



ASX: CHN | OTCQB: CGMLF

The Julimar Ni-Cu-PGE Project – the right metals at the right time in Western Australia

Corporate Presentation

28 March 2023



28
Ni
Nickel

29
Cu
Copper

27
Co
Cobalt

46
Pd
Palladium

78
Pt
Platinum

79
Au
Gold

Forward looking statements and competent person(s) disclosure



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Forward-Looking Statement

This presentation may contain forward-looking statements and forward information, including forward looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, forward-looking statements). These forward-looking statements are made as of the date of this announcement and Chalice Mining Limited (the Company) does not intend, and does not assume any obligation, to update these forward-looking statements. Forward-looking statements relate to future events or future performance and reflect Company management's expectations or beliefs regarding future events and include, but are not limited to: the impact of the discovery on the Julimar Project's capital payback; the Company's strategy and objectives; the realisation of mineral resource estimates; the likelihood of further exploration success; the timing of planned exploration and study activities on the Company's projects; mineral processing strategy; access to sites for planned drilling activities; and the success of future potential mining operations and the timing of the receipt of exploration results. In certain cases, forward-looking statements can be identified by the use of words such as, "commitment" or "committed", "considered", "could", "estimate", "expected", "for", "further", "future", "goal", "indicates", "is", "likely", "may", "needs", "open", "optionality", "plan" or "planned", "points", "possible", "potential", "promising", "strategy", "upside", "will" or variations of such words and phrases or statements that certain actions, events or results may, could, would, might or will be taken, occur or be achieved or the negative of these terms or comparable terminology. By their very nature forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors may include, among others, risks related to actual results of current or planned exploration activities; whether geophysical and geochemical anomalies are related to economic mineralisation or some other feature; whether visually identified mineralisation is confirmed by laboratory assays; obtaining appropriate approvals to undertake exploration activities; metal grades being realised; metallurgical recovery rates being realised; results of planned metallurgical test work including results from other zones not tested yet, scaling up to commercial operations; changes in project parameters as plans continue to be refined; changes in exploration programs and budgets based upon the results of exploration, changes in commodity prices; economic conditions; political and social risks, accidents, labour disputes and other risks of the mining industry; delays or difficulty in obtaining governmental approvals, necessary licences, permits or financing to undertake future mining development activities; changes to the regulatory framework within which Chalice operates or may in the future; movements in the share price of investments and the timing and proceeds realised on future disposals of investments, the impact of the COVID 19 pandemic as well as those factors detailed from time to time in the Company's interim and annual financial statements, all of which are filed and available for review on the ASX at asx.com.au and OTC Markets at otcm Markets.com. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.

Authorisation

This presentation has been authorised for release by the Disclosure Committee.

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- Accept no responsibility or liability as to the adequacy, accuracy, completeness or reasonableness of this Presentation; and
- Accept no responsibility for any errors or omissions from this Presentation.

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Mineral Resources Reporting Requirements

As an Australian Company with securities quoted on the Australian Securities Exchange (ASX), Chalice is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act 2001 and the ASX. Investors should note that it is a requirement of the ASX listing rules that the reporting of mineral resources in Australia is in accordance with the JORC Code and that Chalice's mineral resource estimates comply with the JORC Code. The requirements of JORC Code differ in certain material respects from the disclosure requirements of United States securities laws. The terms used in this announcement are as defined in the JORC Code. The definitions of these terms differ from the definitions of such terms for purposes of the disclosure requirements in the United States.

Competent Persons Statement

The information in this presentation that relates to exploration results for the Julimar Project is extracted from the following ASX announcements:

- "High-grade nickel-copper-palladium sulphide intersected at Julimar Project in WA", 23 March 2020
- "New Mineralised Zone Intersected at Dampier Target", 7 July 2022
- "Seismic identifies potential 1.6km extension of Gonneville", 6 September 2022
- "Major northern extension of Gonneville Intrusion confirmed", 19 October 2022
- "Outstanding wide high-grade intersections north of Gonneville", 23 November 2022
- "Promising new sulphide mineralisation at the Hooley Prospect", 8 December 2022
- "Julimar flowsheet development and scoping update", 13 December 2022

The information in this presentation that relates to Mineral Resources has been extracted from the ASX announcement titled:

- "Gonneville Resource increases by approx. 50% to 3Mt NiEq", 28 March 2023.

The above announcements are available to view on the Company's website at chalicemining.com

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original release continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the relevant original market announcements. Refer to the attached Appendices for further information on the Mineral Resource Estimate and metal equivalents.



A globally recognised name in exploration – a team with a track record of **finding mines and rewarding shareholders**



High-performance, results driven culture
(mine finding + commercial DNA)



Our purpose – to find the metals needed to decarbonise the world (the *green metals*)



Our aspiration – to create a world class, multi-district green metals province



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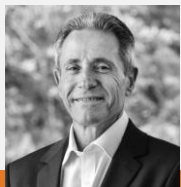
Chalice is a **leading ASX200 green metals explorer** with a track record of creating shareholder value



Our Achievements

- ~4,000% total return to shareholders since Julimar discovery in March 2020
- World class Julimar Ni-Cu-PGE discovery recognised with PDAC **Thayer Lindsley Award** (2023) and AMEC **Prospector of the Year Award** (2022)
- Chalice recognised as RIU **Craig Oliver Award** (2021) MNN **Explorer of the Year** (2021) and D&D **Emerging Company of the Year** (2021)

Board of Directors



Derek La Ferla

Chairman



Alex Dorsch

Managing Director and Chief Executive Officer



Morgan Ball

Non-Executive Director



Garret Dixon

Non-Executive Director



Stephen McIntosh

Non-Executive Director



Linda Kenyon

Non-Executive Director



Jo Gaines

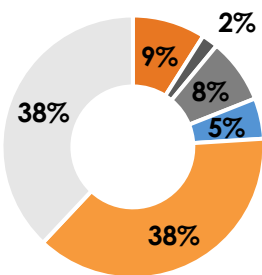
Non-Executive Director

Corporate snapshot - ASX: CHN

Market Capitalisation¹
~A\$2.4Bn

Cash balance²
A\$97.6m

Shares on issue
376m



Top Shareholders³

- Tim Goyder (Founder)
- Directors & Mgmt.
- Goldman Sachs
- BlackRock
- Other Institutions
- Retail & HNWI

Research coverage

BELL POTTER

MACQUARIE

J.P.Morgan

Jefferies

Barrenjoey^o

¹ As of 27 Mar 2023; ² As of 31 Dec 2022; ³ As of 28 Feb 2023 or as disclosed in the last substantial shareholding notice given to the Company. Note: Arctis Global disclosed a long equity derivative position of 46,728,282 shares on 10 Nov 2022

Julimar – a major new polymetallic critical minerals project in Western Australia

March 2023 Resource update:

560Mt @ ~0.54% NiEq or ~1.7g/t PdEq¹ (~55% M&I / ~45% Inferred)



16Moz 3E²

860kt Ni

520kt Cu

83kt Co

contained

equivalent to ~3.0Mt NiEq or ~30Moz PdEq, a ~50% increase

Includes a higher-grade (>0.6% NiEq OP + UG) sulphide component:

120Mt @ ~0.9% NiEq or ~2.7g/t PdEq, extending from 30m to 800m+ (open)



A **strategic, large-scale** Resource with rare mix of critical minerals in sulphide mineralogy



Green metals at Julimar are **essential for decarbonisation** technologies like batteries, electric vehicles and hydrogen



100% owned by Chalice and located in WA, one of the **world's most attractive mining jurisdictions**



