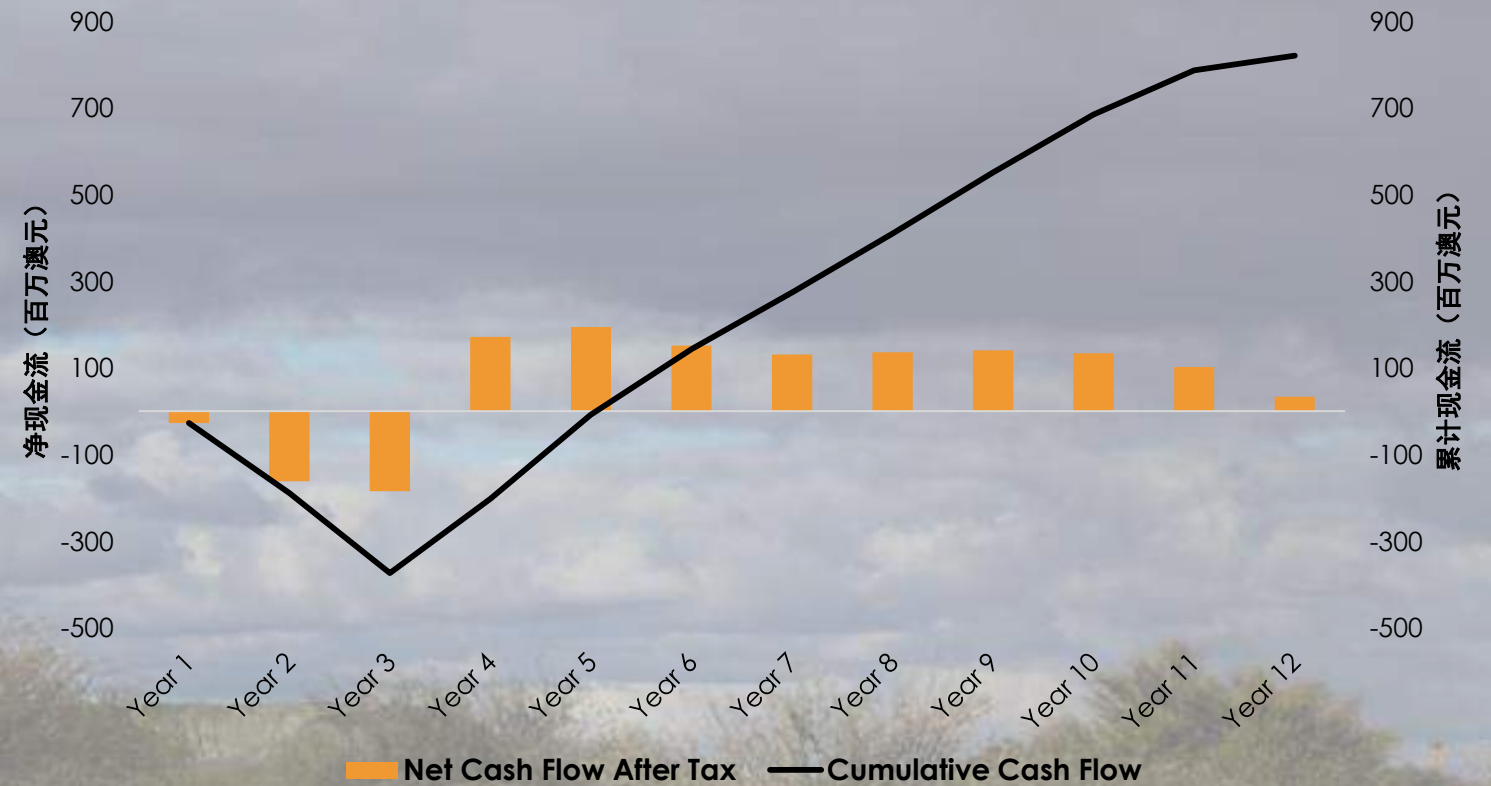
全球性的基准

促进实施

成为快速跟随者

始终具有商业意义

强劲의现金流



拟建矿山将带来的关键社会影响

创造就业机会

- 预计项目投产后，公司将雇佣846名员工
- 通过连锁反应，项目将创造2,500个相关就业机会

提升国内生产总值

- 在最优开采情况下，项目所属地区的GDP将提升20.3%
- 同时将连带当地经济提振30%
- 刺激当地的商品采购等

创造潜在的连带效应

- 有助于提升当地矿业扶持力度
- 升级与当地居民相关的基础设施建设
- 刺激相关协同产业发展

本地和BEE企业的发展

- 为当地企业家提供潜在发展机会



PRIESKA 银行级可行性研究 亮点



基础阶段



延长矿山寿命阶段

- 矿山前10年的稳健运营和强大的财务表现极具说服力：
 - 税前净现金流可达11亿澳元（税后8.19亿澳元）
 - 税前净现值5.74亿澳元（税后4.08亿澳元）*
 - 最大融资需求3.78亿澳元
 - 投资回收期约在投产后三年
 - 净利润率（全成本后）44%
- 持续优化相关研究
- 研究副产品的生产

- 矿山寿命的延长与基础阶段一起进行，并且不需要或者仅需要有限的资金来完成相关工作
- 勘探目标
 - 现有资源量以外，新增913万吨@1.4%铜，3.6%锌
 - 经评估充填完后现有矿柱的可采量为700-800万吨
 - 目前不在JORC资源报告内的高品位矿层延伸区域的打孔钻探

PRIESKA: 下一阶段

基础阶段

- Orion 正在进行的主要工作如下:
 - 获取相关权证及审批
 - 聚焦市场/销售
 - 项目融资
- 最终投资决议计划于2019年下半年完成
- 计划于2019年底或2020年初启动项目建设
- 继续优化相关研究
- 评估副产品的生产和销售
 - 重晶石
 - 硫铁矿

