

# GENERATION MINING



**MARATHON PALLADIUM – COPPER MINE**

**CRITICAL MINERALS FOR FUTURE GENERATIONS**

October 2023

# FORWARD-LOOKING INFORMATION

This presentation contains certain forward-looking information and forward-looking statements, as defined in applicable securities laws (collectively referred to herein as “forward-looking statements”). Forward-looking statements reflect current expectations or beliefs regarding future events or the Company’s future performance. All statements other than statements of historical fact are forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “continues”, “forecasts”, “projects”, “predicts”, “intends”, “anticipates”, “targets” or “believes”, or variations of, or the negatives of, such words and phrases or state that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved, including statements relating to the Company’s Feasibility Study Update and results therefrom including mineral resource and reserve estimates, the timing of permitting and construction, the availability of sufficient financing to commence construction and the timing of such financing, proposed mine production plans, projected mining and process recovery rates (including mining dilution), estimates related closure costs and requirements, metal price (including the effects of supply demand imbalances on the metals the Company intends to produce) and other economic assumptions (including currency exchange rates), projected capital and operating costs, and AISC, economic analysis estimates (including cash flow forecasts, NPVs and IRRs) and mine life.

Although the Company believes that the expectations expressed in such statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the statements. There are certain factors that could cause actual results to differ materially from those in the forward-looking information. These include commodity price volatility, continued availability of capital and financing, uncertainties involved in interpreting geological data, increases in costs, environmental compliance and changes in environmental legislation and regulation, the Company’s relationships with First Nations communities, exploration successes, and general economic, market or business conditions, as well as those risk factors set out in the Company’s annual information form, the Technical Report that the Company filed in connection with the Feasibility Study Update and in the continuous disclosure documents filed by the Company on SEDAR at [www.sedar.com](http://www.sedar.com). Readers are cautioned that the foregoing list of factors is not exhaustive of the factors that may affect forward-looking statements. Accordingly, readers should not place undue reliance on forward-looking statements. The forward-looking statements in this presentation speak only as of the date of this presentation or as of the date or dates specified in such statements.

Forward-looking statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions relating to: the availability of financing for the Company’s operations; operating and capital costs; results of operations; the mine development and production schedule and related costs; the supply and demand for, and the level and volatility of commodity prices; timing of the receipt of regulatory and governmental approvals for development projects and other operations; the accuracy of Mineral Reserve and Mineral Resource Estimates, production estimates and capital and operating cost estimates; and general business and economic conditions.

Investors are cautioned that any such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward-looking information. For more information on the Company, investors are encouraged to review the Company’s public filings on SEDAR at [www.sedar.com](http://www.sedar.com). The Company disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law.

# INVESTMENT HIGHLIGHTS – WHY INVEST

- ✓ Strong and Robust Economics in a Tier-1 Jurisdiction - 2023 Feasibility Study Update greatly de-risks next phase of the Project
- ✓ Phase 1 of Project financing secured from Wheaton Precious Metals (\$240M), Executed Phase 2 mandate letter to arrange a Senior Secured Project Finance Facility of up to US\$400M (C\$540M)
- ✓ Governments of Canada and Ontario supportive of advancing this high-quality Critical Minerals (Pd, Cu, Pt) Project → Environment Assessment approved, permits starting to be issued
- ✓ Support from Biigtigong Nishnaabeg - signed Community Benefit Agreement
- ✓ The Right Project at the Right Time

# METALS FOR THE ENERGY TRANSITION!



## Average annual payable metal

### PALLADIUM

166,000 oz

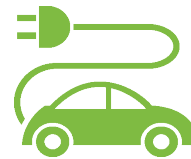


Palladium is used to **scrub nitrous oxide from gasoline exhaust.**

Nitrous oxide is 300X more potent than CO<sub>2</sub> as a greenhouse gas. Annual palladium produced will supply ~ 735,000 cars.

### COPPER

41 million lbs



**An electric car needs about 180 lbs of copper,** more than four times that of a gasoline-powered vehicle. Annual copper produced will supply ~ 225,000 cars per year.

### PLATINUM

38,000 oz



**Hydrogen Fuel Cells need 1-2 ounces of platinum per vehicle.** More is needed in the manufacture of hydrogen fuel.



# PALLADIUM GREENER AND SAFER

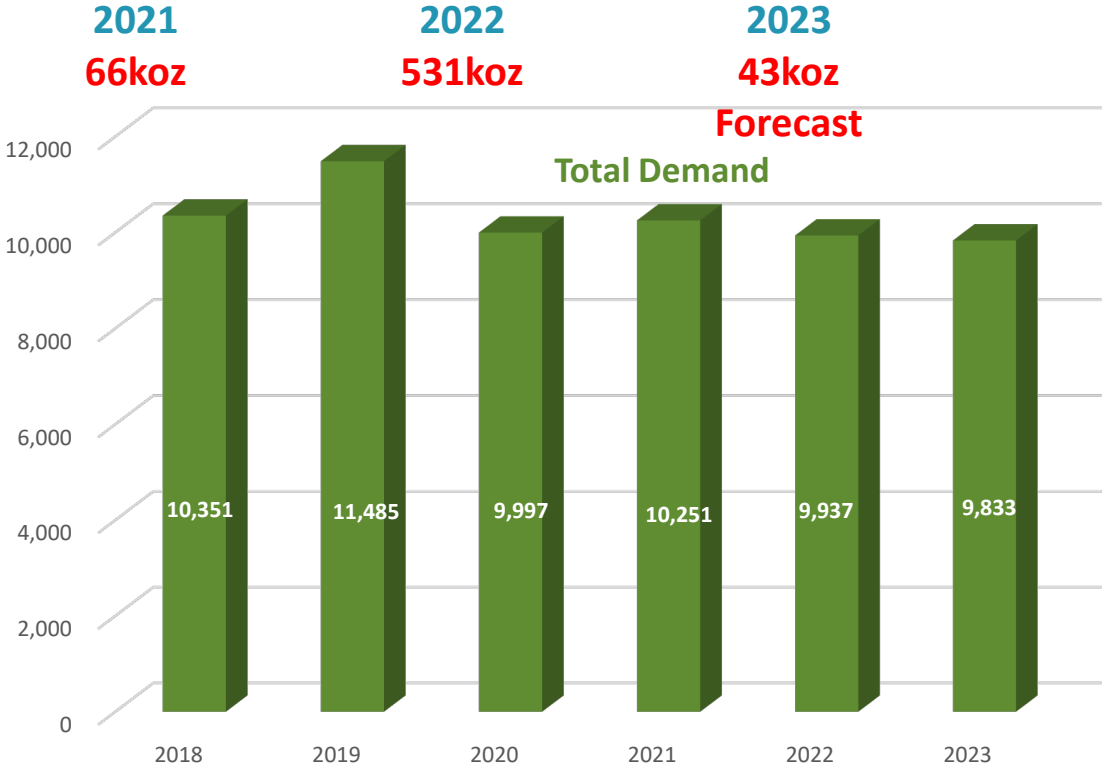
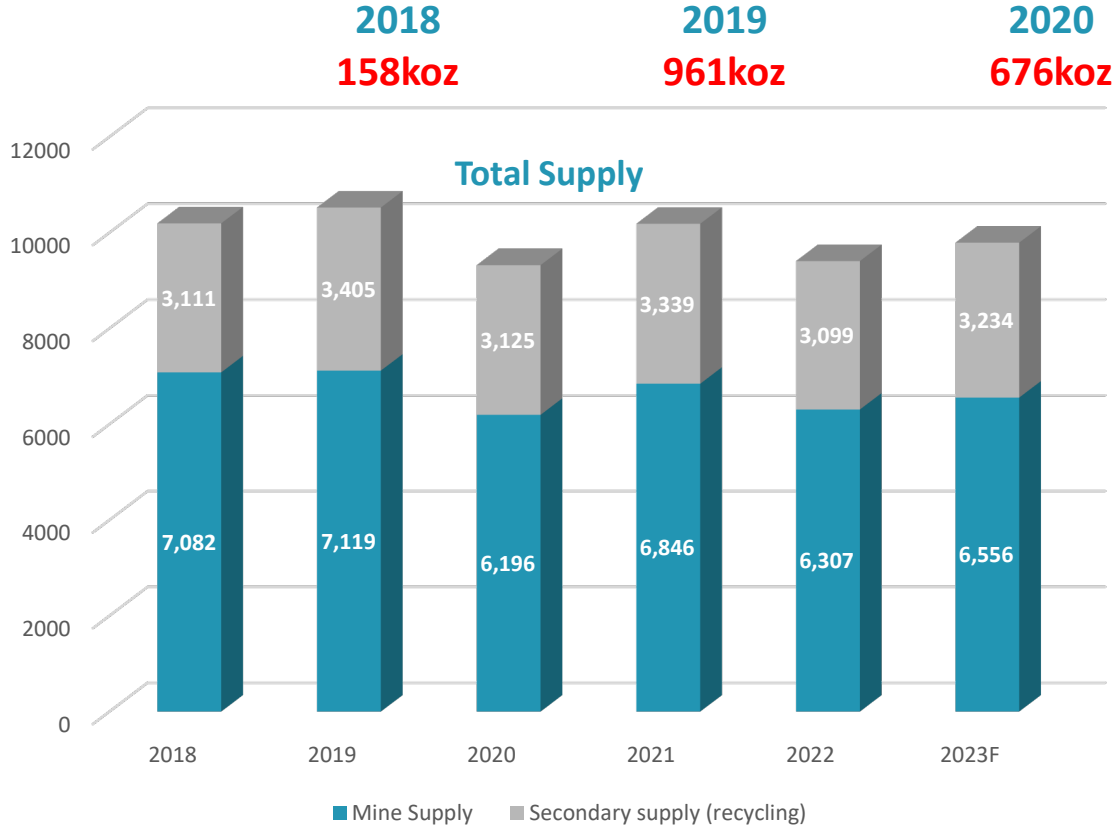
- Autocatalysts and pollution controls use 86% of palladium supply: Required by law in most countries – Chemical industry 6% - Electrical applications use 5%
- Modern catalysts convert 98% of carbon monoxide and nitrous oxide
- Nitrous oxide is 300 times more potent than CO<sup>2</sup> as greenhouse gas
- Pd loads per vehicle increasing in China, Europe, India & Brazil to convert more gases\*
- Annual demand of 9.9 million+ ounces
- In 2022, 6.31M oz mined worldwide (Russia 36% and South Africa 41%), and 3.10M oz recovered from recycling (relatively flat over the last five years)\* resulting in deficit of 531K oz up from the slight deficit of 66K oz in 2021 and the 11<sup>th</sup> straight year of deficits
- Positive research for palladium in
  - EV batteries (Li-ion),
  - Hydrogen production (membranes)
  - Hydrogen storage (Pd nanoparticles “store hydrogen like a sponge”)
  - EU expected to introduce legislation in 2027 to cut emissions in half from today