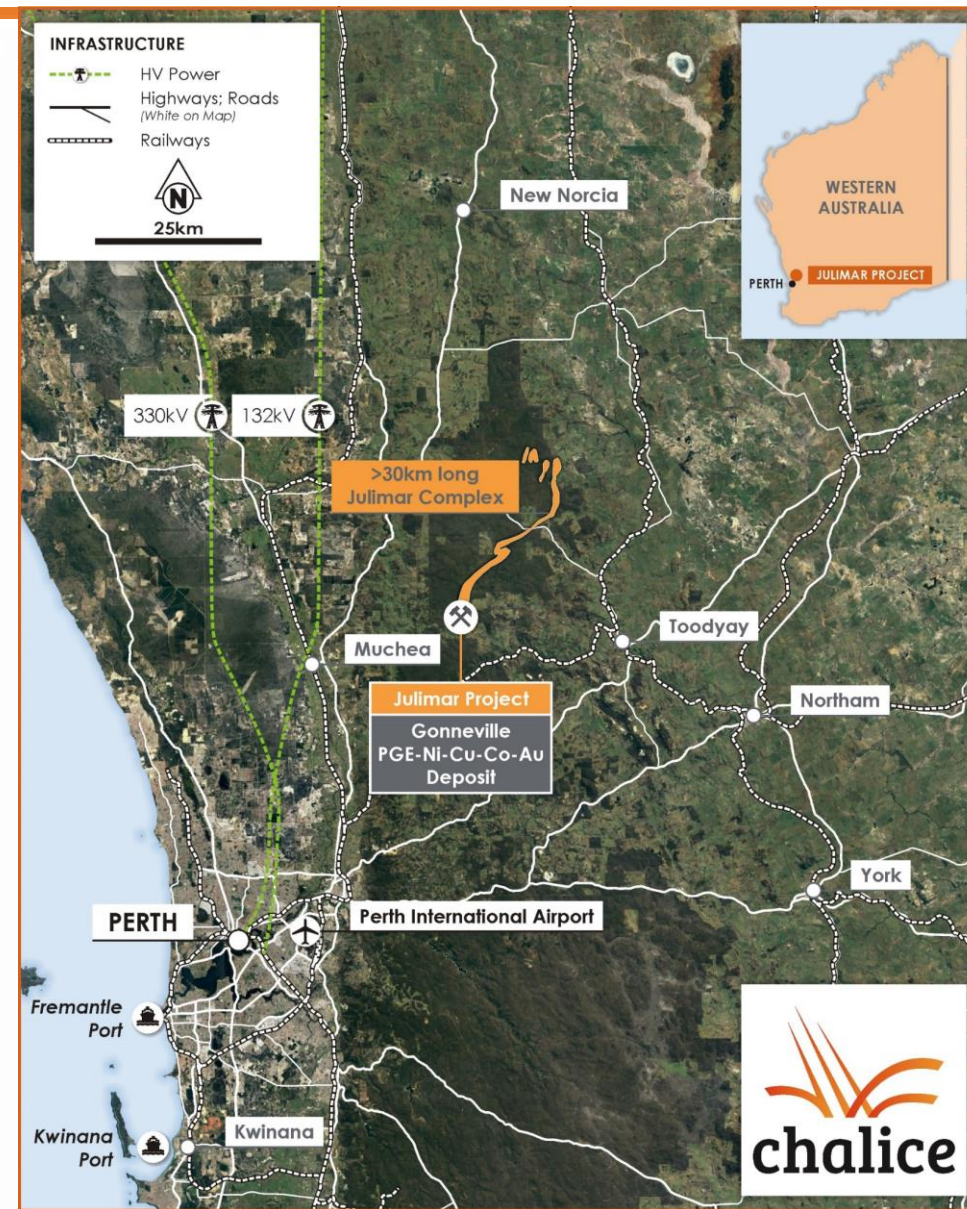
Strategy to explore and develop in parallel; **formal strategic partnering process commenced**



Direct access to **major highway, rail, power, port infrastructure** as well as a **large local workforce**



Resource occupies just **~2km** of newly recognised >30km long Julimar Complex, indications of mineralisation **>10km** from current resource



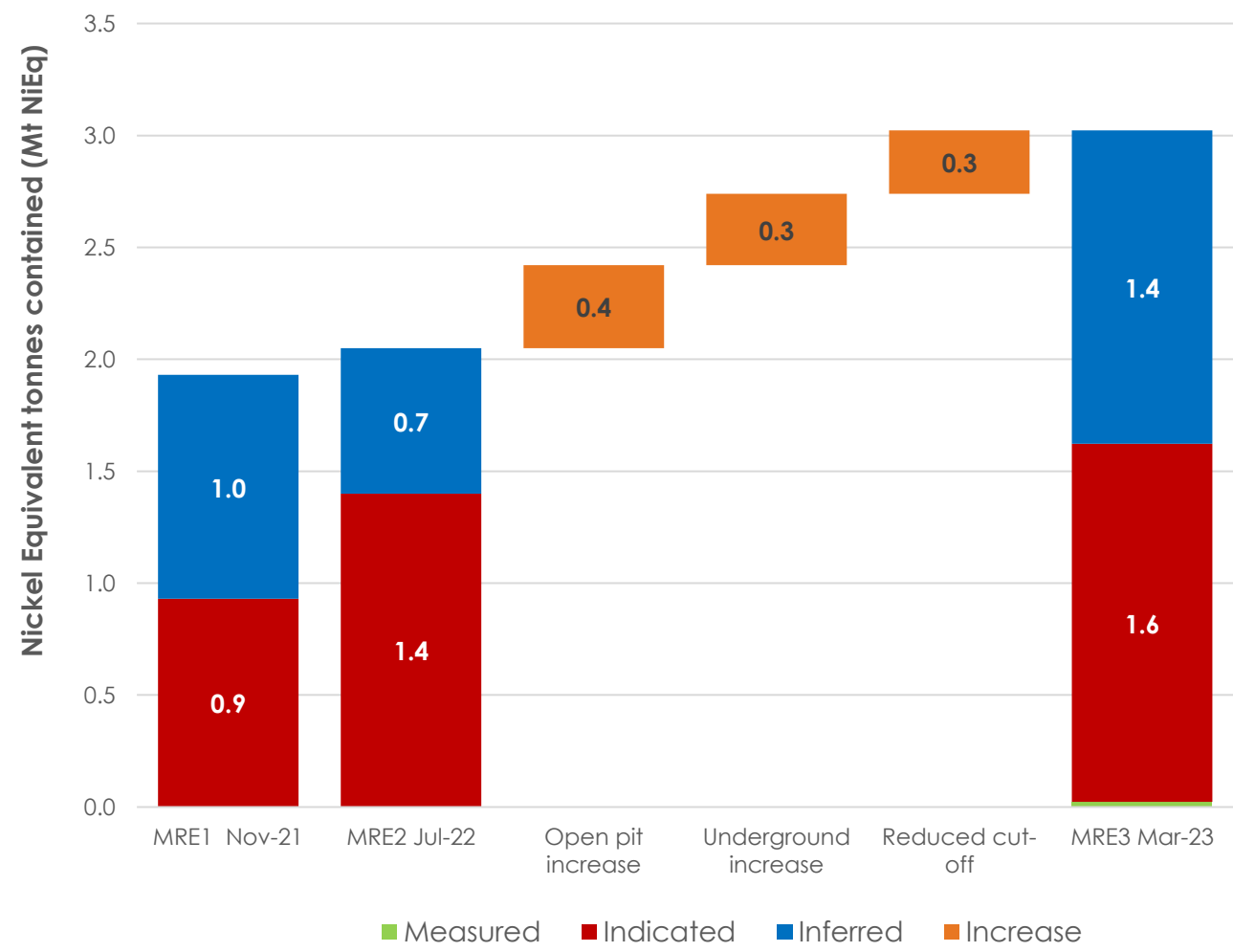
¹ Refer to full Mineral Resource Statement in Appendix

² 3E = Palladium (Pd) + Platinum (Pt) + Gold (Au)

The Gonneville Resource has increased by **~50% to ~3Mt NiEq**, confirming the world-class scale and quality of the deposit



Gonneville Resource comparison (Nov-21 to Mar-23)



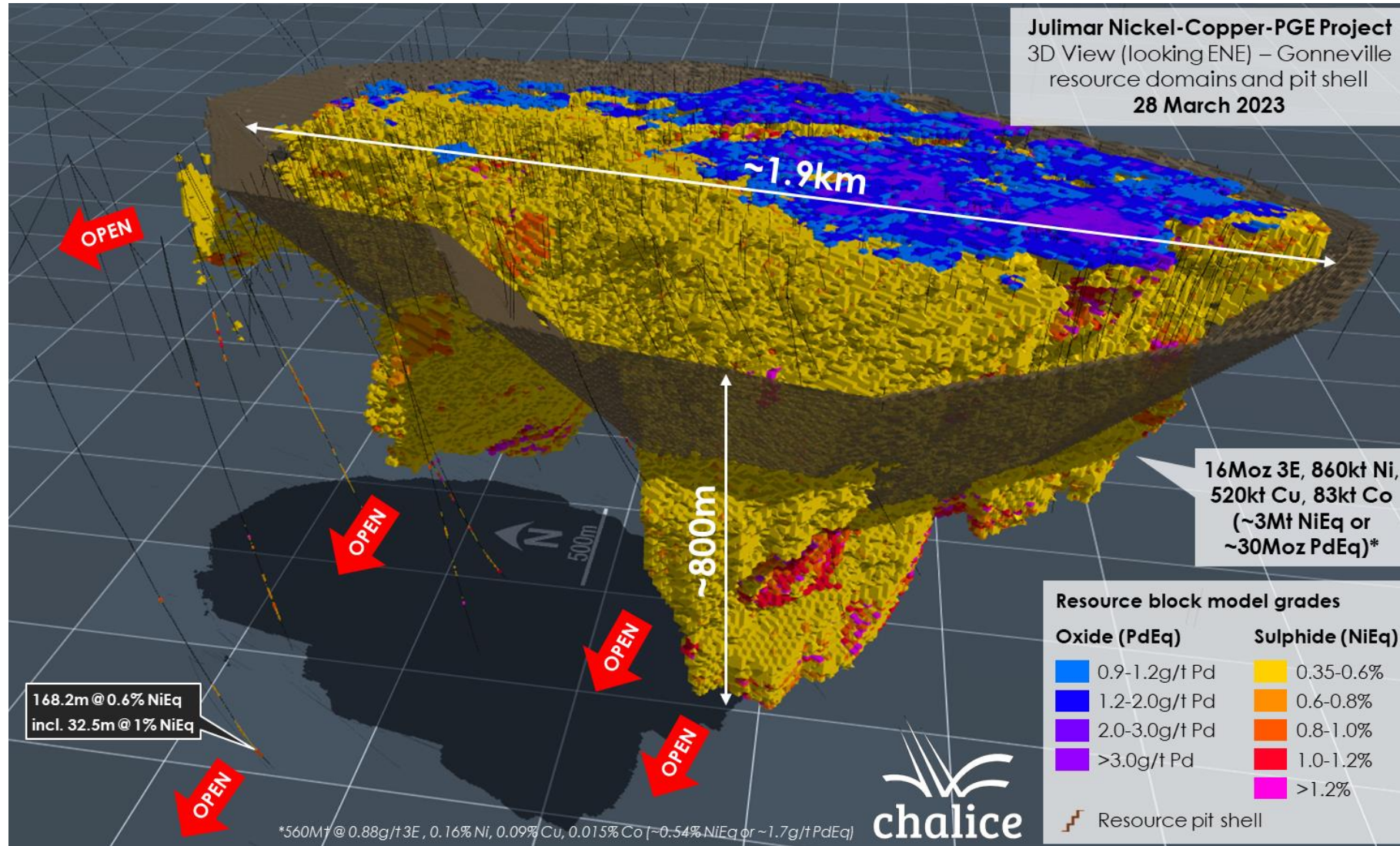
- « An additional **260 drill holes** incorporated in the updated Resource, increasing the contained metal by **~18% in-pit and ~16% in underground category**
- « Additional **~14% increase** driven by slightly reduced open-pit cut-off grade (0.40% NiEq to 0.35% NiEq), based on updated metallurgical and economic inputs
- « **Improved flotation recoveries** still being investigated through flotation tails leaching and staged grinding – work is ongoing and has not been incorporated into this resource update
- « Underground growth driven by **potential for bulk underground mining** (sub level caving) and additional wide-spaced step-out holes.