延长矿山寿命阶段

- 地下钻孔平台完工后，即开始资源扩张的钻孔工作
 - 目标Prieska VMS矿体的分支进行更大规模的勘探工作
- 后续将从地表开始，对附近卫星矿区进行勘探

公司 结构



- 在澳大利亚证券交易所首次上市
- 随后在约翰内斯堡证券交易所主板二次上市

资本结构摘要

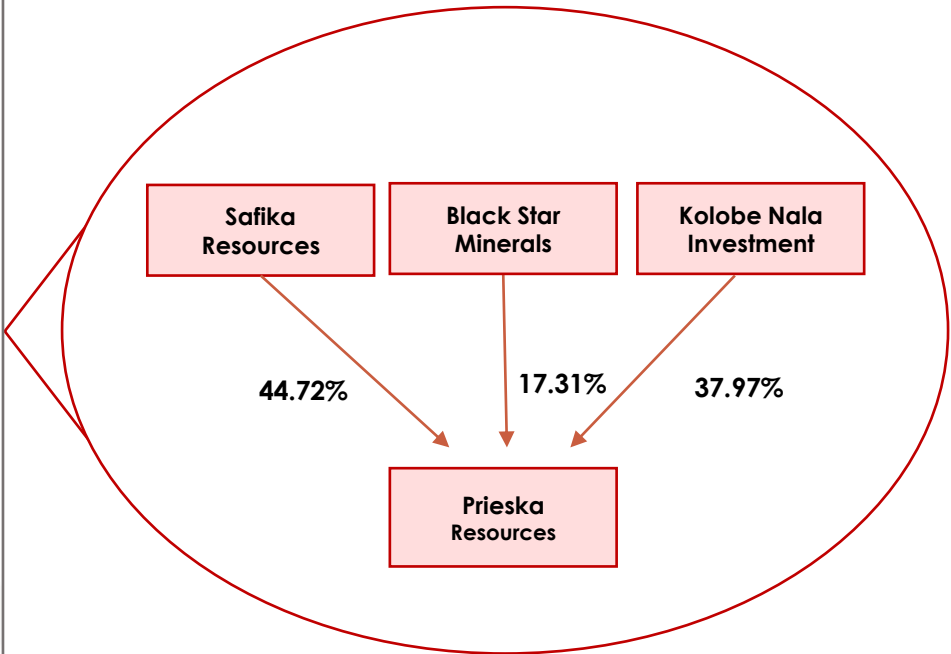
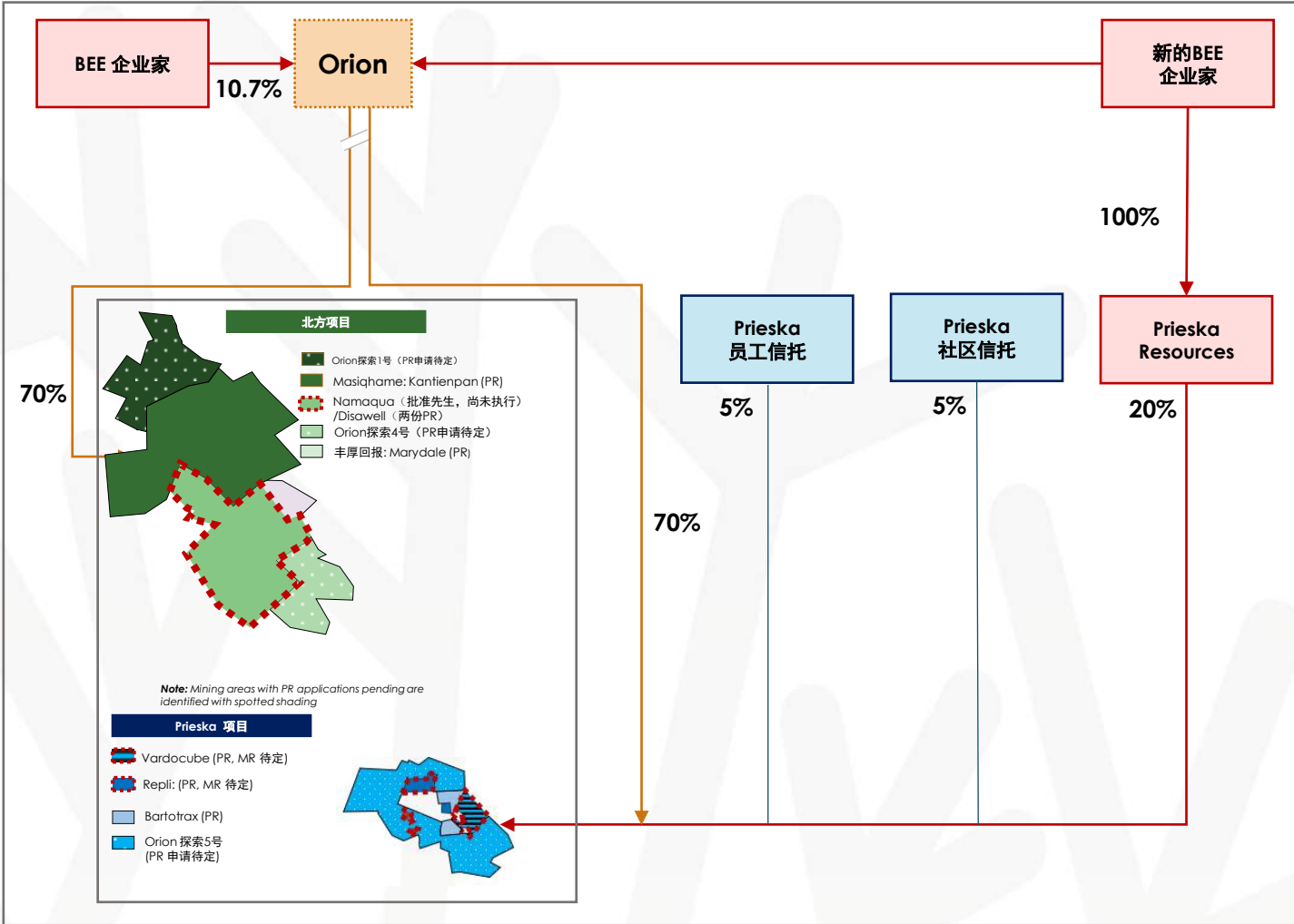
| | |
|---|--------|
| 发行股票 ¹ | 24.73亿 |
| 发行期权 | 3.12亿 |
| 公司市值 (3澳分 (澳交所)) ² | \$74M |
| 可转换贷款(2.6cps convert, 12% interest, Jan'20 term) ³ | \$3.9M |
| AASMF贷款 ⁴ | \$1.7M |
| 持有现金 ⁵ | \$1.4M |

主要股东

| | % |
|--|-------------|
| Tembo Capital | 24.1 |
| Independence Group NL | 6.2 |
| Wyllie Group | 6.0 |
| Tarney Holdings | 4.5 |
| Silja Investment & Alexander Haller ⁶ | 3.2 |
| Total | 44.0 |

1. 截止2019年9月24日已发行的全部Orion普通股。就2019年9月12日BEE的重组而言，公司向现有BEE股东发行了8,610万股股票，剩余的4,890万股将很快满足相关发行条件向BEE股东进行发行。有关BEE重组的详情，请参阅2019年9月12日和9月13日的公告。
2. 截止2019年9月23日澳交所收盘价。同日，约堡交易所收盘价为0.3兰特。
3. Orion在2019年1月25日公告，公司已与Tembo Capital签订了360万澳元的贷款协议(不包括资本化利息和费用)。根据贷款协议的条款，Tembo可以选择以2.6澳分为发行价格的股票进行置换对应数额的贷款(须经股东批准)。详情请参考 2019年1月25日发布的公告和公司年报。
4. 有关Repli进入AASMF所签订的贷款协议(1425万兰特)的相关信息请参考公司截至2019年6月30日发布的年报。
5. 6月30日公司持有现金。2019年9月公司收到334万澳元，完成了800万澳元融资的第二阶段，详情参见2019年4月公告。
6. Alexander Haller被认为在Silja Investment持有的股份中拥有相应权益。