\*Johnson Matthey

# PALLADIUM DEMAND / SUPPLY - 2018-2022

## YEARLY DEFICITS

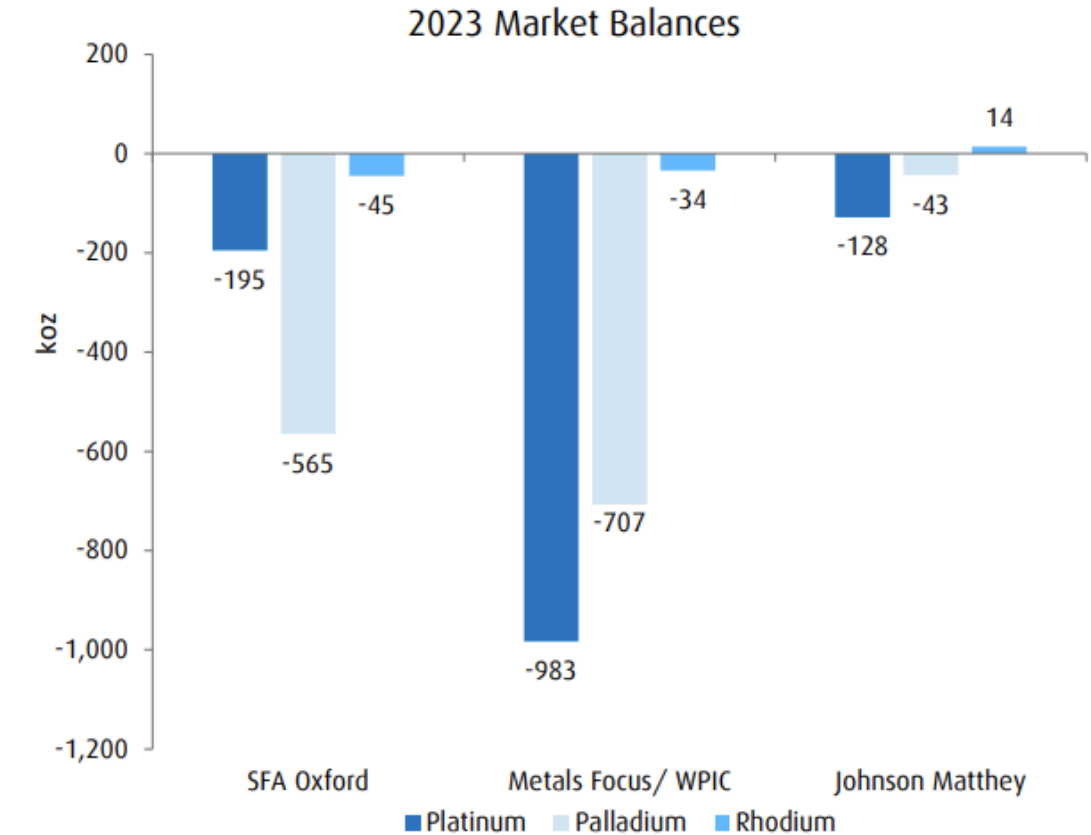


Johnson Matthey, PGM market report May 2023 – See appendices for constituent elements of demand and sources of primary and secondary supply

# PALLADIUM/PLATINUM – FORECAST DEFICITS 2023

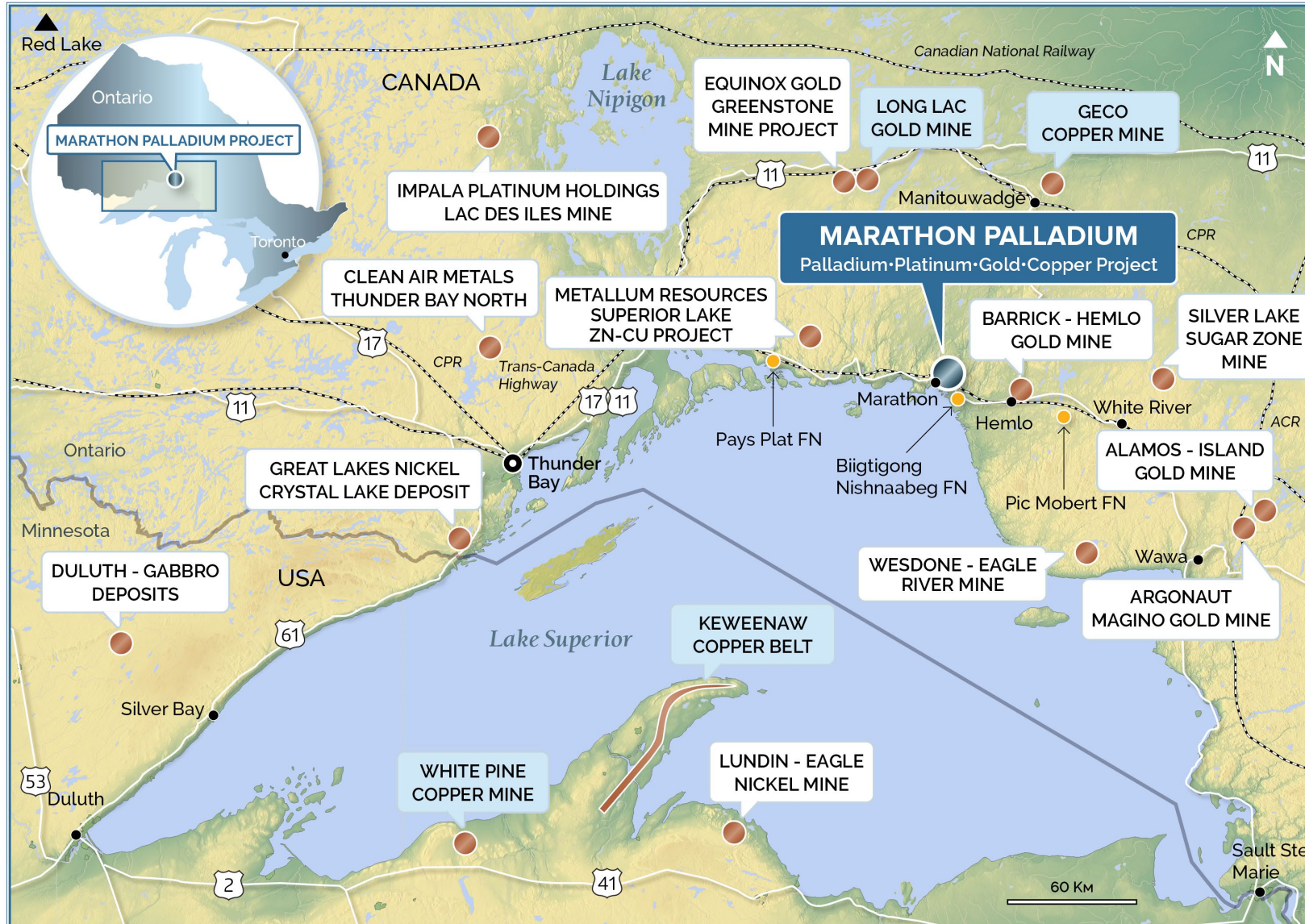
## Take Away

Largest Pd deficit forecast since 2019 and largest Pt deficit on record Predicted on back of South African power issues and Russian operational challenges (represent 77% of Pd and 83% Pt supply, respectively)