¹ Refer to full Mineral Resource Statement in Appendix

The **tier-1 scale, near-surface Resource** has high-grade optionality and compelling growth potential



3D view (looking ENE) of Gonneville Resource domains and pit shell



Updated Mineral Resource Estimate¹:

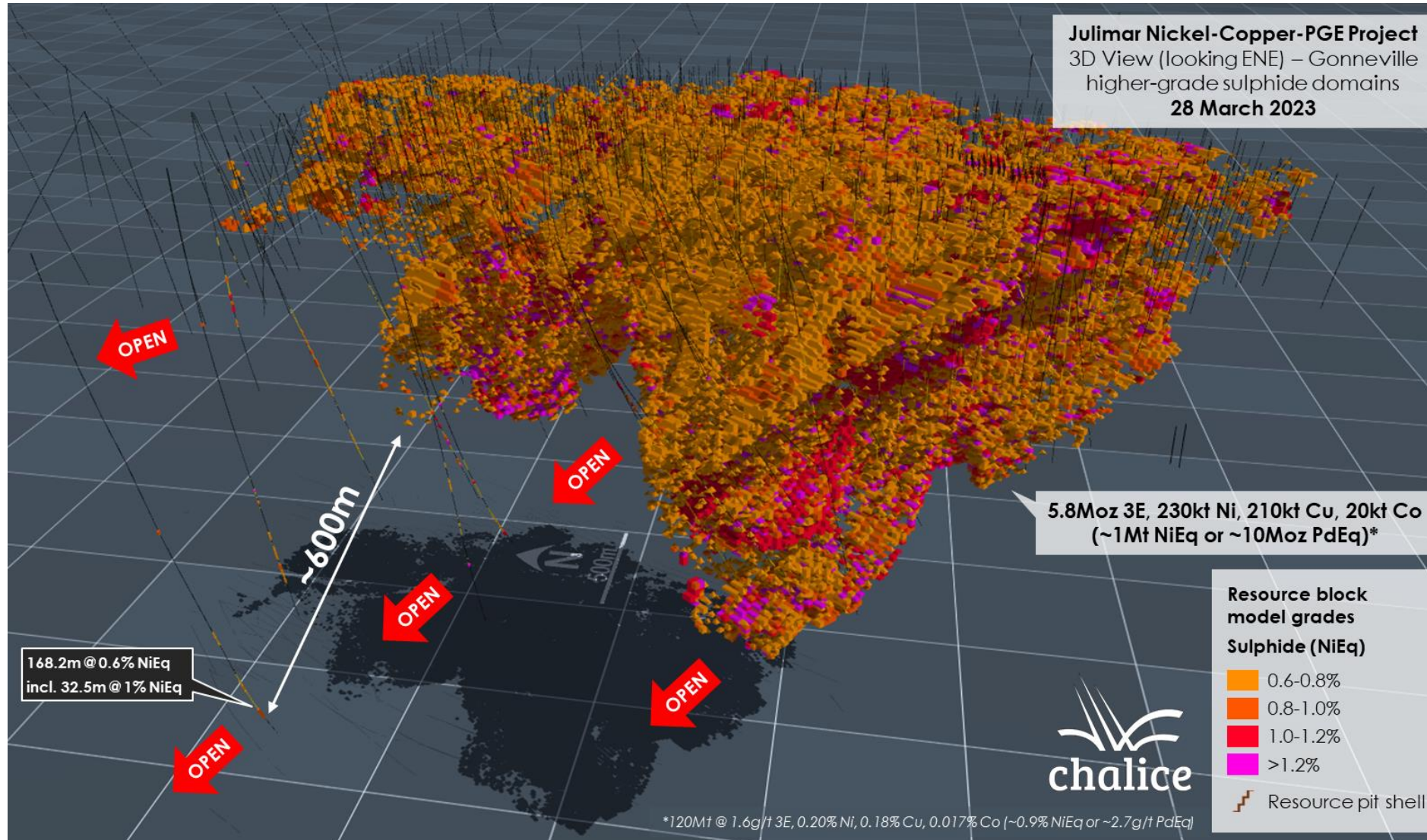
- **560Mt** @ 0.88g/t 3E, 0.16% Ni, 0.09% Cu, 0.015% Co (**~0.54% NiEq** or **~1.7g/t PdEq**)
- **16Moz 3E, 860kt Ni, 520kt Cu** and **83kt Co** contained
- Equivalent to **~3.0Mt NiEq** or **~30Moz PdEq** contained
- Resource is defined to depth of ~800m, remains **open at depth**
- Located on **Chalice-owned farmland**
- Resource pit shell has **deepened significantly** at northern end of deposit
- Strip ratio in-pit reduced to 1.6

¹ Refer to full Mineral Resource Statement in Appendix

The higher-grade sulphide component of the Resource **starts near surface** and remains the focus of studies evaluating the initial development phase



3D view (looking NE) of Gonneville high-grade sulphide Resource domains (>0.6% NiEq) and pit shell



Higher-grade sulphide component of Resource¹:

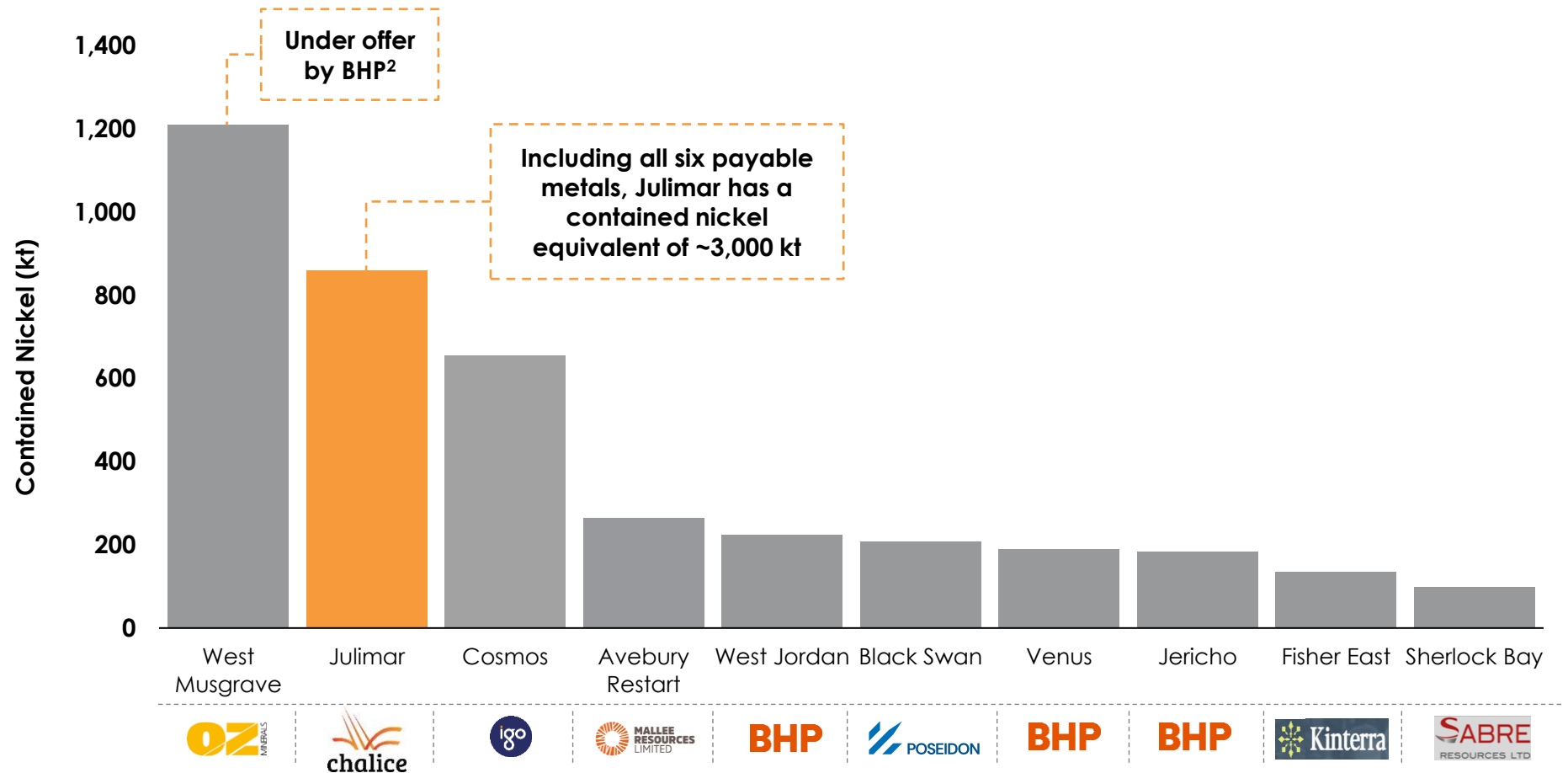
- **120Mt** @ 1.6g/t 3E, 0.20% Ni, 0.18% Cu, 0.017% Co (~**0.9% NiEq** or ~2.7g/t PdEq);
- 5.8Moz 3E, 230kt Ni, 210kt Cu, 20kt Co (~**1.0Mt NiEq** or ~**10Moz PdEq**) contained
- This higher-grade component affords the project **significant optionality in development**
- Evidence of continuation of high-grade sulphide zones **~600m** beyond limit of updated Resource