关键的800万澳元的融资以及 BEE相关交易





银行级可行性研究 关键数据



| 金属价格和汇率假设 | 单位 | 数值 | 财务表现 | 单位 | 数值 |
|-----------|-------|----------|--------------------|-------|-------------|
| 金属价格-铜 | 美元/吨 | 6,834 | 税前(税后)净现值, 基于8%折现率 | 百万澳元 | 574 (408) |
| 金属价格-锌 | 美元/吨 | 2,756 | 税前(税后)内部收益率 | % | 38% (33%) |
| 汇率 | 兰特:美元 | 14.5 :1 | 投产后投资回报期 | years | 2.9 |
| 汇率 | 兰特:澳元 | 10 : 1 | 税前(税后)未折现自由现金流 | 百万澳元 | 1,127 (819) |
| 汇率 | 澳元:美元 | 1.45 : 1 | 最大融资需求 | 百万澳元 | 378 |

| 生产指标 | 单位 | 数值 | 项目成本指标 | 单位 | 数值 |
|----------------------|-------|---------------|---------------------|--------|-------|
| 矿山寿命 | 年 | 9.7 | 平均单位运营现金成本 (C1) | 澳元/吨 | 80 |
| 设计处理厂处理量 | 百万吨/年 | 2.4 | 矿山寿命内单位全部维持性成本 | 澳元/吨 | 94 |
| 实际处理厂处理量 | 千吨 | 20,827 | 单位全部可维持性成本_铜当量 | 澳元/吨 铜 | 5,470 |
| 实际处理厂入选品位-铜 | % | 1.1% | 单位全部可维持性成本_锌当量 | 澳元/吨 锌 | 1,582 |
| 实际处理厂入选品位-锌 | % | 3.4% | 冶炼厂返还净值-铜 | 澳元/吨 铜 | 9,785 |
| 精矿-铜 | 千吨 | 790 | 冶炼厂返还净值-锌 | 澳元/吨 锌 | 2,830 |
| 精矿-锌 | 千吨 | 1,180 | 净利润率(全成本后) | % | 44% |
| 精矿品位-铜 | % | 23.8% (25.6%) | 运营盈亏平衡品位(铜当量) | % | 1.2% |
| 地下矿(地表矿) | | | | | |
| 精矿品位-锌 | % | 49.9% (35.5%) | | | |
| 地下矿(地表矿) | | | | | |
| 铜的冶炼厂返还净值占比-地下矿(地表矿) | % | 98.7% (91.2%) | | | |
| 锌的冶炼厂返还净值占比-地下矿(地表矿) | % | 71.3% (53.7%) | | | |
| 金属销售量(以精矿进行销售)-铜 | 吨 | 189,000 | 项目现金流 | 单位 | 数值 |
| 金属销售量(以精矿进行销售)-锌 | 吨 | 580,000 | 矿山寿命内收入 | 百万澳元 | 3,284 |
| 总铜当量销售量 | 吨 | 357,000 | 矿山寿命内运营成本(包含权利金和税金) | 百万澳元 | 1,673 |
| 总锌当量销售量 | 吨 | 1,230,000 | 项目启动资本开支 | 百万澳元 | 402 |
| | | | 维持性资本开支 | 百万澳元 | 83 |

推断资源量的地质置信度不高, 并且很难确定未来的勘探工作是否能达到现在的指示资源量以及生产目标或财务表现

表:Prieska铜锌项目基础阶段的主要BFS成果。该研究估算准确度为±15%。

矿山建设时间表

[illegible]

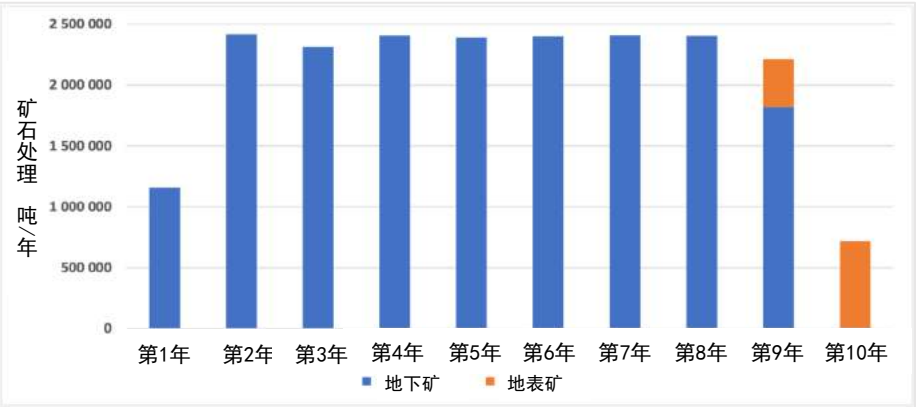
参考2019年6月26日公告

采矿生产概况

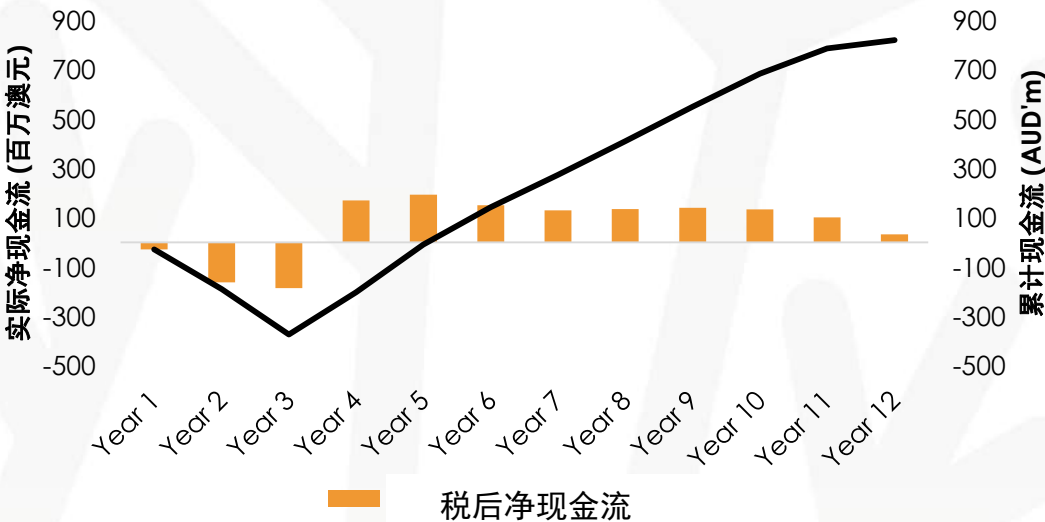
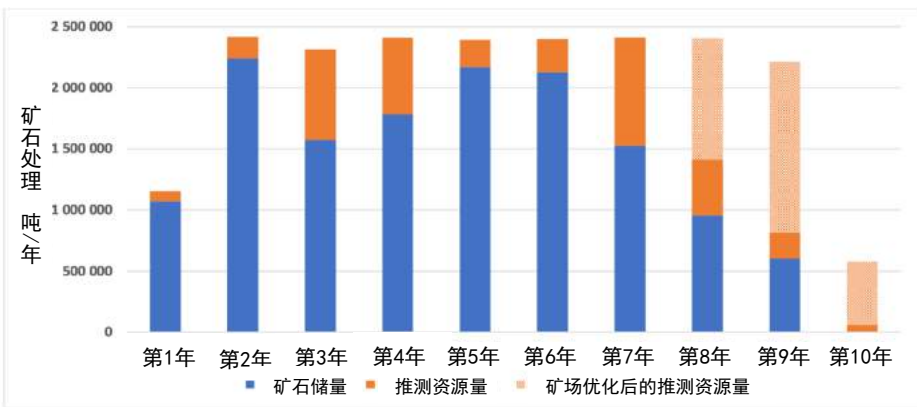