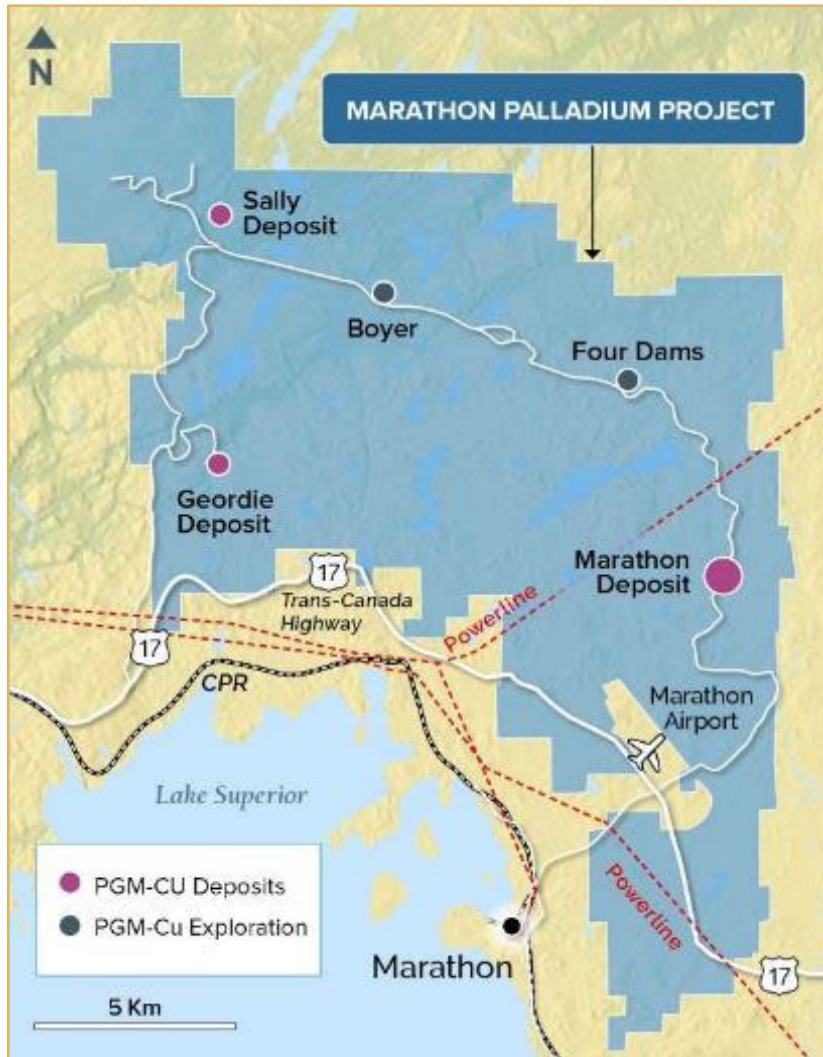
Source: SFA Oxford, Johnson Matthey, Metals Focus, WPIC, BMO Capital Markets

# LOCATION





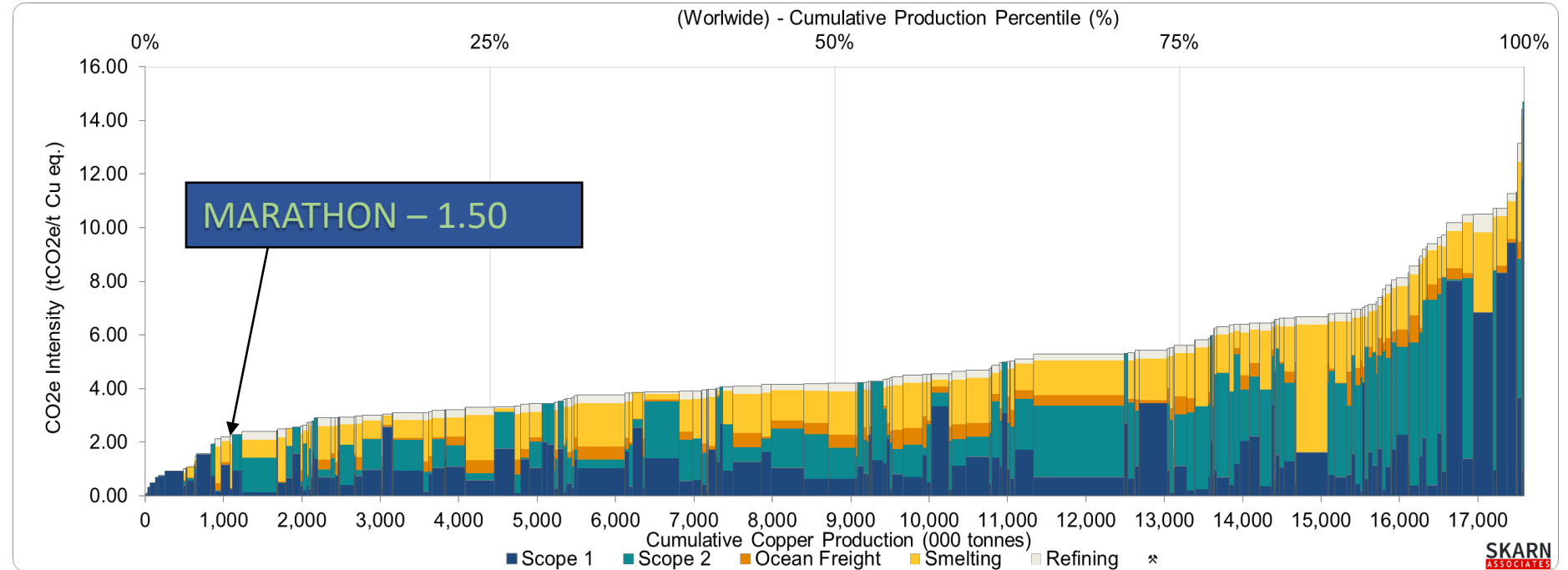
# CANADA'S NEXT CRITICAL MINERALS MINE



- Located on Trans-Canada Highway
- Served by CPR main rail line
- Property next to Marathon Airport
- Main Zone deposit 10 km from Town of Marathon (~3,000 pop.)
- New 230kV power line from Wawa to Thunder Bay crosses property
- Essentially carbon-free power
- Numerous towns, Indigenous communities nearby available for the core workforce

# LOW CARBON INTENSITY – WORLDWIDE

- Bottom 4% of carbon emissions on a copper equivalent basis worldwide once Marathon is in production
- Attractive premium global product



Notes: Copyright Skarn Associates Limited

The curves represent individual mining operations. The height of the stacked bars representing the CO<sub>2</sub> eq intensity and the width of the bar representing the relative Cu equivalence production. Cu equivalence calculations are from Skarn Associates Limited and based on 2020 metal prices. Scope 1 (emissions arising from on-site activities) and Scope 2 (emissions from purchased energy, in this case electrical power required for site operations being generated by grid power providers) represent direct on-site mining and processing CO<sub>2</sub> intensity. Other components and contributors for the estimation of the bar graphs are as described in the chart legends and are reflective of the emissions for the overall project value chain.

# 2023 FEASIBILITY STUDY<sup>1</sup> HIGHLIGHTS

|   |  |  |   |
|---|--|--|---|
| After-Tax NPV <sub>6%</sub>                 | After-Tax IRR                              | Initial Capital  | Payback Period  |
| <b>\$1.16 Billion</b>                       | <b>26%</b>                                 | <b>\$1.11 Billion</b>                                      | <b>2.3 years</b><br>\$851M Cash Flow<br>first 3-years |
| LOM <sup>2</sup> Payable                    | Average Annual<br>PdEq & CuEq Payable      | Average Annual<br>Pd & Cu Payable                          | AISC <sup>2</sup>                                     |
| <b>PdEq 3.6M oz</b><br><b>CuEq 1.78B lb</b> | <b>PdEq 283 koz</b><br><b>CuEq 139 Mlb</b> | <b>166 koz Pd</b><br><b>41 Mlbs Cu</b><br><b>38 koz Pt</b> | <b>US\$813/PdEq oz</b>                                |