¹ Refer to full Mineral Resource Statement in Appendix

Julimar now has the **second largest** undeveloped nickel sulphide resource in Australia and has significant PGE-Cu-Co credits



Australian primary nickel sulphide resources in exploration or development ¹



Source: Company filings.

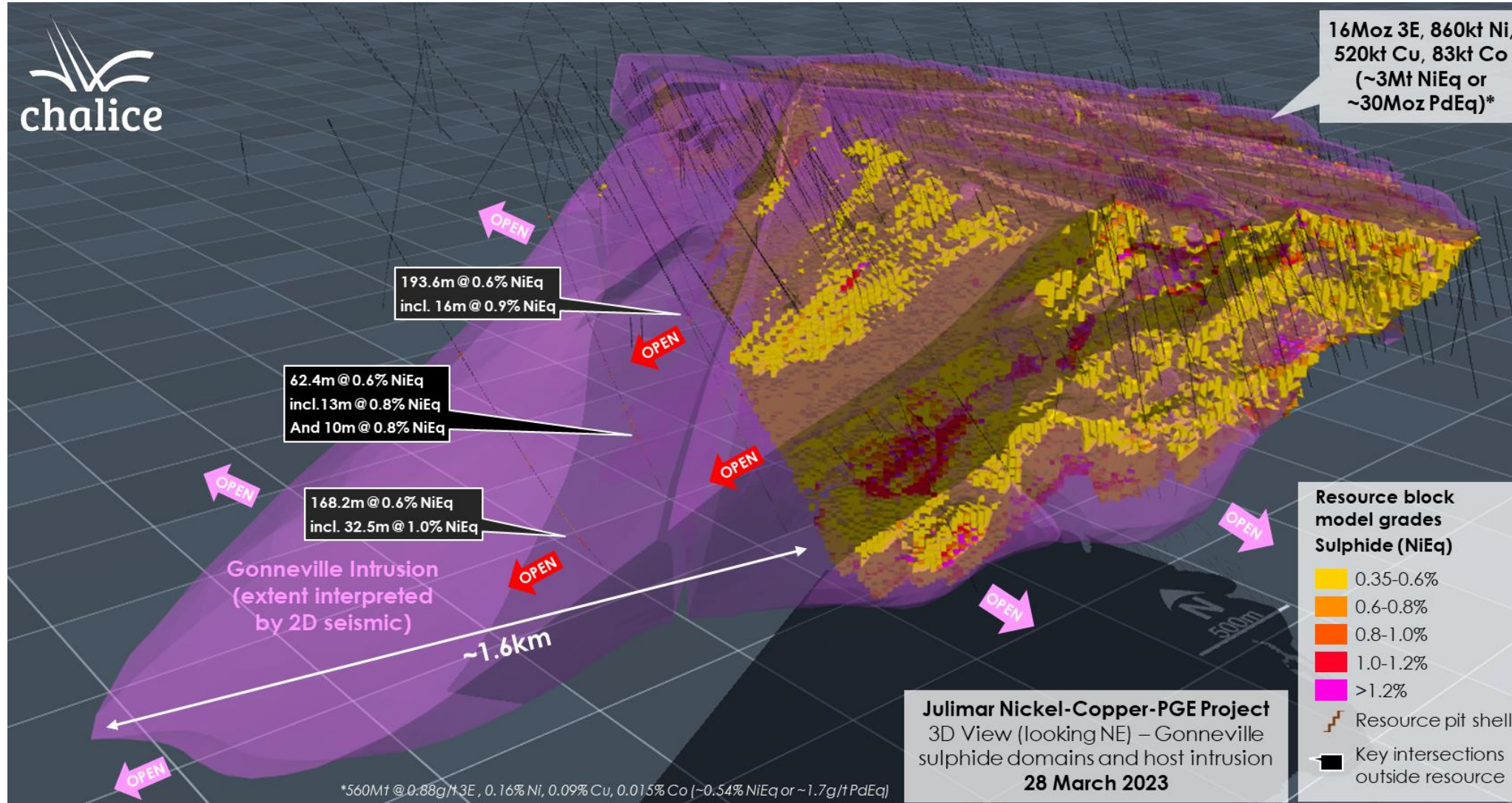
1: Based on total reported JORC Resource (Measured, Indicated, and Inferred). Includes all exploration and development projects with a contained Ni resource of over 99kt. Please refer to Appendix [Australian Primary Nickel Sulphide Resources slide] for peer comparison information; [Gonneville Mineral Resource Estimate slide] and [Metal equivalent assumptions slide] for the assumptions used for the calculation of metal equivalents.

2: As at time of release

The Deposit remains **open down-dip**, with ongoing drilling demonstrating potential for material growth



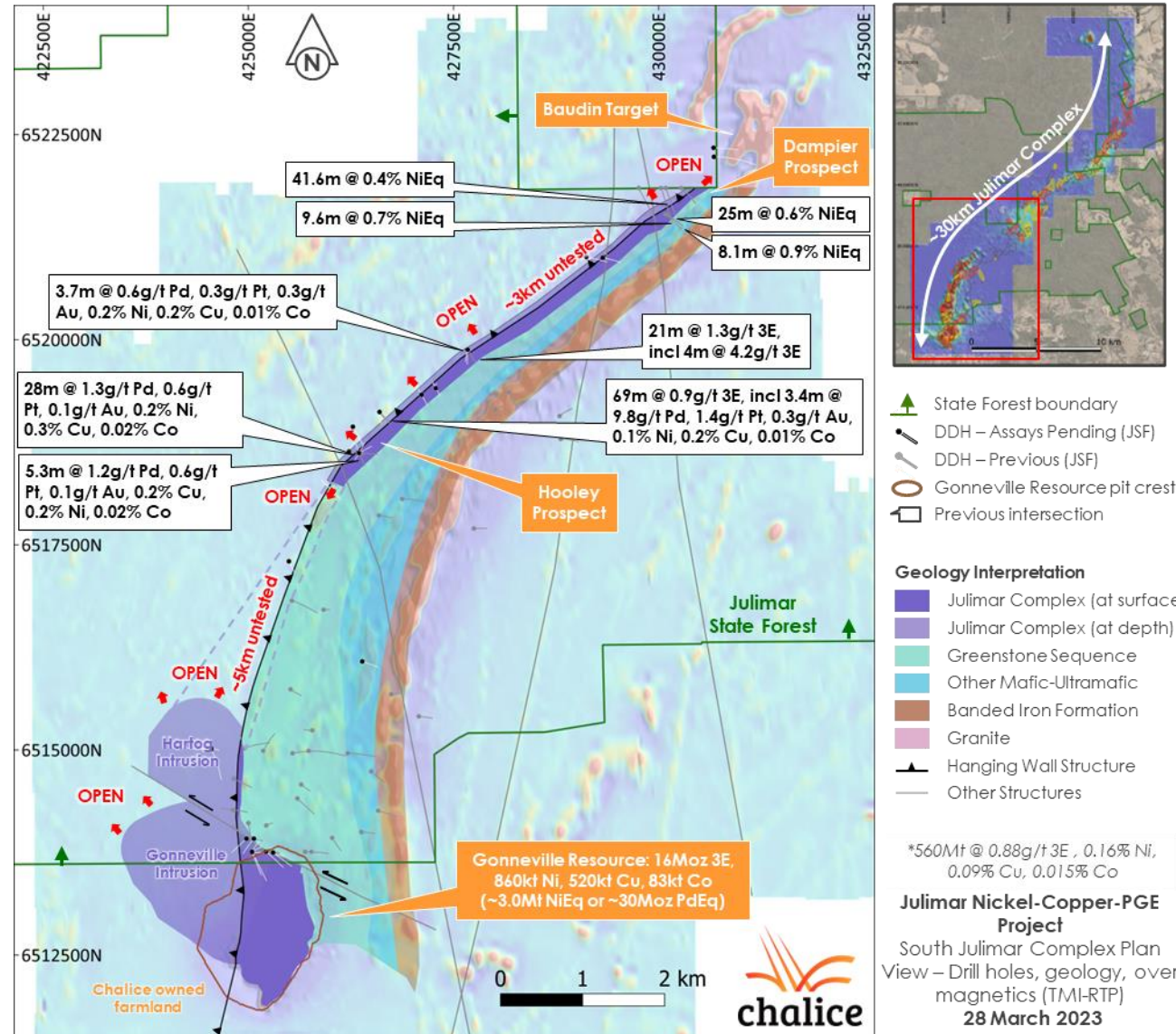
3D view (looking NE) of Gonneville sulphide resource domains and host intrusion