- 基础阶段大部分采用的地下开采形式
- 小露天矿坑的收尾
- 以下工作结束后将开始地下开采:
 - 矿山排水
 - 竖井整修
- 地下矿部分预计需要23个月进行开发、建设方可投产
- 地下采矿通过14个月的爬坡期达到稳定量产，产能可达20万吨/月（240万吨/年）

处理矿石来源



处理矿石的JORC标准分类



MINERAL RESOURCE

| Prieska项目资源量预计（2019年1月11日） | | | | | | |
|----------------------------|--------|------------|------------|-----------|------------|-----------|
| 矿区 | 矿石储量分类 | 矿石量 (吨) | 铜 | | 锌 | |
| | | | 金属量 (吨) | 品位 (%) | 金属量 (吨) | 品位 (%) |
| 深层硫化矿 | 指示 | 18,507,000 | 217,000 | 1.17 | 667,000 | 3.60 |
| | 推断 | 10,219,000 | 117,000 | 1.10 | 417,000 | 4.10 |
| +105m 中段 | 指示 | 624,000 | 10,000 | 1.54 | 19,000 | 3.05 |
| | 推断 | 1,138,000 | 17,000 | 1.40 | 16,000 | 1.40 |
| 合计 | 指示 | 19,131,000 | 227,000 | 1.18 | 686,000 | 3.59 |
| | 推断 | 11,357,000 | 134,000 | 1.20 | 433,000 | 3.80 |
| 总计 | | 30,488,000 | 361,000 | 1.20 | 1,119,000 | 3.70 |

深层硫化矿边界品位为4.0%锌当量；+105m 中段边界品位为0.3%铜。
资源量中边界品位为0%。矿石量四舍五入至千吨级，可能存在一定误差。

项目资源量中包含矿石储量

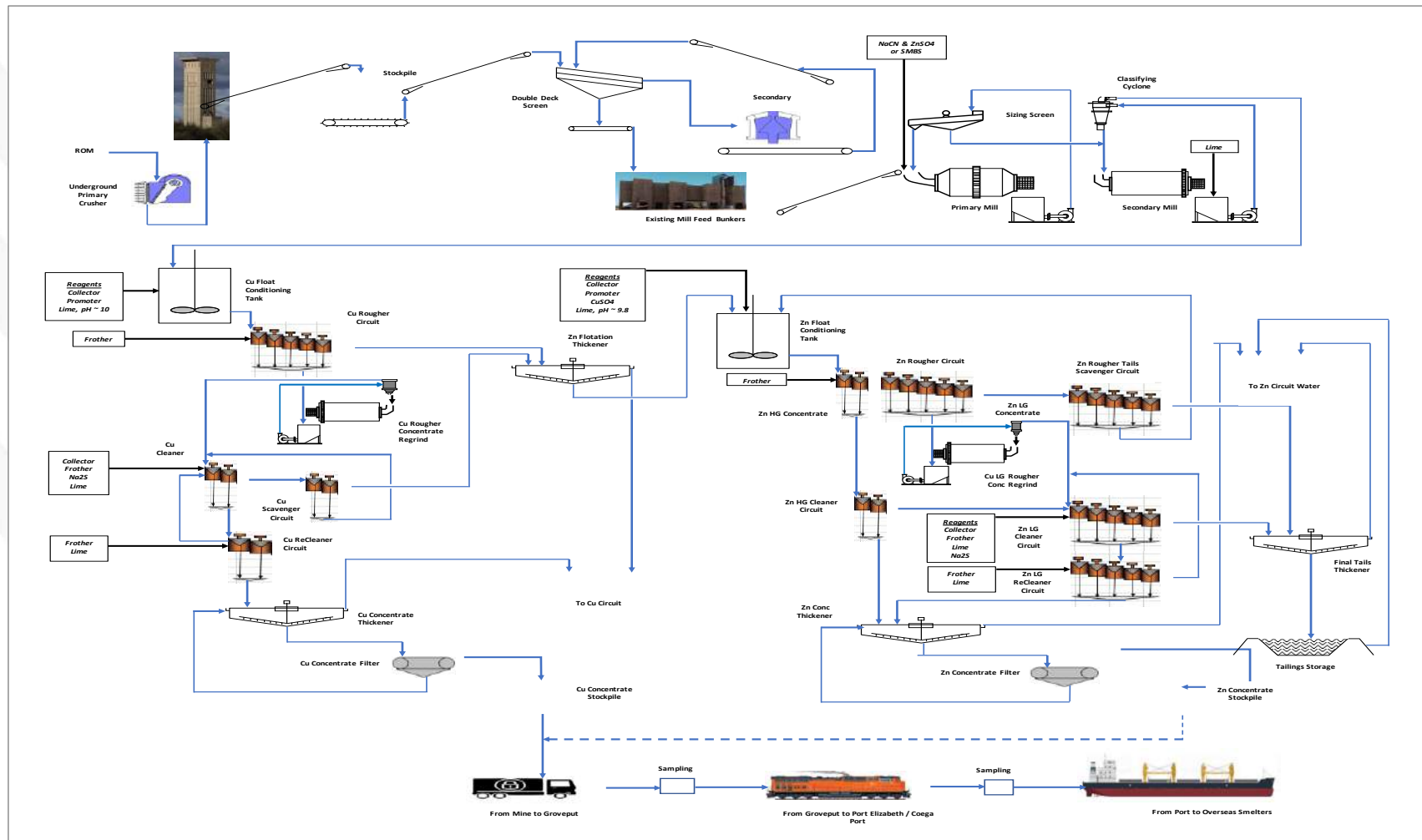
矿石储量

Prieska项目储量预计（2019年6月16日）

| 矿区 | 矿石储量分类 | 矿石量 (百万吨) | 铜 | | 锌 | | 铜当量 | |
|-------|--------|--------------|-------------|-----------|-------------|-----------|-------------|-----------|
| | | | 金属量 (千吨) | 品位 (%) | 金属量 (千吨) | 品位 (%) | 金属量 (千吨) | 品位 (%) |
| 表生矿床 | 概算 | 0.48 | 7 | 1.5 | 16 | 3.3 | 11 | 2.2 |
| 深层硫化矿 | 概算 | 13.14 | 136 | 1.0 | 417 | 3.2 | 257 | 2.0 |
| 合计 | 概算 | 13.62 | 143 | 1.1 | 433 | 3.2 | 268 | 2.0 |