## Technical Information

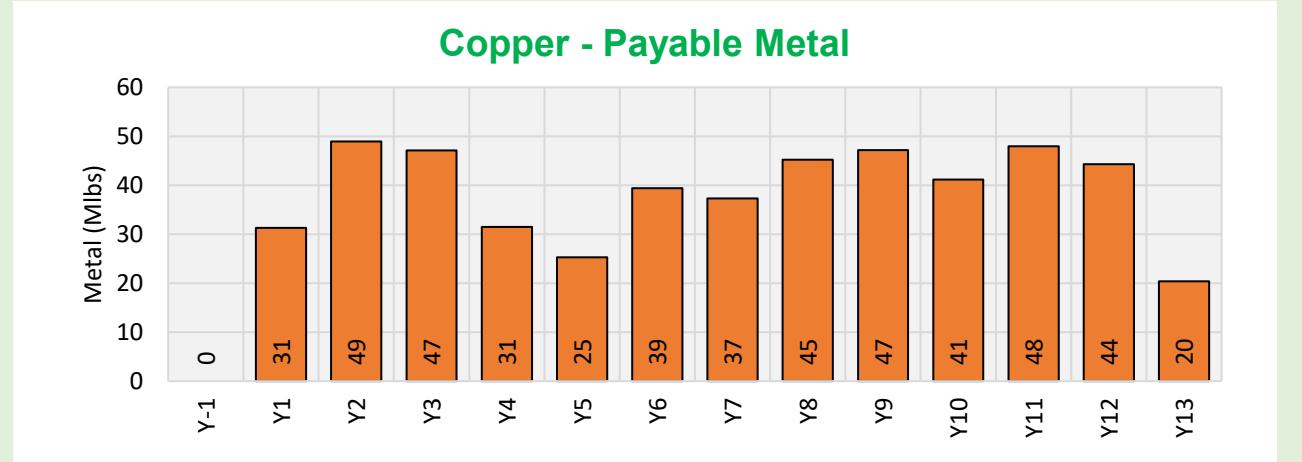
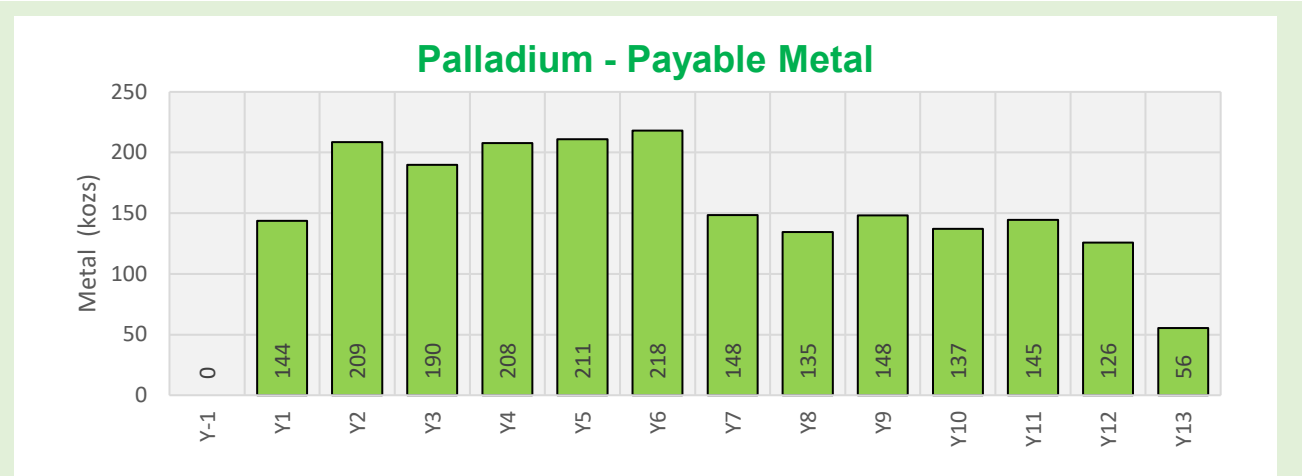
The scientific and technical information contained in this presentation has been reviewed and approved by Drew Anwyll, P.Eng., M.Eng., Chief Operating Officer of Generation Mining Limited and a “Qualified Person” as defined under National Instrument 43-101 – *Standards of Disclosure for Mineral Projects*. For further information see the report entitled “Feasibility Study Update: Marathon Palladium & Copper Project, Ontario, Canada” dated March 31, 2023 and filed under the Company’s profile on SEDARplus.com or on the Company’s website at <https://genmining.com/projects/feasibility-study/>.

### NOTES:

<sup>1</sup> Unless otherwise noted: Canadian \$, economic analysis includes cash flow impacts of the WPM Stream. Feasibility Study Update prices assumptions – US\$1,800/oz Pd, US\$3.70/lb Cu, US\$1,000/oz Pt, US\$1,800/oz Au, and US\$22.50/oz Ag

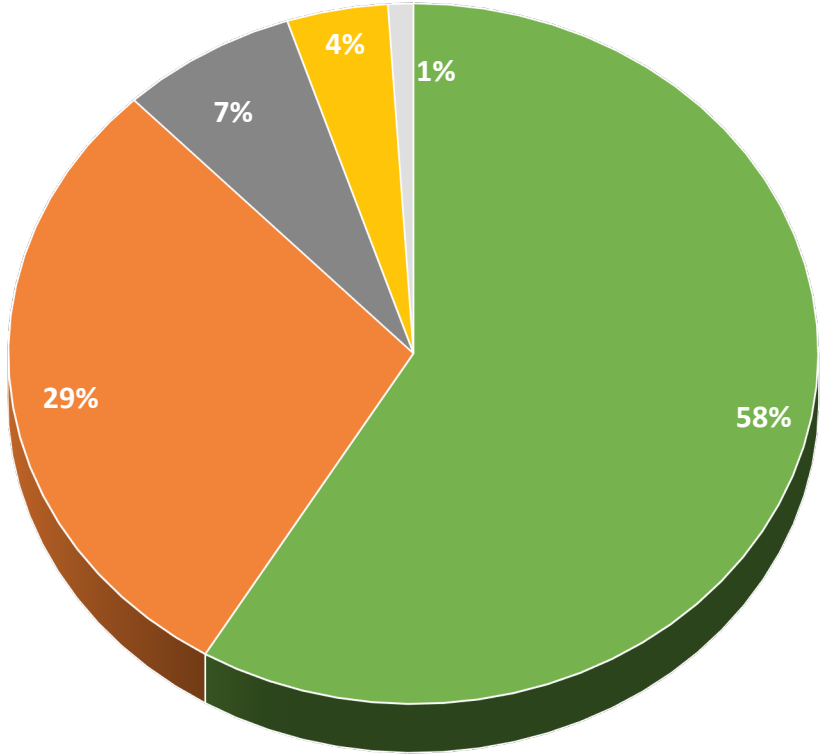
<sup>2</sup> AISC and PdEq – See full text of the news release issued March 31, 2023 for an explanation of the calculation of this metric and “Non-IFRS Measures”.

# PRODUCTION - KEY METALS



Production Plan optimizes NSR by bringing palladium production forward into first half of life of mine