- The **500-600m thick** host Intrusion is interpreted to extend a further **~1.6km down-dip** to the west beyond the Resource
- Disseminated sulphide mineralisation is **consistent within the host intrusion**, with localised higher-grade sulphide zones plunging to the north-west
- **Wide-spaced drilling continues with 2 rigs** to test for high-grade extensions

¹ Refer to full Mineral Resource Statement in Appendix

Gonneville-like ultramafic geology + magmatic sulphides have been intersected over a **strike length of ~10km** across the Julimar Complex

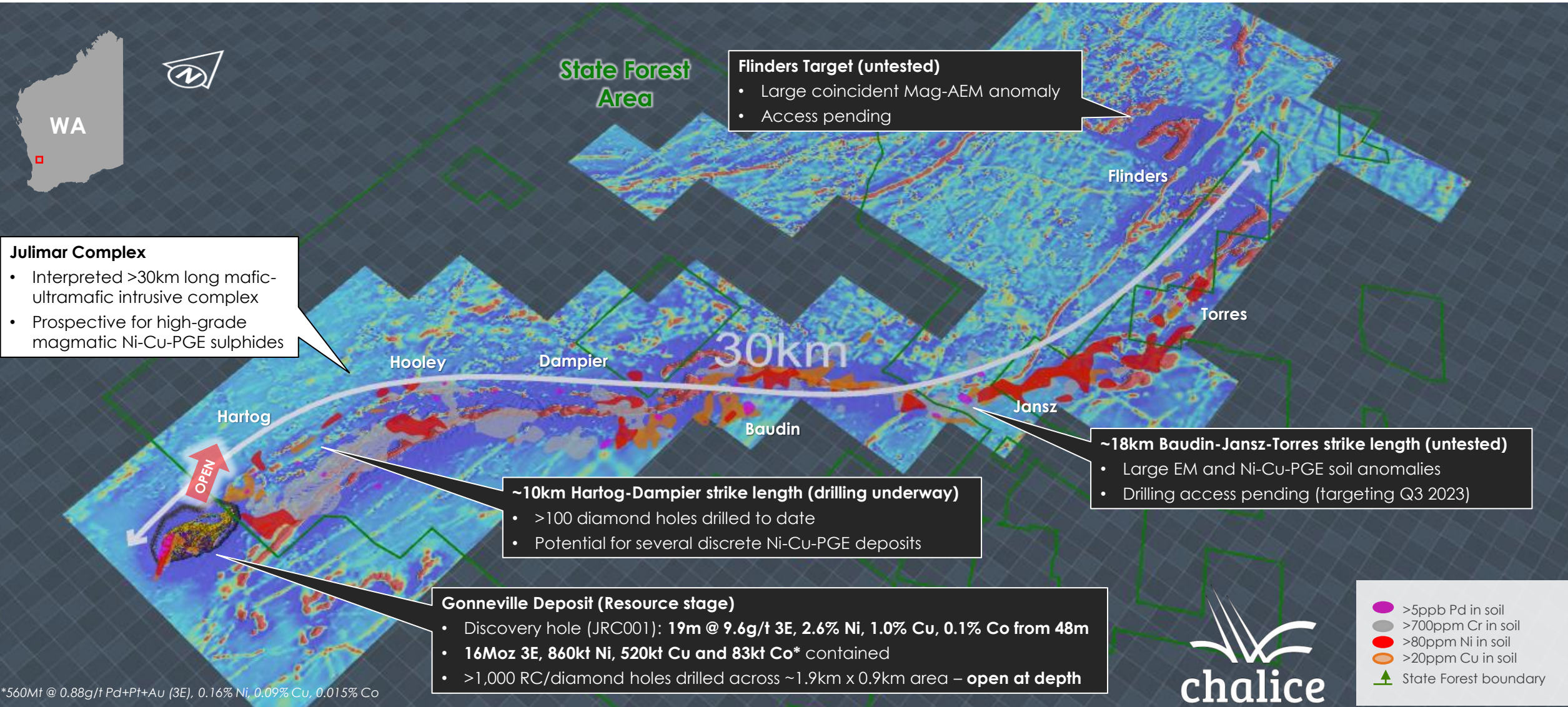


- Drilling **6-10km** further north of Gonneville has intersected a Gonneville-type ultramafic horizon over **~5.5km of strike length**
- All these holes have intersected highly encouraging evidence of **magmatic sulphides** → Julimar is a very extensive mineral system, potentially **capable of delivering multiple discoveries**
- 2D seismic and drilling to date supports interpretation of Julimar having a rare chonolith-like geometry, similar to other major mineral systems like **Norilsk-Talnakh** (Russia) and **Jinchuan** (China)
- Drilling along the Complex continues with **4 rigs**
- Planning underway for next phase of exploration drilling along the Hartog-Dampier trend as well as initial drilling of northern targets
- **Targeted exploration** will continue in parallel to development studies for a potential mine at Gonneville on Chalice-owned farmland

The Resource occupies just ~2km of the **>30km long Julimar Complex** – the upside to the north has the potential to transform the project



3D view (looking NW) of the Julimar Complex, Gonneville Deposit, regional targets, soil geochemistry over magnetics

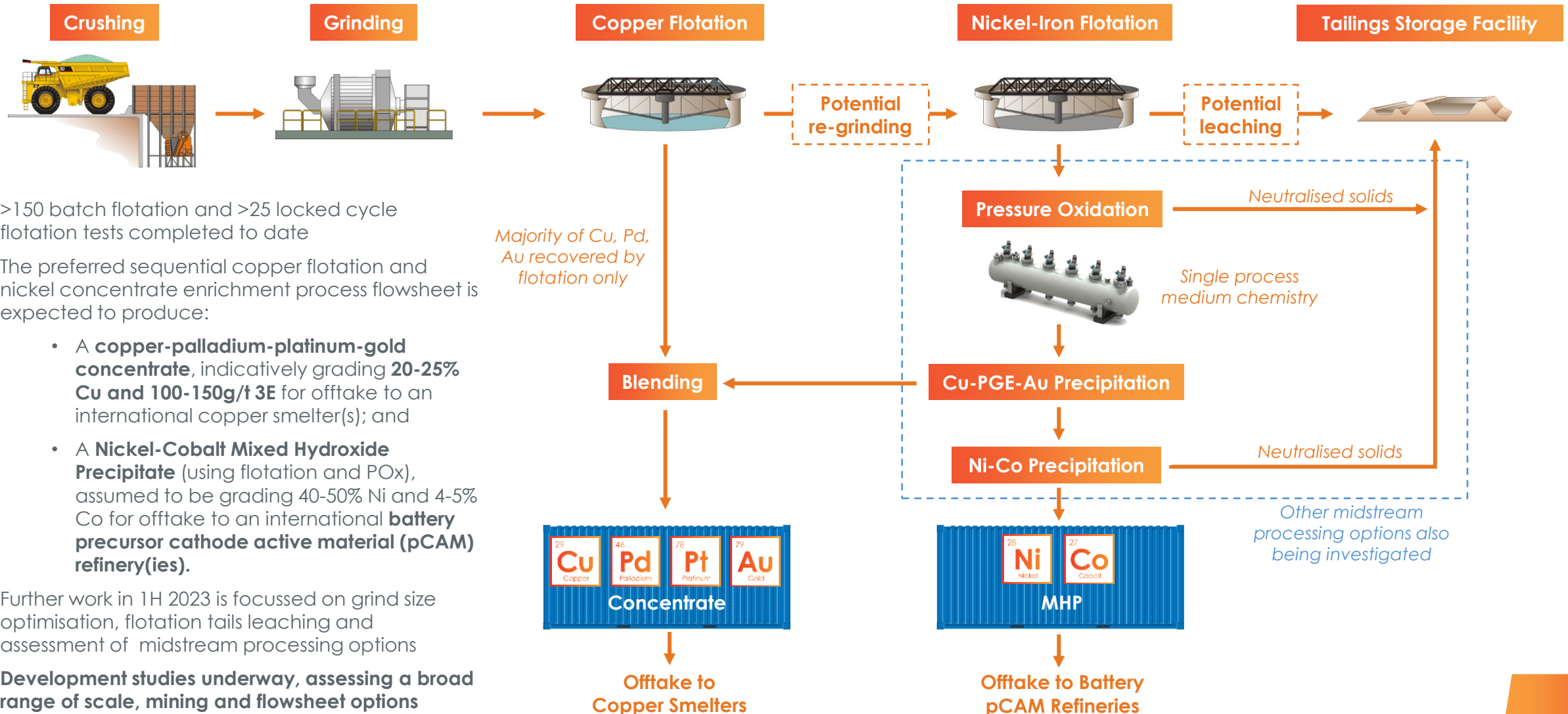


*560Mt @ 0.88g/t Pd+Pt+Au (3E), 0.16% Ni, 0.09% Cu, 0.015% Co

The processing flowsheet is under development, targeting production of a **Cu-PGE-Au concentrate** and a **battery-grade Ni-Co MHP**



Julimar Processing Flowsheet (simplified)



Exploration drilling along the Julimar Complex and strategic partnering on Gonneville represent **significant upcoming milestones**



Chalice continues its **dual strategy at Julimar** – to advance strategic partnering, development studies and regulatory approvals for a potential mine at Gonneville, in parallel with ongoing exploration activities across the full >30km long Julimar Complex strike length...