可行性研究中Prieska的矿石储量由使用财务假设和修正因子计算所得。矿石量四舍五入至千吨级，可能存在一定误差。

面向市场的矿山

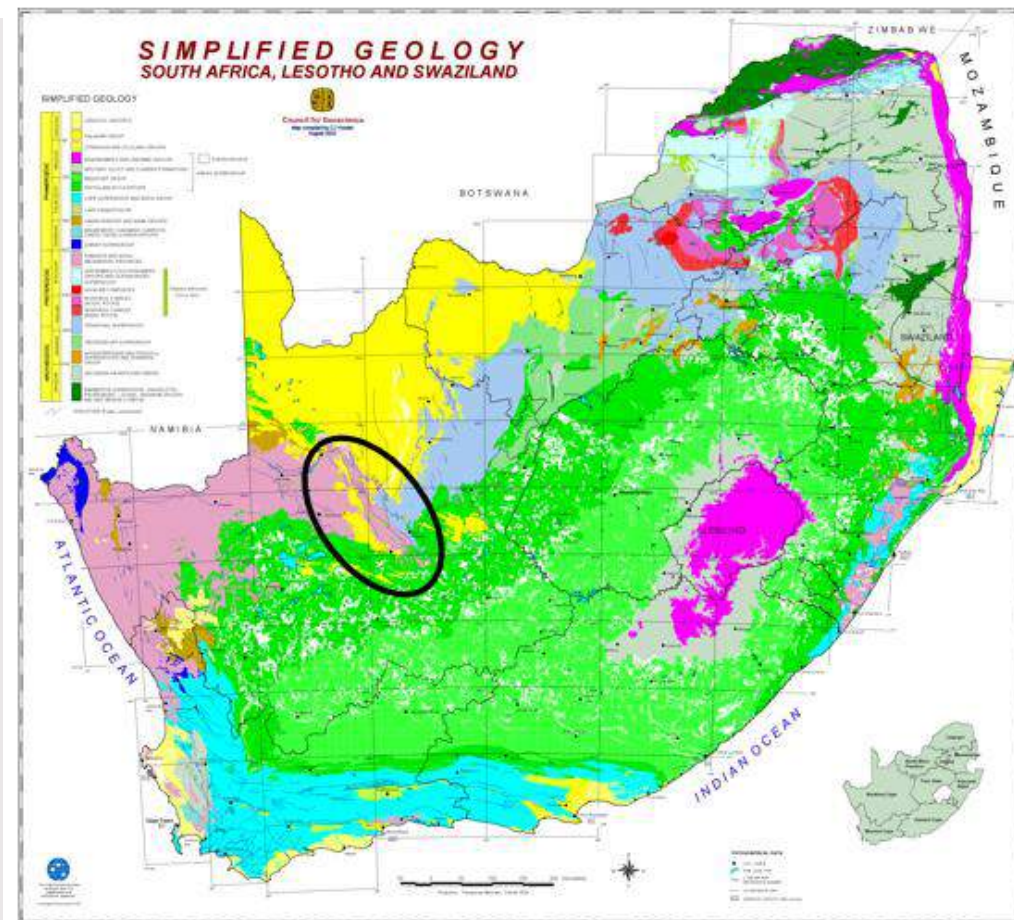


地处优质矿化带的 未完全开发区域



Orion Minerals

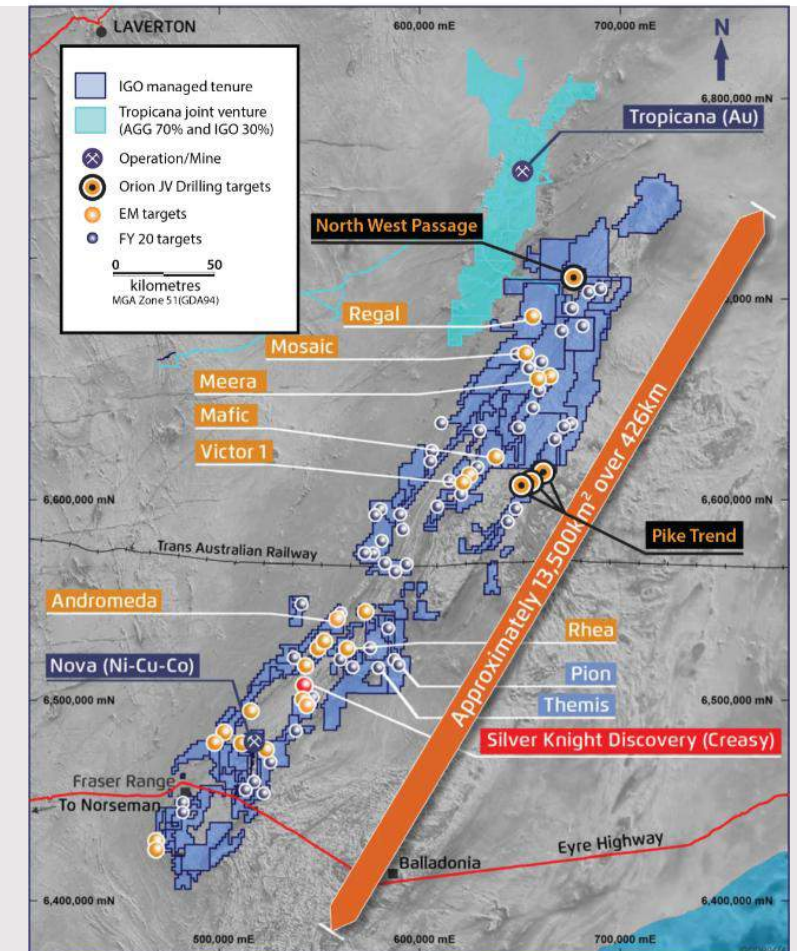
- 地处资源前景可期但历史勘探不足的省份
- 22个VMS矿区已在历史上被几个大型矿业公司认证过
- 公认的非洲大陆锌金属最为富集的国家*:
 - Broken Hill, SEDEX 和VMS类型的大型沉积岩性矿床
 - 锌金属含量超过40吨
- 在有限的现代探索技术下已确认存在几个已知的
侵入型镍铜铂族金属矿区
- 发现高品位镍铜矿床的潜力



FRASER RANGE项目: 探寻超大规模项目

“我们相信Nova拥有比我们想象更大的资源潜力，这给了我们在2020年提升勘探资本开支以极大的信心。” – Independence Group (IGO) 董事总经理Peter Bradford, 引用自2019年7月31日的Miningnews.net

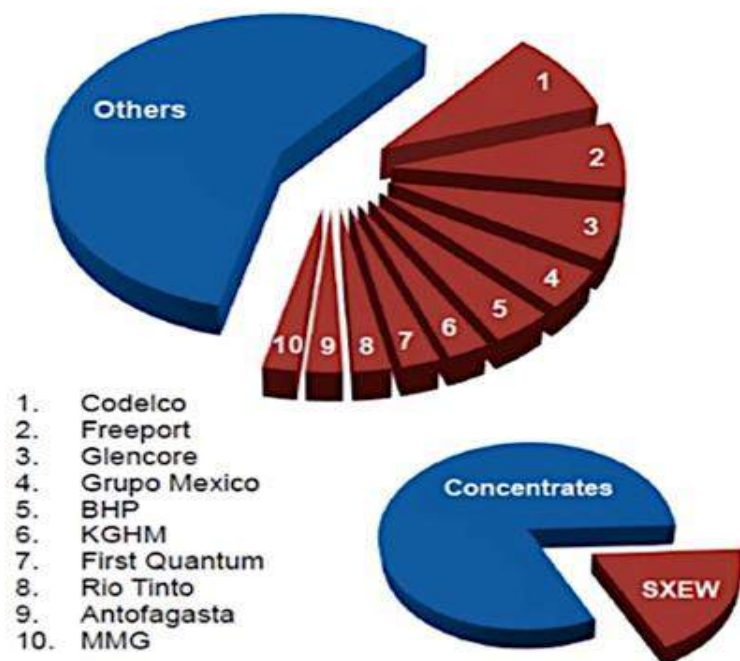
- IGO的合资公司已经开始对North West Passage部分进行钻孔工作，并对项目的地质前景进行相关评估
- 钻孔也包括对Pike等地区的侵入体锌-铜和VMS铜-锌进行相关测试和评估
- 将对Fraser Range北部地区进行更大规模的勘探，同时完成对North West Passage的钻孔工作后，将在2019年年底开始对拥有很大资源前景的Pike Trend（IGO持股70%，Orion持股30%）进行勘探钻孔工作。