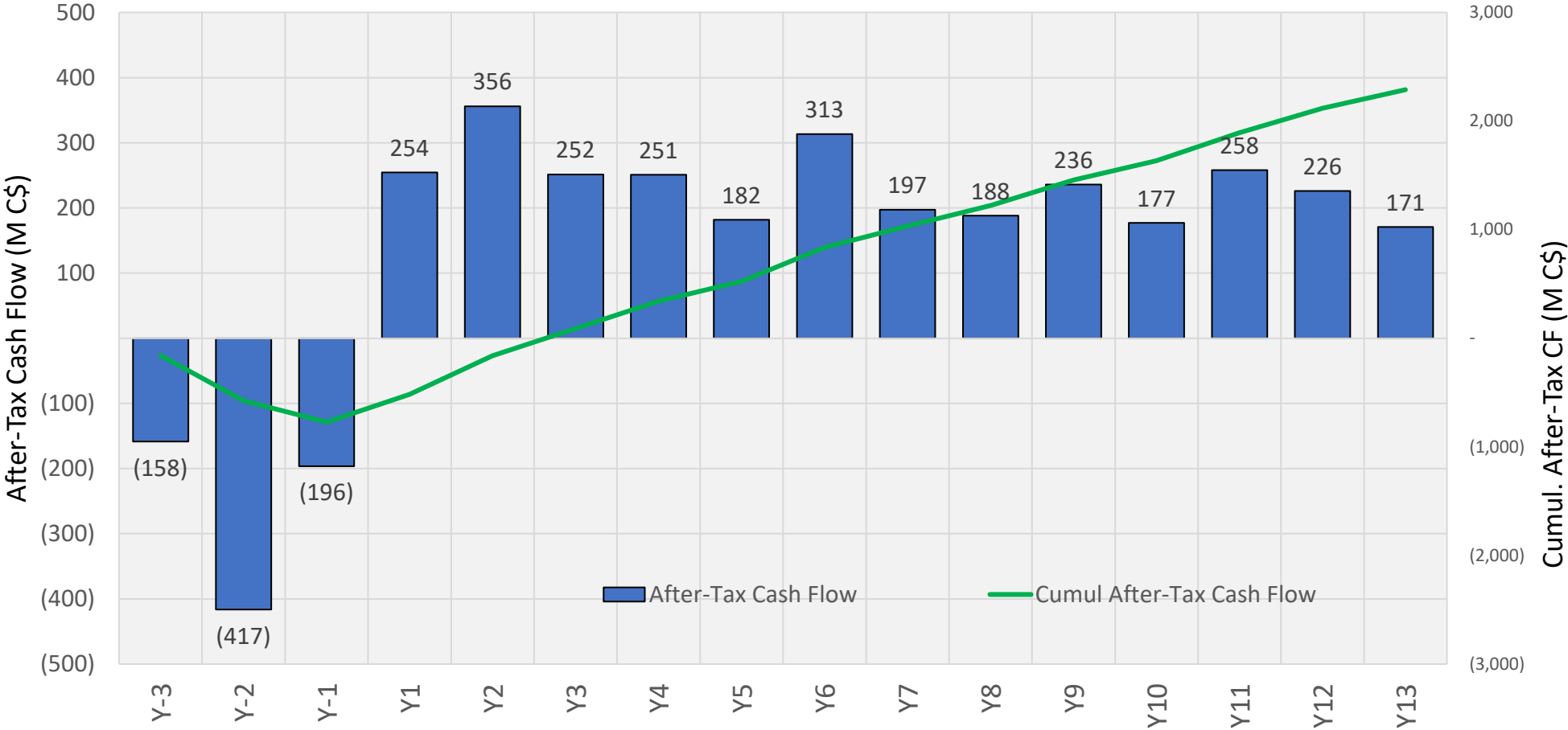
Revenue Breakdown per Metal



■ Pd ■ Cu ■ Pt ■ Au ■ Ag

Revenue breakdown is calculated without the impact of WPM Stream

# CASH FLOW (AFTER TAX)



# SENSITIVITIES

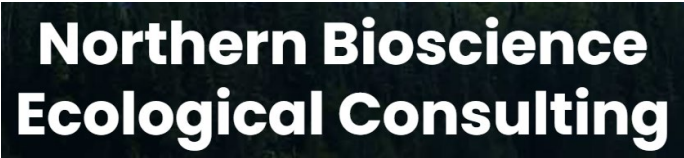
| PALLADIUM PRICE (US\$/oz) | 1,400 | 1,600 | 1,700 | 1,800        | 1,900 | 2,000 | 2,200 |
|---------------------------|-------|-------|-------|--------------|-------|-------|-------|
| NPV <sub>6%</sub> (C\$ M) | 696   | 930   | 1,047 | <b>1,164</b> | 1,282 | 1,400 | 1,634 |
| Payback (years)           | 3.3   | 2.9   | 2.5   | <b>2.3</b>   | 2.2   | 2.0   | 1.9   |
| IRR (%)                   | 18.5  | 22.3  | 24.0  | <b>25.8</b>  | 27.5  | 29.1  | 32.3  |

| COPPER PRICE (US\$/lb)    | 2.50 | 3.00 | 3.50  | 3.70         | 3.90  | 4.50  | 5.00  |
|---------------------------|------|------|-------|--------------|-------|-------|-------|
| NPV <sub>6%</sub> (C\$ M) | 836  | 972  | 1,109 | <b>1,164</b> | 1,219 | 1,386 | 1,522 |
| Payback (years)           | 3.0  | 2.6  | 2.4   | <b>2.3</b>   | 2.2   | 2.0   | 1.9   |
| IRR (%)                   | 21.1 | 23.1 | 25.0  | <b>25.8</b>  | 26.5  | 28.7  | 30.4  |

| AFTER-TAX RESULTS         | OPEX SENSITIVITY |       |              |       |       |
|---------------------------|------------------|-------|--------------|-------|-------|
|                           | +30%             | +15%  | 0%           | -15%  | -30%  |
| NPV <sub>6%</sub> (C\$ M) | 1,031            | 1,085 | <b>1,164</b> | 1,274 | 1,411 |
| Payback (years)           | 2.7              | 2.5   | <b>2.3</b>   | 2.1   | 2.0   |
| IRR (%)                   | 23.4             | 24.4  | <b>25.8</b>  | 27.4  | 29.2  |

|                           | CAPEX SENSITIVITY |       |              |       |       |
|---------------------------|-------------------|-------|--------------|-------|-------|
| NPV <sub>6%</sub> (C\$ M) | 932               | 1,048 | <b>1,164</b> | 1,281 | 1,397 |
| Payback (years)           | 3.3               | 3.0   | <b>2.3</b>   | 1.9   | 1.3   |
| IRR (%)                   | 18.4              | 21.6  | <b>25.8</b>  | 31.6  | 40.1  |

**TECHNICAL SUPPORT TEAMS - MARATHON PROJECT**



## ADVANCING THE PROJECT – IMPROVEMENTS



Process plant engineering 42% and procurement advancing to vendor drawings

Improved metallurgical recoveries with 2022 testing and optimization of flow sheet

Advancing on key permits

Production drill testing (penetration rates)

Geotech site investigations advanced at TSF, process plant and crusher locations

Water management designs well advanced for this stage of Project

Earthworks design advanced and tendered



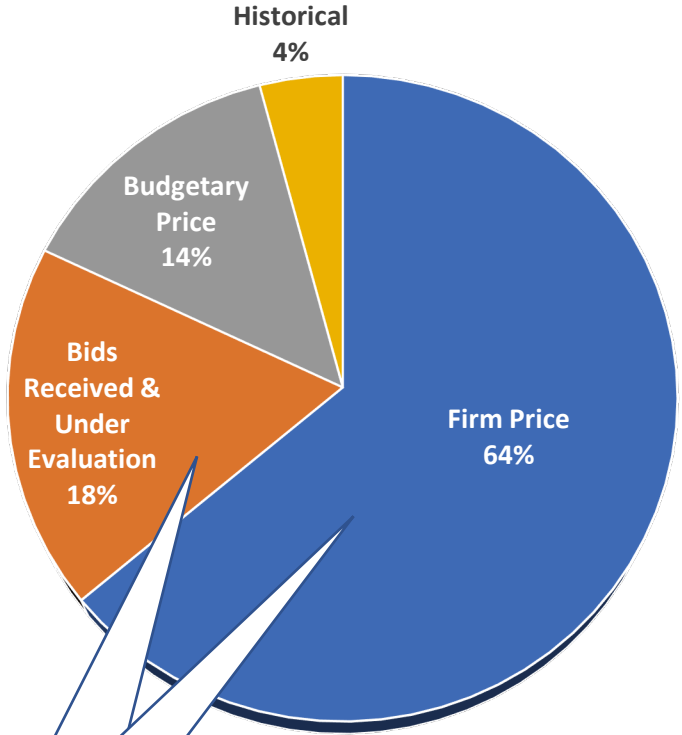
# PROCESS PLANT DESIGN – OPTIMIZATIONS

## Design Changes 2023 FS

### Process Plant

|                      |  |
|----------------------|--|
| Grinding circuit     | Larger SAG and Ball mill size                          |
| Re-Grind Mill        | Reduced to 1 larger High Intensity Grinding (HIG) mill |
| Pebble Crusher       | Removed, not needed                                    |
| Flotation (roughers) | Open tank  |
| Flotation (cleaning) | Staged Flotation Reactors                              |
| PGM-Scav Circuit     | Removed, not needed                                    |
| Plant throughput     | 10.1 Mt/y (+10%) in year +3                            |

Procurement and cost estimates well advanced



82% of plant cost estimated based on recent bids

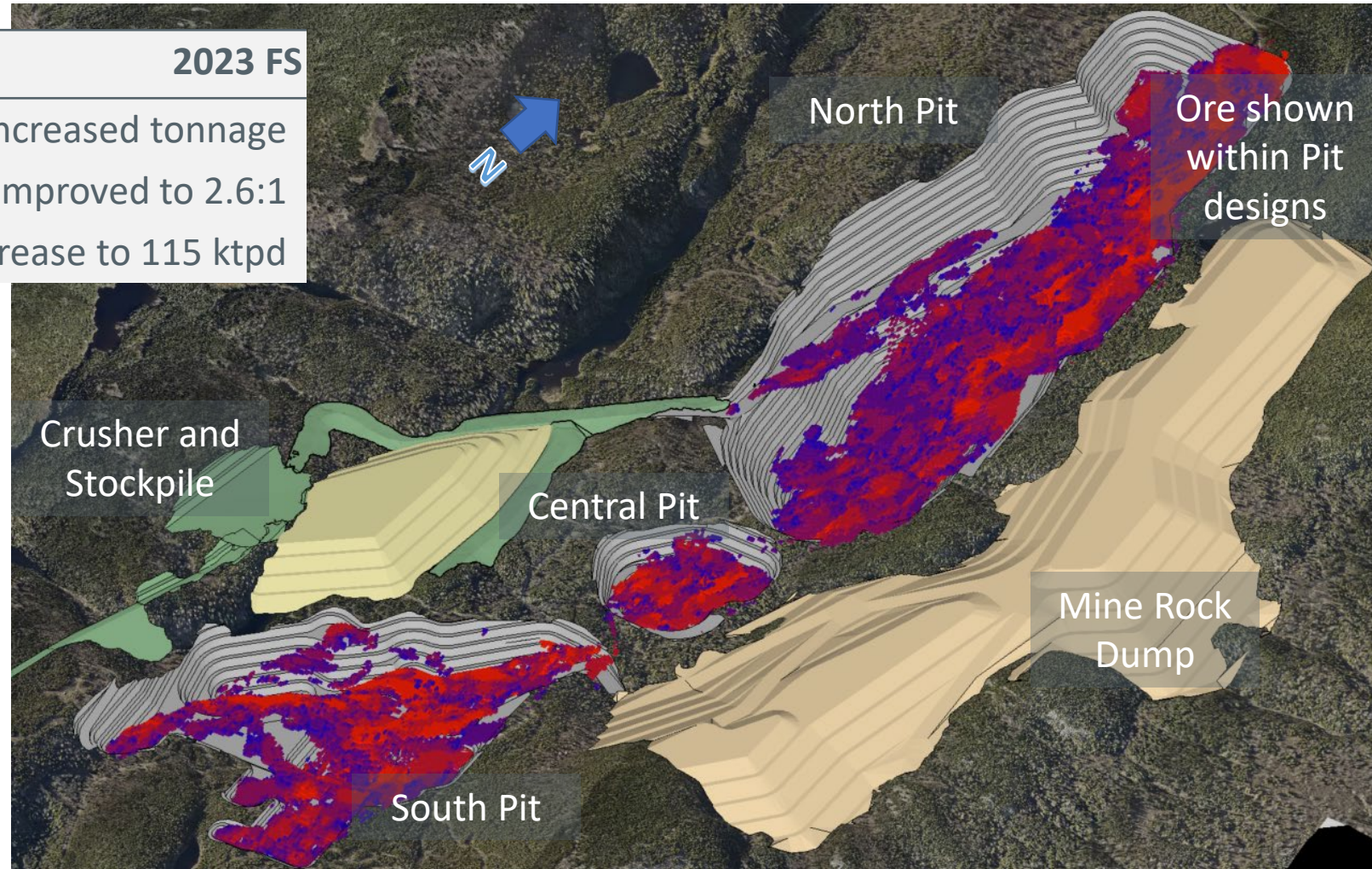
# MINE DESIGN

| Mine                       | 2023 FS                     |
|----------------------------|-----------------------------|
| Proven & Probable Reserves | Increased tonnage           |
| Strip-Ratio                | Improved to 2.6:1           |
| Mining Production          | Slight increase to 115 ktpd |