... in addition, province scale exploration is ramping up across the new West Yilgarn Ni-Cu-PGE Province

¹ Refer to full Mineral Resource Statement in Appendix. Timeline is indicative and subject to exploration and study outcomes

Chalice is committed to **strong environmental stewardship** and has established **trust based relationships** with local communities and Traditional Owners



We have adopted a **Biodiversity goal** for the Julimar Project – to ensure science-based **no net loss of species or habitat diversity** as a result of our operations

Delivering the Biodiversity Strategy A detailed implementation plan is under development targeting:



Connectivity Establish ecological corridors



Restoration to address habitat fragmentation



Regeneration Improve carbon sequestration



Leading practice low-impact exploration

- Strictly governed by a Conservation Management Plan, according to industry best practice
- Track mounted rigs with a small footprint and no mechanised clearing of vegetation
- Flora, fauna and cultural heritage monitoring is conducted prior to each mobilisation to site



Science-based environmental management

- Comprehensive baseline environmental surveys across 6,000ha; covering flora, fauna, and dieback
- Baseline water studies underway; Chalice recognises water is a shared resource



A mine at Julimar could deliver significant **jobs, skills and economic diversification** to the Wheatbelt region of WA



Creating lasting social and economic benefits

- ~\$1.2M local procurement and investment by Chalice, plus ~\$1.5M spend by direct contractors in the local shires surrounding the Julimar Project in FY22
- Chalice has engaged early, actively and transparently to build respectful and collaborative relationships with stakeholders



Building **strong, collaborative relationships** with Whadjuk and Yued Traditional Owners



Actively engaging to protect cultural heritage values

- Whadjuk and Yued have started a program of cultural heritage surveys and monitoring for the Julimar Project
- In 2022 over **60 Traditional Owners** participated in this work

Julimar is capturing attention as a **strategic asset** for Australia and the western world, given its rare palladium-nickel-cobalt content



Julimar is the **first major PGE discovery in Australia** and one of the few recent large-scale Ni-Cu-PGE discoveries in the western world

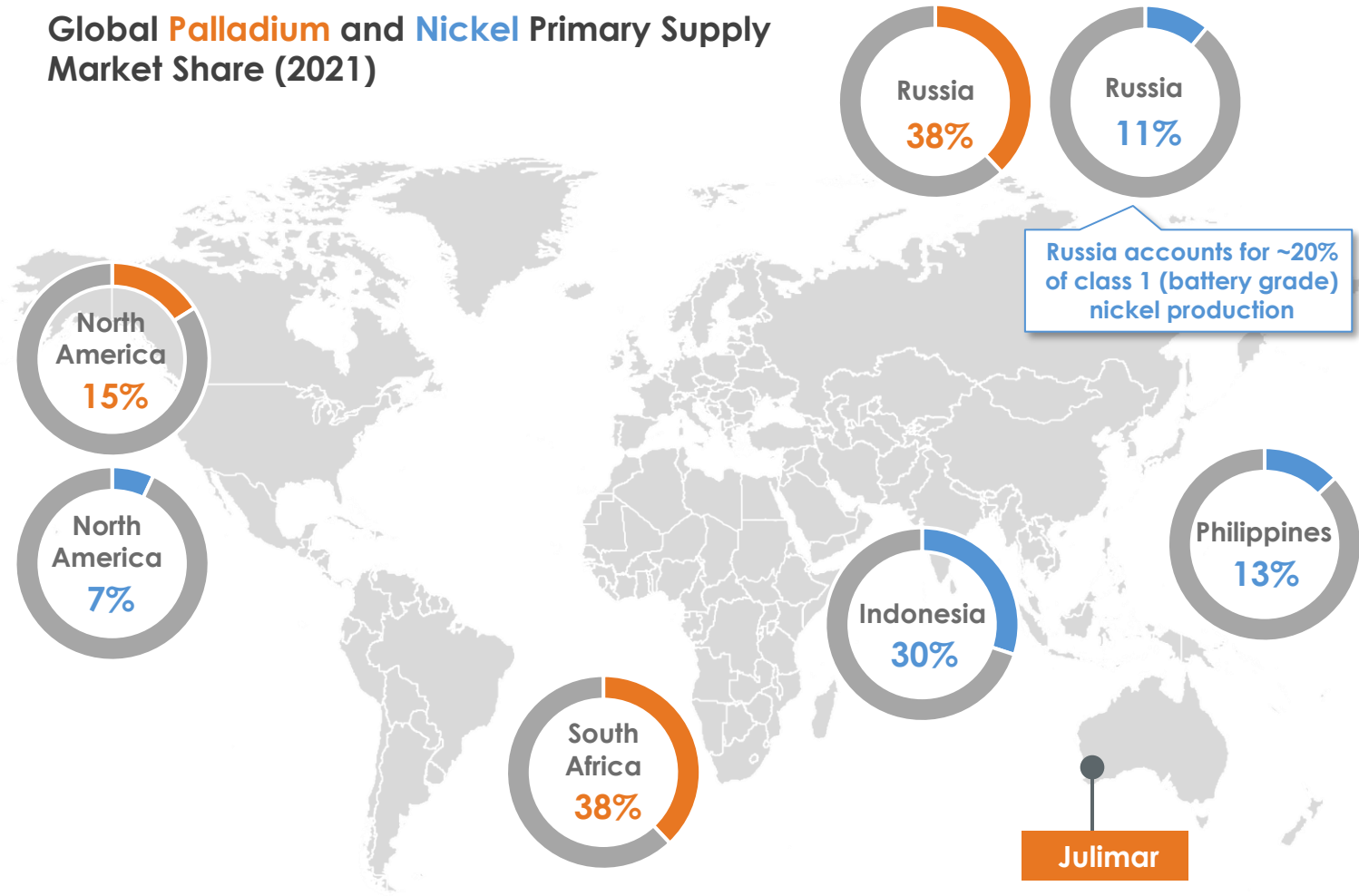
Pd, Pt, Ni and Co are classified as ‘**critical minerals**’ by most western governments

The western world is **extremely reliant** on **Russian Palladium supply** (~40% of global supply)

Located in one of the **world’s most stable and friendly mining jurisdictions** with a commitment to sustainable development

The Australian Government has committed >\$1 billion to **accelerate strategically significant projects** and **strengthen** internal critical mineral **security and supply chains**⁽¹⁾

Strategic partner interest⁽²⁾ in **Julimar’s large nickel sulphide endowment** has increased significantly, triggered by the US Inflation Reduction Act (IRA)



Source: 'Provision of PGM market intelligence and long-term metal price forecasts' SFA Oxford, March 2021

'Distribution of mine production of nickel worldwide in 2020*, by country', Statista, February 2022

(1) '2022 Critical Minerals Strategy' Department of Industry, Science, Energy and Resources, Australian Government, March 2022. (2) Discussions with potential partners are preliminary in nature.

The need to decarbonise the global economy will underpin long-term demand for the **green metals** at Julimar



Hydrogen



Electric Vehicles



Hybrid Vehicles



Energy Storage



Semi-conductors



Wind & Solar PV



Nickel and Cobalt

- Key industrial and electrification metals with unique chemical properties
- ~3Mt p.a. Ni market, supply dominated by carbon intensive, high environmental impact laterite sources, significant deficit forecast
- ~0.2Mt p.a. Co market, supply dominated by Democratic Republic of Congo with humanitarian challenges



Copper

- Key industrial and electrification metal with high conductivity
- ~26Mt p.a. market, with severe lack of recent large-scale discoveries resulting in a significant deficit forecast



Platinum and Palladium

- Extremely rare (precious) metals with highly versatile catalytic properties, used in emissions reduction technologies such as catalytic converters and in hydrogen electrolyzers and fuel cells
- ~11Moz p.a. Pd market in prolonged deficit, supply dominated by Russia
- ~7Moz p.a. Pt market, supply dominated by South Africa



The growing battery industry needs new, large scale and sustainable sources of battery-grade nickel – **a unique opportunity for Julimar**



Battery-grade nickel consumers forecast to become heavily reliant on supply sources that **do not meet sustainability standards**, i.e. NPI



With **860kt of contained nickel** defined to date, Julimar has the potential to become a globally significant source of class 1 nickel, which has a much lower carbon footprint than other sources