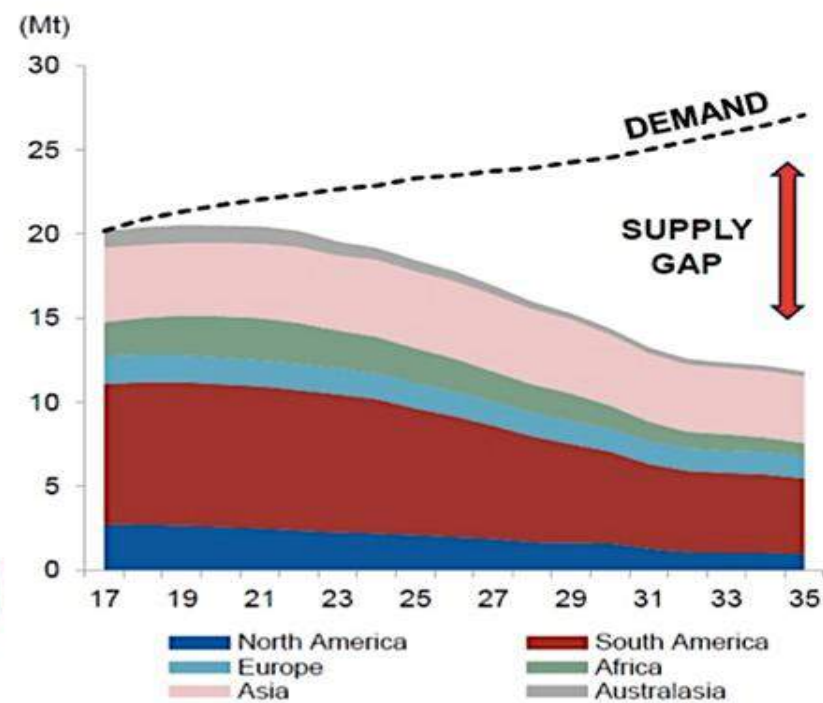
凸显的问题: 铜的供应链

没有新的项目持续供给，2035年铜的供应缺口将达到1,500万吨

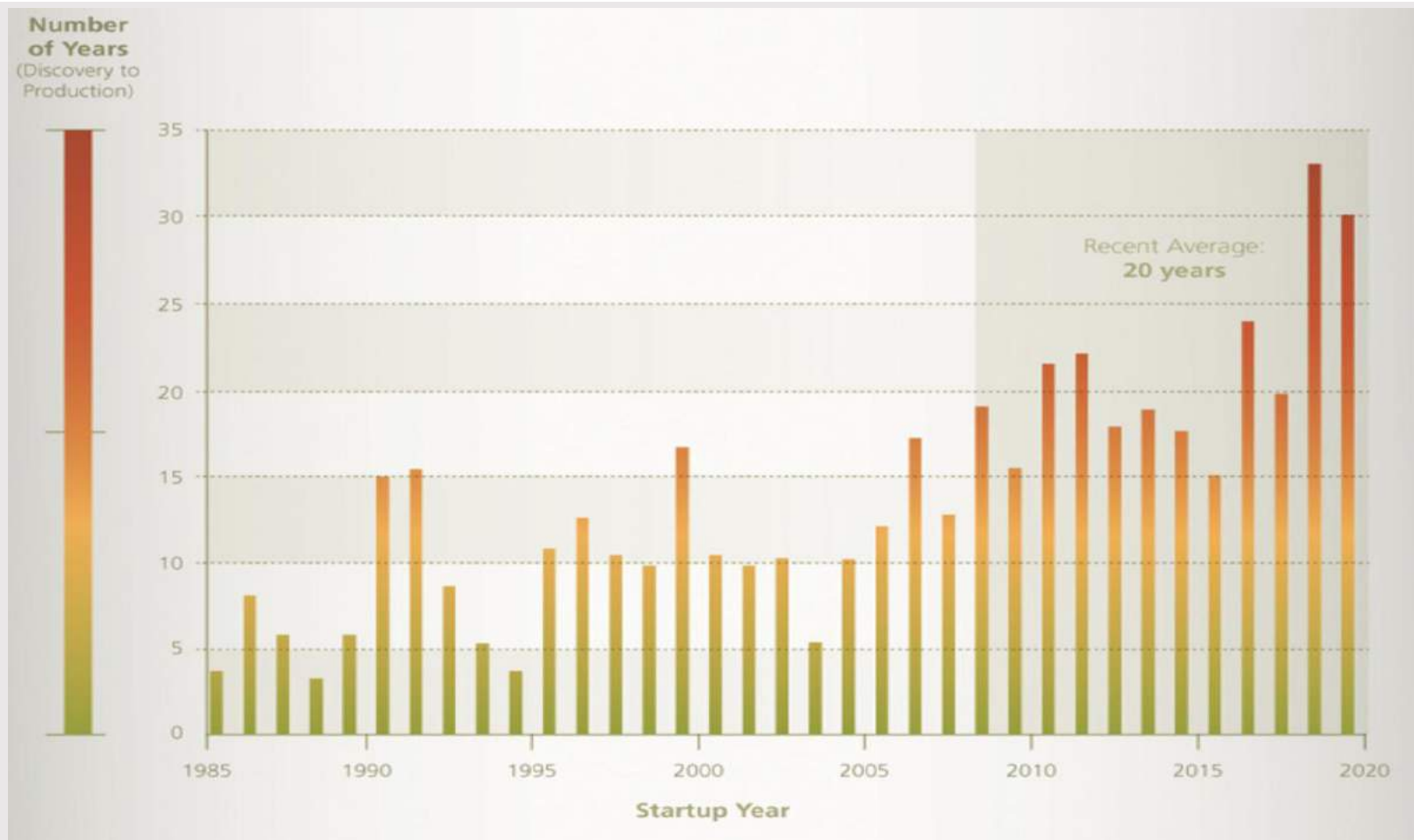