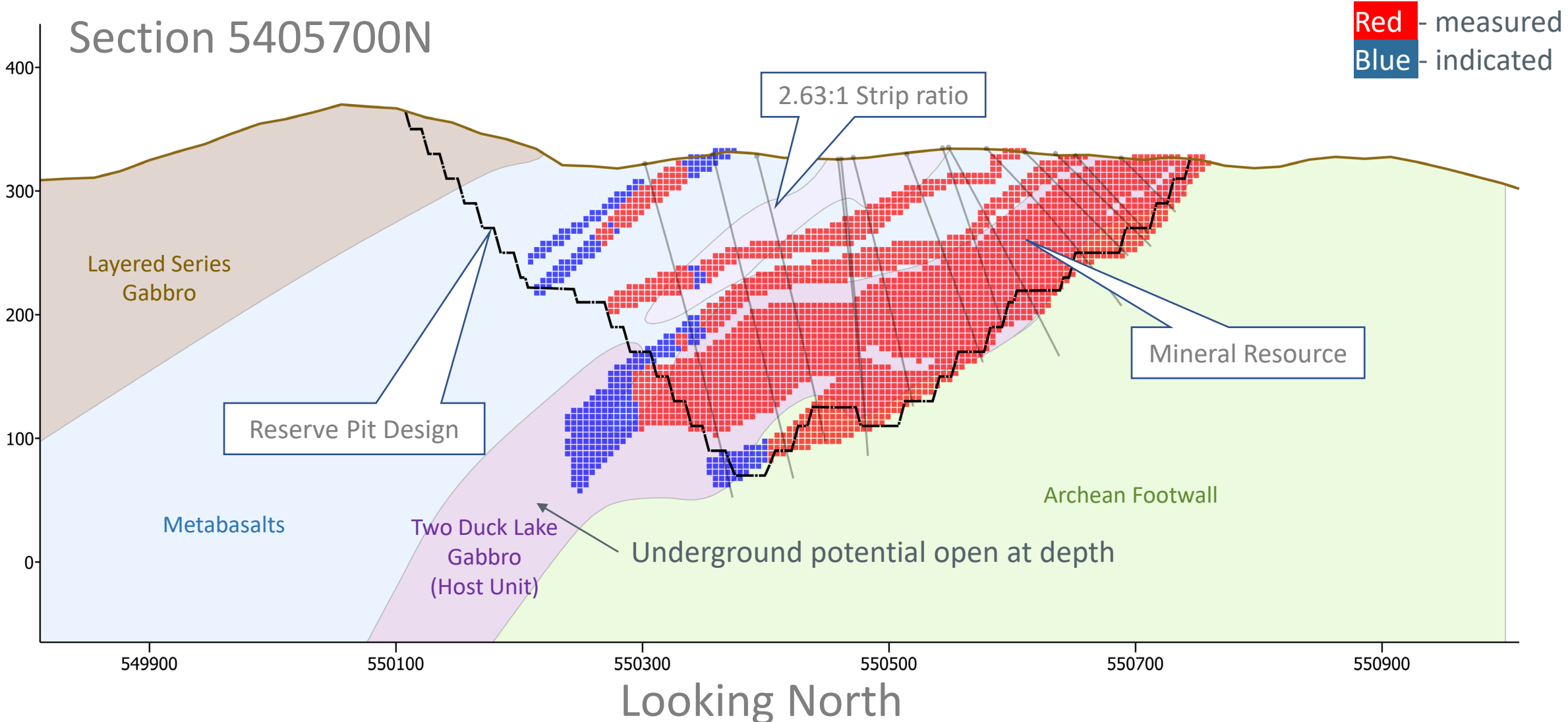
Increased ore tonnage with updated Mineral Resources Estimate with an addition of 18,896 m drilled from 2020 to 2022 (10% of drilling database)

72% of Mineral Reserves are in the Proven category

Equipment selection largely finalized, commitments pending



# CROSS SECTION – NORTH PIT



# PERMITTING – ADVANCING IN THREE PHASES

| Permit   | Regulatory Agency                                      | Supporting Technical Documents | Regulatory Approval Timing |
|--|--|--------------------------------|----------------------------|
| <b>Phase 1 - Necessary to start early works</b>  |  |                                |                            |
| Closure Plan   | Ministry of Mines                                      | Complete                       | Fall 2023                  |
| Endangered Species Act Permit  | Ministry of Environment, Conservation and Parks (MECP) | Complete                       | Received                   |
| Permit to Remove   | Ministry of Natural Resources and Forestry (MNRF)      | Complete                       | Fall 2023                  |
| <b>Phase 2 - Necessary to start full construction</b>  |  |                                |                            |
| Navigation Protection Program  | Transport Canada                                       | Complete                       | Received                   |
| Fisheries Act Authorization  | Fisheries and Oceans Canada (DFO)                      | Complete                       | Fall 2023                  |
| Env. Compliance Approval (Air)   | MECP   | Complete                       | Received                   |
| Permit to Take Water   | MECP   | Complete                       | Fall 2023                  |
| Env. Compliance Approval (Water)   | MECP   | Complete                       | Fall 2023                  |
| Lakes and Rivers Improvement Act   | MNRF   | Complete                       | Fall 2023                  |
| <b>Phase 3 - Schedule 2 Approval - Metal and Diamond Mining Effluent Regulations (MDMER)</b> |  |                                |                            |
| MDMER  | Environment Canada and Climate Change                  | Complete                       | Q1/2024                    |

# MARATHON MINE FINANCING

- 2023 Feasibility Study Capex C\$1,112M, or C\$898M net of equipment lease and preproduction revenue
- Phase 1 - Wheaton Precious to pay C\$240M for stream of 100% gold and 22% platinum production, C\$40M received to date
- Equipment leases C\$101M (on 90% of the initial equipment fleet)
- Phase 2 - Mandate letter for banking syndicate of **Export Development Canada, ING Capital LLC and Societe Generale S.A.** to arrange a **Senior Secured Project Finance Facility** of US\$400M (C\$540M)
- Phase 3 - Ongoing discussions for balance with several government Critical Mineral programs, private equity funds

# CORPORATE STRUCTURE

## Capital Structure

|   |         |
|---|---------|
| Shares Outstanding*   | 183.5M  |
| Options*  | 14.2M   |
| <hr/>   |         |
| Fully Diluted Shares Outstanding*   | 197.7M  |
| <hr/>   |         |
| Basic Market Capitalization<br><small>(Share price: C\$0.31 October 26, 2023 Close)</small> | \$56.9M |