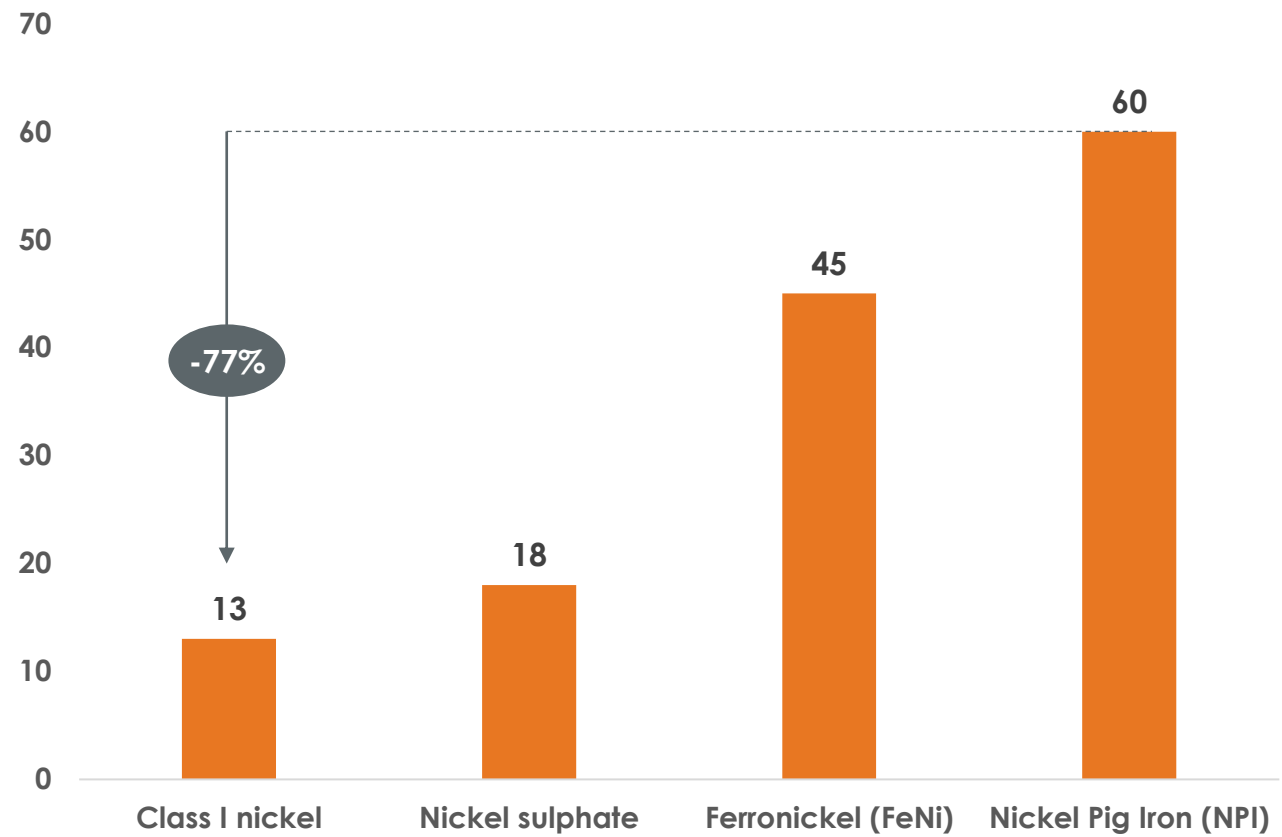


Julimar's proximity to WA's **world class power grid and infrastructure** make it uniquely positioned to deliver low carbon intensity metals



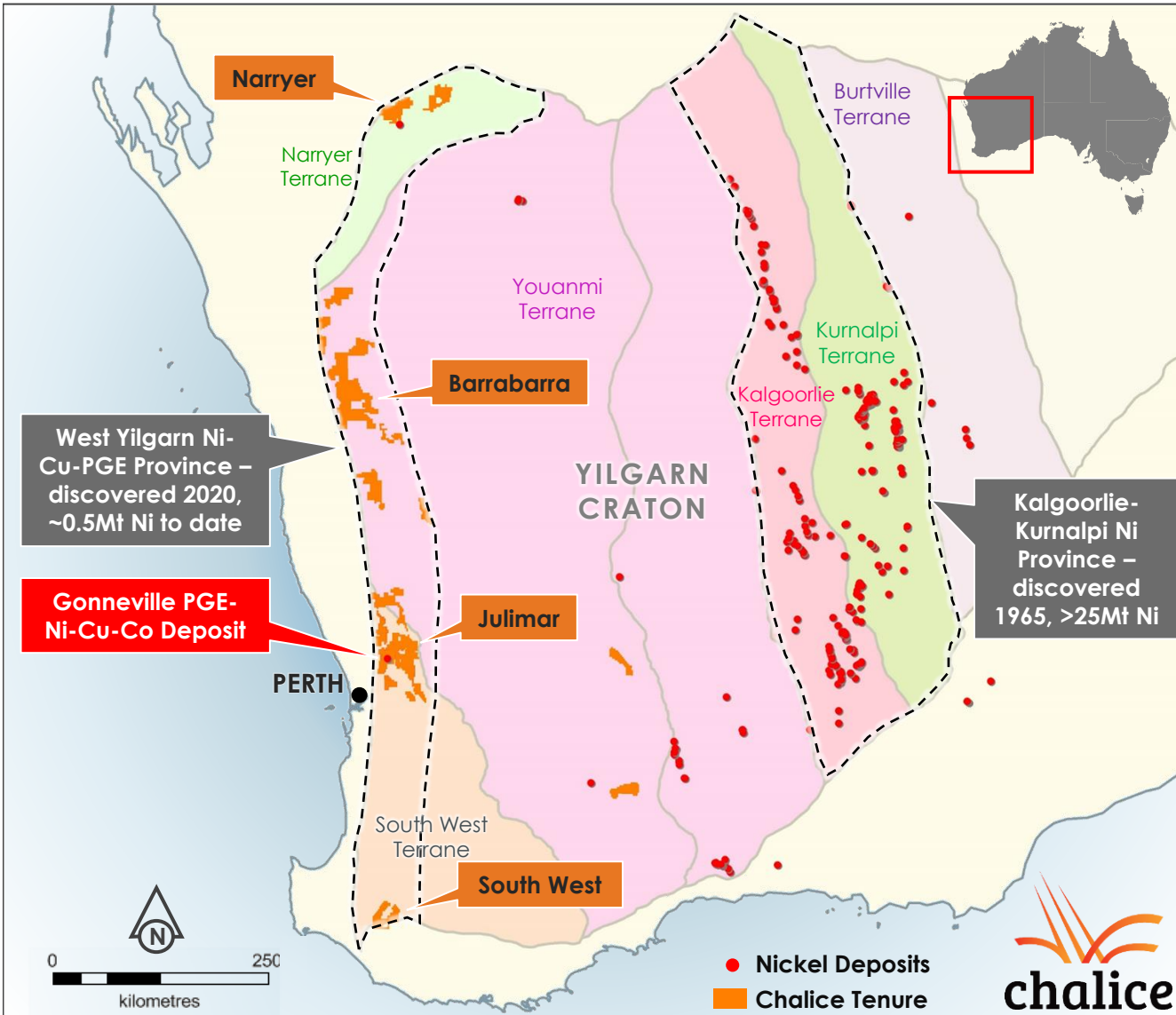
Class 1 nickel sources are likely to **demand a premium**, driven by the need to comply with emissions targets and to satisfy increasing sensitivity to sustainability standards

Estimated average carbon intensity of nickel sources (kgCO₂ eq. per kg Ni)



Source: Nickel Institute, Goldman Sachs Global Investment Research via 'Nickel's class divide', April 2022.

The Julimar discovery has kick-started the new West Yilgarn Ni-Cu-PGE Province, which could deliver **more major critical mineral discoveries**