1. Copper Mine Production 2017: 20.4Mt



2. Committed* Mine Supply Forecast

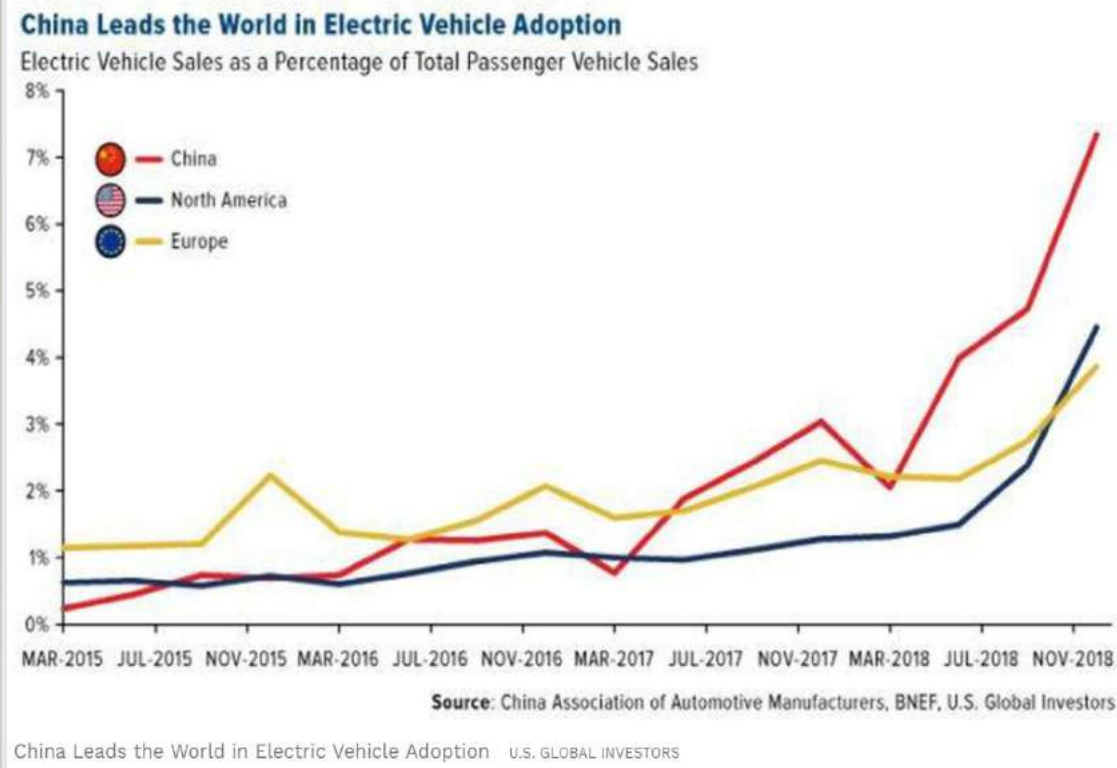
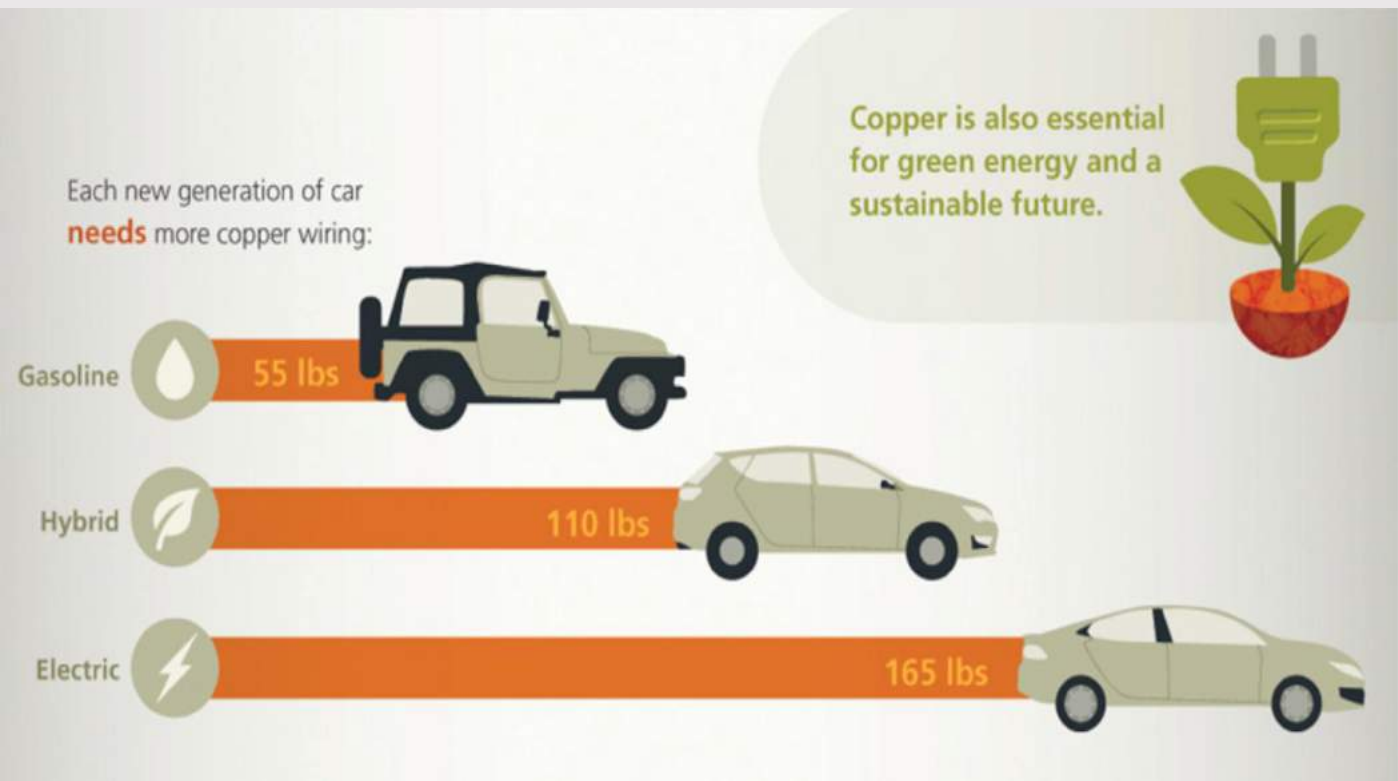