\*As at September 30, 2023

## Analyst Coverage

Pierre Vaillancourt

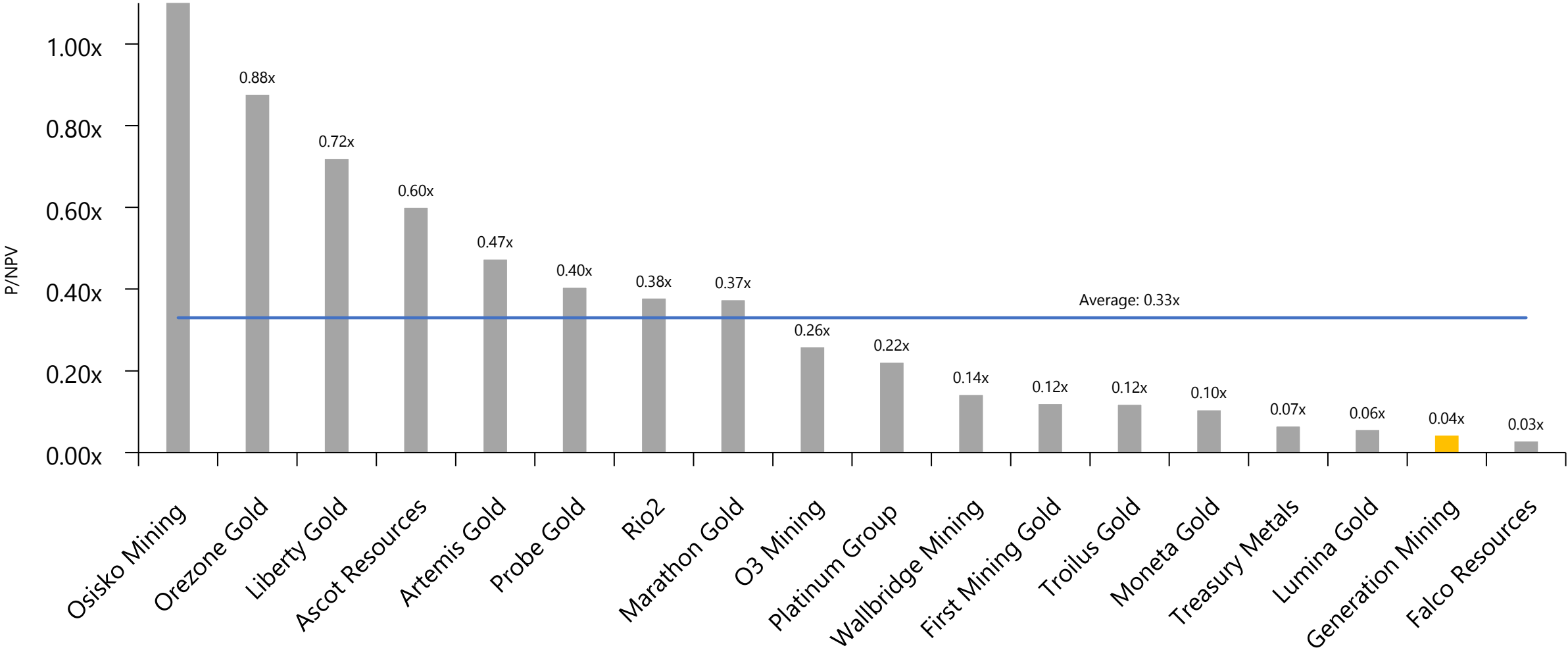
Haywood Securities

## Key Shareholders

|                                      |       |
|--------------------------------------|-------|
| Sibanye-Stillwater                   | 18.1% |
| Eric Sprott                          | 9.0%  |
| Zebra Holdings (Lundin Family Trust) | 3.7%  |
| Osisko Mining                        | 2.8%  |
| Officers & Directors                 | 8.2%  |
| RBC Global Asset Management, Inc.    | 0.6%  |

Source: TSX Infosuite, Irwin

# DEVELOPER COMPARABLES – GOLD & PGM



\*Capital IQ | As at October 12, 2023

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## JAMIE LEVY **President, CEO & Director**

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25 years in financing and management of Canadian mining companies. Was CEO of Pine Point Mining - acquired by Osisko Metals. Formerly Vice President of Pinetree Capital

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## BRIAN JENNINGS **CPA, CA, B.Sc CFO**

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Extensive experience in financial management of resource companies, and formerly Vice-President Corporate Restructuring at Ernst and Young

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## ADAM SEGAL **B. Comm, LLB General Counsel**

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Spent 12 years with Sherritt International in a series of ever more senior roles culminating in the role of VP, Corporate Development. Prior to that he practiced law at Borden Ladner Gervais LLP.

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## RUBEN WALLIN **P.Eng VP Sustainability**

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Management experience in the areas of environment, permitting, Indigenous and community relations and government relations. Previously held positions - Placer Dome, De Beers Canada, Barrick, Osisko and Detour Gold. Formerly Vice President Environment and Sustainability for Detour Gold

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## DREW ANWYLL **M.Eng, P.Eng COO**

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Formerly Senior VP, Technical Services, interim COO and VP, Operations - mine general manager at Detour Gold, also held senior operating positions at Barrick and Placer Dome

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## MAURO BASSOTTI **P.Sc Hon, VP Geology**

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Formerly Senior Director Geology with Ma'aden. Previously held positions with Detour Gold, New Gold, Barrick and Placer Dome working in both open pit and underground operations

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## PAUL MURPHY **Ing. VP Projects**

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Experienced civil engineer with 35 years in construction and engineering. Previously with G Mining Services, VP Projects at Centerra Gold and GM of Engineering and Construction at IAMGOLD

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## ANN WILKINSON **VP Investor Relations**

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Developed investor relations strategy for multiple base and precious metals producers and developers including Gold Resource Corporation, TMAC Resources and Breakwater Resources

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# DIRECTORS

**KERRY KNOLL** Chairman

Co-founded several successful mining companies over 35 years including Wheaton River, Thompson Creek and Glencairn Gold. Former editor of The Northern Miner Magazine

**CASHEL MEAGHER** P.Geo, P.Eng

President & COO of Capstone Mining. Previously Senior Vice President and Chief Operating Officer of Hudbay Minerals Inc.; led construction and startup of Constancia Mine; previously held several senior positions at Inco

**STEPHEN REFORD** BA.Sc, P.Eng

Geophysicist for 40 years. President of Paterson, Grant & Watson, an international geophysical consulting company. Managed and played technical roles, including World Bank, UN and CIDA-sponsored projects. Experience in Canada, India, Thailand, Malaysia, Africa, South America, and Saudi Arabia

**PHILLIP C. WALFORD** P.Geo, P.Eng

Geologist, Founder and CEO of Marathon Gold from 2009-2019, developing the Valentine gold project. Was CEO and a founder of Marathon PGM Corp. which sold Marathon palladium project to Stillwater in 2010

**JAMIE LEVY** President & CEO

25 years in financing and management of Canadian mining companies. Was CEO of Pine Point Mining - acquired by Osisko Metals. Formerly Vice President of Pinetree Capital

**PAUL MURPHY** B.Comm, FCPA

Chartered Accountant, Chairman of Alamos Gold; was Chief Financial Officer of Guyana Goldfields during construction, production; former partner and head of Mining Group, Western Hemisphere, for PricewaterhouseCoopers

**JENNIFER WAGNER** LL.B

Was Senior Vice-President, Corporate Affairs, Legal Counsel and Corporate Secretary at Kirkland Lake Gold Ltd. until merger with Agnico. She is a member of the Law Society of Upper Canada



# INVESTOR RELATIONS

Ann Wilkinson  
Vice President, Investor Relations

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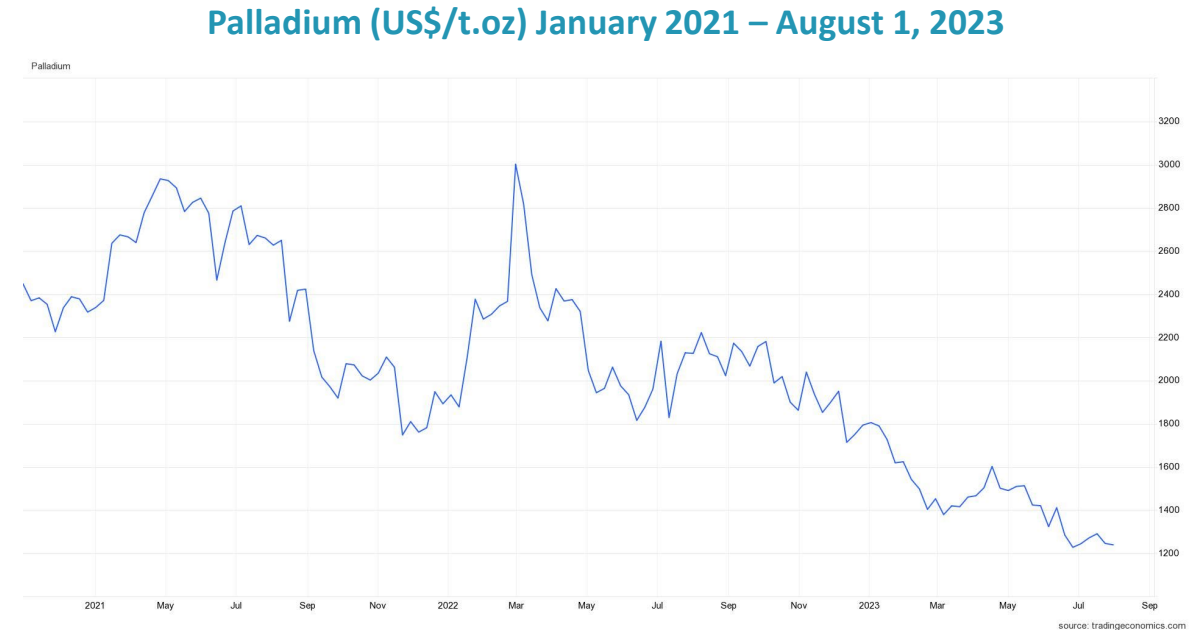
[Awilkinson@genmining.com](mailto:Awilkinson@genmining.com)

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Toronto, Ontario, Canada M5X 1B1

# PALLADIUM MARKET GYRATIONS

| Pd prices driven higher 2022   | Pd prices driven lower mid-2022 to present   |
|--|--|
| Norilsk, world’s largest Pd producer, reportedly had unsold inventory at beginning of 2022 <sup>1</sup>                | European, US “soft sanctions” did not apply to Pd sponge (powder), which autocatalysts use <sup>1</sup>  |
| Autocatalyst OEMs stocked up <sup>2</sup> , concerned with sanctions on Russian palladium at outbreak Ukraine invasion | OEMs reduced buying and Norilsk able to develop new customers in China and India, which continued through H1 2023 <sup>1 2</sup>   |
| Norilsk had difficulty selling all its Pd output during first six months of the war, reducing supply <sup>1</sup>      | Newsletters reported heavy (unsubstantiated) shorting of palladium Rumours Russian government stockpile may have been liquidated to finance war (like Russia’s large Au sales) |
| Pd price hits all-time high of US\$3,100 (April 2022)  | Pd price pushed down to US\$1,250 currently  |