大型铜矿从发现到投产的周期极长



需求增长的新驱动力

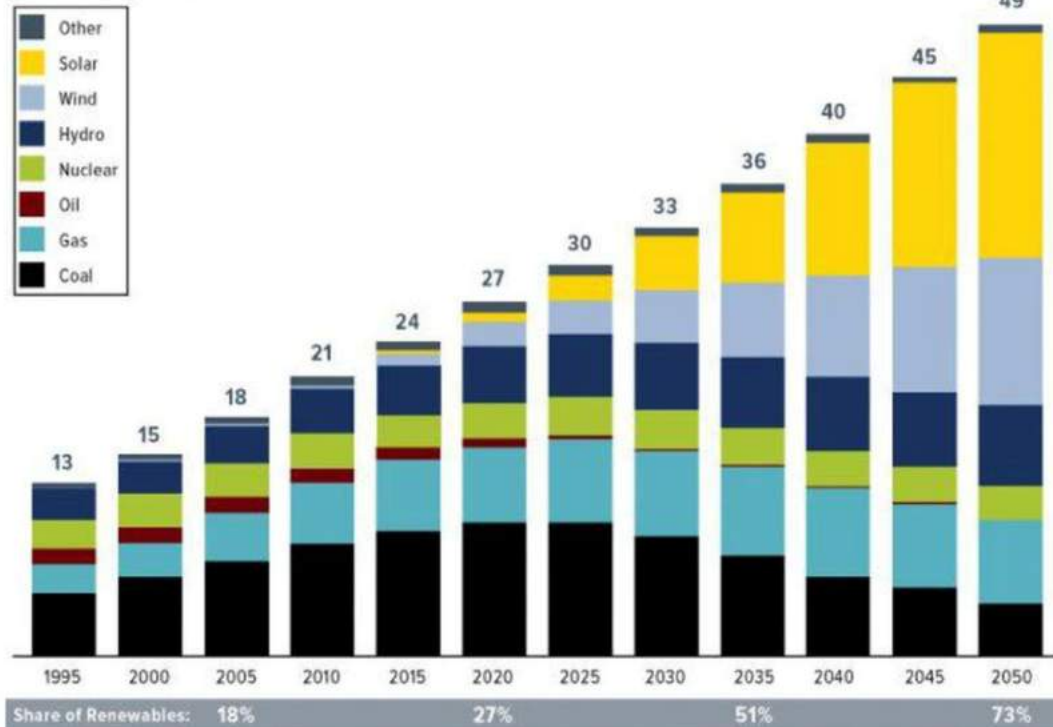
以电动汽车为代表的新型汽车将更大程度的刺激铜的供给



绿色能源行业的发展也将极大的拉动全球的铜需求

Renewable Energy Projected to Account for Three Quarters of Global Power Generation by 2050

Thousands of Terawatt Hours (TWh)



"Other" includes biomass, geothermal and marine.

Source: McKinsey Energy Insights' Global Energy Perspective (January 2019), U.S. Global Investors

Renewable Energy Projected to Account for Three Quarters of Global Power Generation by 2050 U.S. GLOBAL INVESTORS

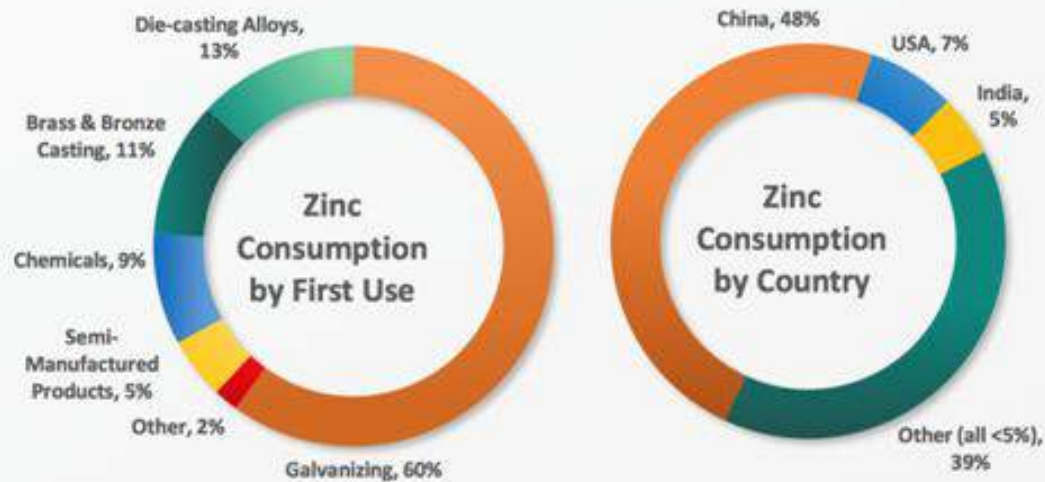
Copper is also essential for green energy and a sustainable future.



An average of 3.6 tonnes of copper is used for each MW of wind power capacity



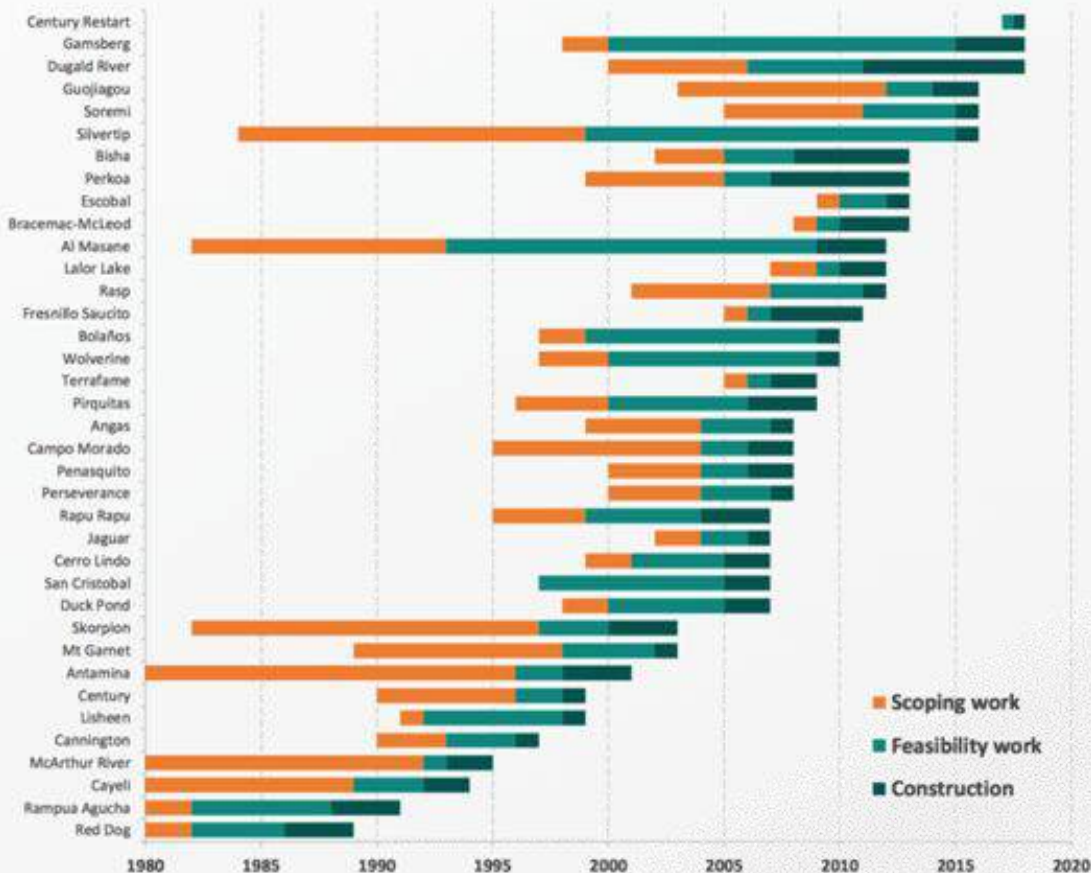
锌的需求 – 持续的消费增长



锌的供需10年展望

- 2019年锌金属的消费量将达到1400万吨
- 约50%的生产和需求来自于中国市场
- 中国人生活水平的提高主导着锌的需求/消费
- 2020-2030年全球的需求将以每年1.5%的速度上升
- 每年新增的约23万吨的锌产品正好匹配需求的增长

锌精矿的供给 – 新的矿山需要较长的开发时间



Source: Wood Mackenzie, June 2018

- 全球锌项目的获得相关许可、融资以及开发的周期越来越长
- 新项目的达产期继续延后
 - Grasburg (20年开发期)
 - Dugald River (18年开发期)

锌矿开发时间表 (从概括研究到投入运营平均所需时间)

所有锌矿 (自2000年起) 9年

目前前10大锌矿生产商 13年



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