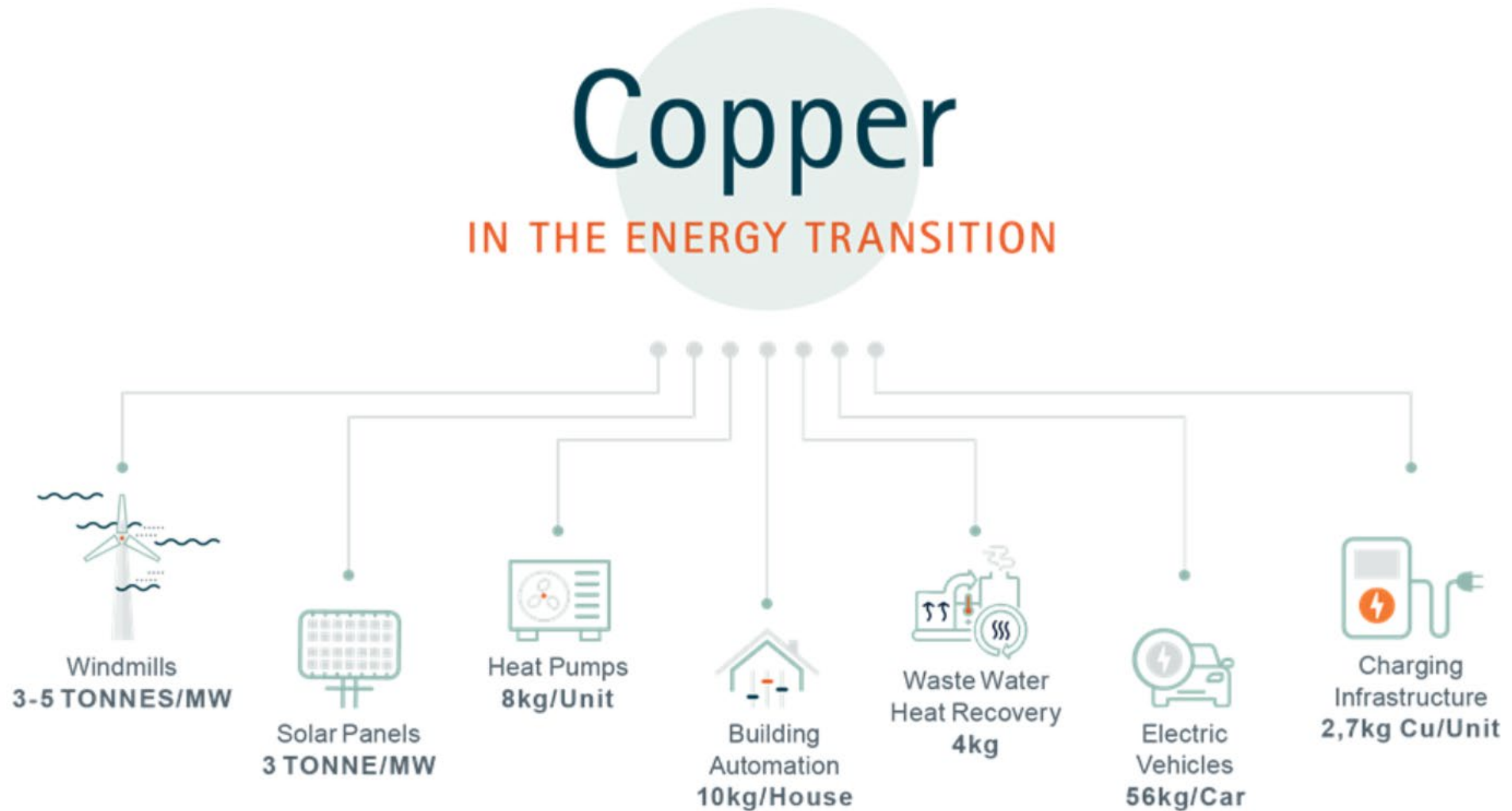


<sup>1</sup>Johnson Matthey, PGM market report May 2023

<sup>2</sup><https://nornickel.com/news-and-media/press-releases-and-news/nornickel-presents-metals-market-review-31-05-23/>

<https://tradingeconomics.com/commodity/palladium>

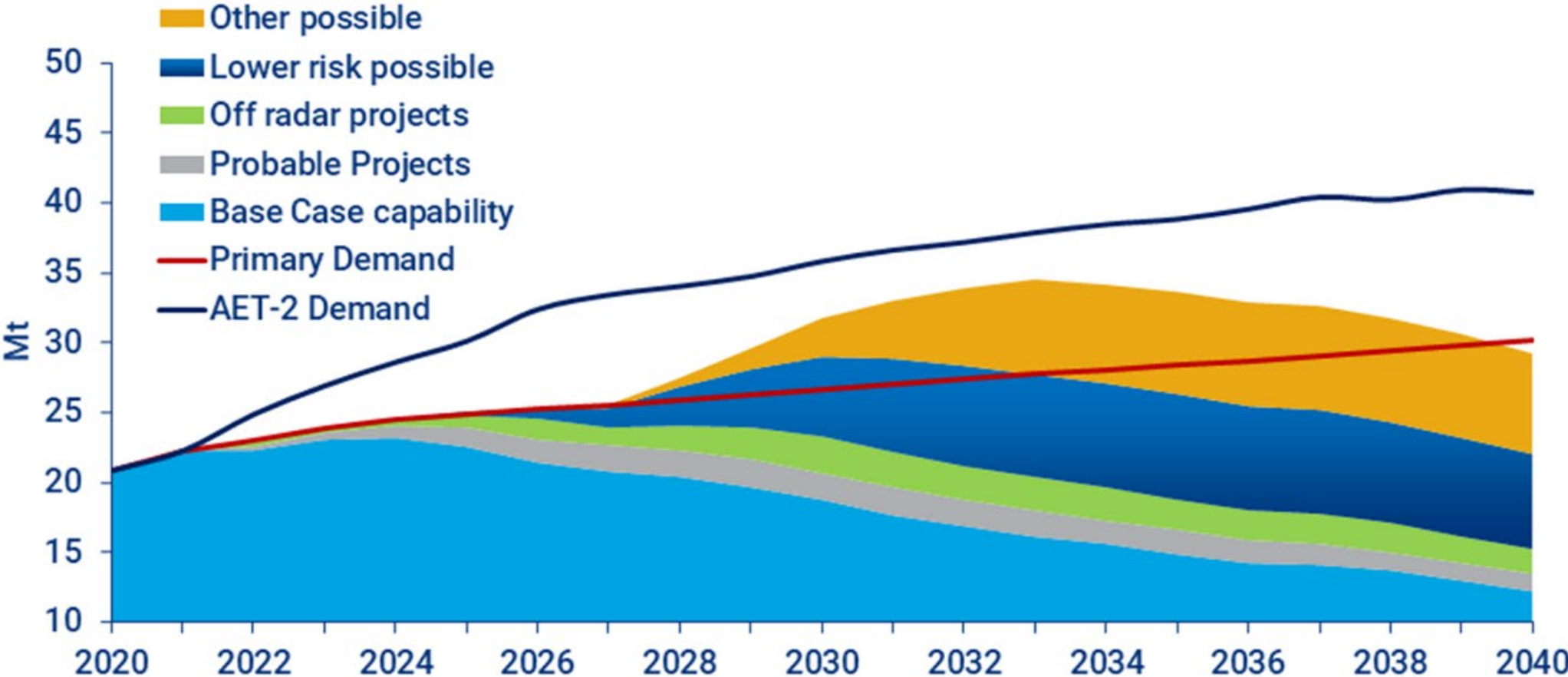
# COPPER CRITICAL TO DECARBONIZATION



- Electrification Alliance: <https://electrification-alliance.eu/about/>

# COPPER SUPPLY VS DEMAND – 2010 - 2040E

Primary copper demand scenarios versus mine supply potential



Source: Wood Mackenzie

# COPPER

**GENERATIONMINING**

TSX:GENM  
OTCQB: GENMF

**“We need eight new Kamoakakula mines to supply the expected 9 million tonne copper supply gap by 2030.”**

*Robert Friedland  
(Ivanhoe Mine - Co-Chairman)*

**“I would highlight copper as the most critical metal globally given the shortage in the market. We only had 3.5 days of copper stock equivalent at the end of last year.”**

*Kostas Bintas  
(Trafigura – Co-Head of Metals and Minerals Trading)*

**“We’re already forecasting major deficits in copper to 2030.”**

*Robin Griffin  
(Wood Mackenzie –  
VP of Metals and Mining)*

**“There’s a huge deficit coming in copper, and as much as people write about it, the price is not yet reflecting it.”**

*Gary Nagle  
(Glencore - CEO)*

**“Even if the price of copper were to double overnight it would still be years before we had significant incremental production coming on.”**

*Richard Adkerson  
(Freeport-McMoRan – CEO)*

**“We do not have enough copper to ensure green-energy goals.”**

*Mark Bristow  
(Barrick - President and CEO)*

# LASSONDE CURVE - THE DISCOVERY LIFECYCLE