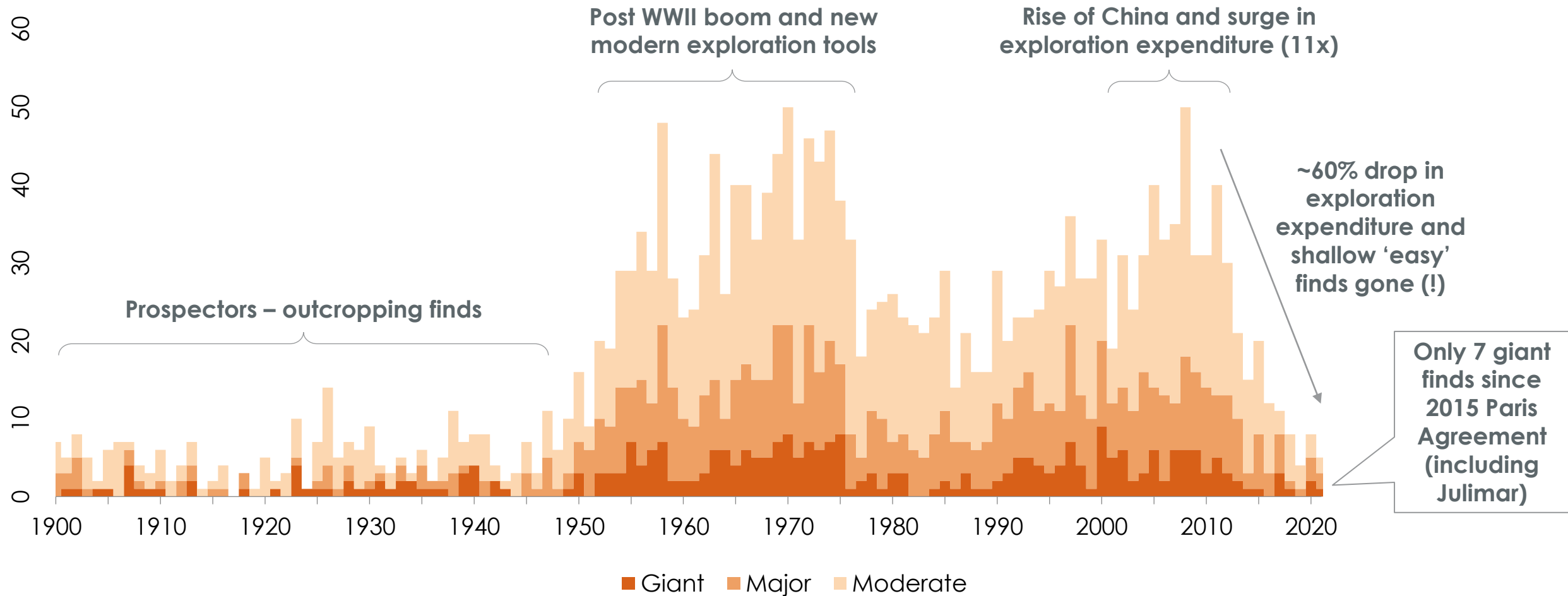


- Many of the **'giant' ortho-magmatic nickel-copper-PGE sulphide** deposits such as Norilsk, Jinchuan, Thompson and Voisey's Bay are located proximal to the margin of cratons
 - In WA, the Archaean age eastern Yilgarn craton hosts several world-class nickel sulphide deposits with over **25Mt of Ni** discovered since 1965
 - ~1,200km long western margin of the Yilgarn presents a **similar geological setting, but is almost entirely unexplored**
 - Chalice made the first major ortho-magmatic Ni-Cu-PGE discovery in the region (Julimar), subsequently staking **>8,000km²**
 - Chalice has **'first mover' advantage** in this exciting new province – strong potential to deliver more major Ni-Cu-PGE discoveries
-
- **Hundreds of potential host intrusions** already identified in our area – **AI assisted screening and prioritisation underway**
 - Rapid, low-cost exploration approach being used – EM, soil/auger sampling and shallow reconnaissance drilling
 - Potential for **highly variable** mineralisation styles (Ni:Cu:PGE metal ratios) across the province
 - **The prize is significant – i.e. Julimar discovery zone massive sulphides grading c. 3.2% Ni, 1.2% Cu, 10g/t 3E**

The fate of decarbonisation rests on the explorers who must find the green metals – **the big discoveries are very rare**



Number of base metal (Ni, Cu, Zn, Pb) discoveries in the World by size – 1900-2021



Source: MinEx Consulting © February 2023
Note: "Moderate" >10kt Ni, >100kt Cu, >300kt Zn+Pb; "Major" >100kt Ni, >1Mt Cu, >3Mt Zn+Pb; "Giant" >1Mt Ni, >5Mt Cu, >12Mt Zn+Pb.
Excludes unreported discoveries in recent years



Highlights



World class, tier-1 scale green metals project in Western Australia – unique exposure to critical metals required for decarbonisation



A team with a **track record of discovery and shareholder value creation**



Significant exploration upside at Julimar and in the exciting new West Yilgarn Ni-Cu-PGE Province



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Appendix

Chalice is actively growing its organisational capability



Board of Directors



Derek La Ferla, Chairman

- Highly regarded ASX200 chair and company director with 30+ years experience as a corporate lawyer
- Chair of Poseidon Nickel and formerly Chair of Sandfire Resources



Alex Dorsch, Managing Director and Chief Executive Officer

- Diverse experience in consulting, engineering and corporate advisory in the energy and resources sectors
- Previously a Specialist consultant with McKinsey & Company



Morgan Ball, Non-Exec Director

- Chartered Accountant with 25+ years experience in the resources, logistics and finance industries
- Formerly CFO of Northern Star Resources and Saracen Mineral Holdings



Garret Dixon, Non-Exec Director

- 30+ years experience in resources and mining contracting sectors
- Formerly Executive VP Alcoa & President Bauxite



Stephen McIntosh, Non-Exec Director

- Highly regarded mining executive with 30+ years experience in exploration, major project studies and execution
- Formerly Group Executive and Head of Exploration & Development Projects at Rio Tinto



Linda Kenyon, Non-Exec Director

- Corporate lawyer and senior executive with 30+ years experience
- Formerly Company Secretary and member of Executive Leadership Team at Wesfarmers



Jo Gaines, Non-Exec Director

- Extensive experience in intergovernmental negotiations and stakeholder engagement
- Chair of the Government Employees Superannuation Board (GESB) and a Director of Development WA

Management



Richard Hacker, GM Strategy and Commercial

- Chartered Accountant with 20+ years experience in junior company financing, corporate and commercial management
- Previously Company CFO since 2006



Dr Kevin Frost, GM Discovery and Growth

- Co-recipient of PDAC 2023 Thayer Lindsley Award and AMEC's 2022 Prospector of the Year Award for the Julimar discovery, and previously in 2009 for the discovery of the Spotted Quoll nickel sulphide deposit in WA (Western Areas)



Bruce Kendall, GM Exploration

- Co-recipient of AMEC's Prospector of the Year Award in 2012 for the discovery of the world-class Tropicana gold deposit in WA (AngloGold Ashanti)



Dr Soolim Carney, GM Environment and Community

- Environment, health and safety, indigenous affairs, govt relations and community specialist with 20+ years experience
- Former Regional Environment Manager for Alcoa Australia



Mike Nelson, GM Project Development

- 30+ years experience in operational and technical leadership roles
- Instrumental in leading several mega-projects for mining internationals including Barrick Gold and Teck Resources



Chris MacKinnon, CFO

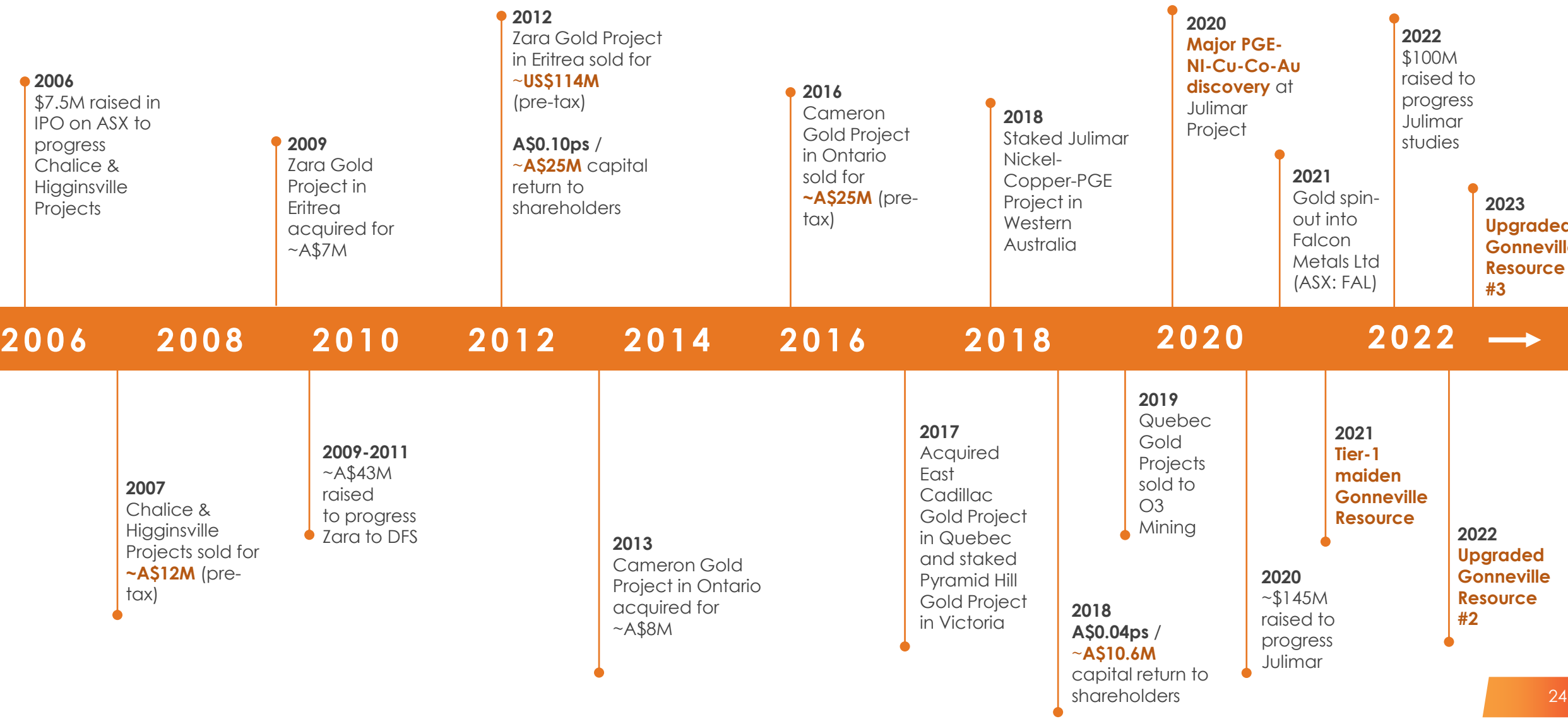
- Qualified accountant and lawyer with 15+ years experience of professional and corporate experience in the energy and resources industry



Jamie Armes, Company Secretary

- Chartered Accountant with 20+ years experience within the accounting profession and administration of public listed companies in the mining and exploration industry

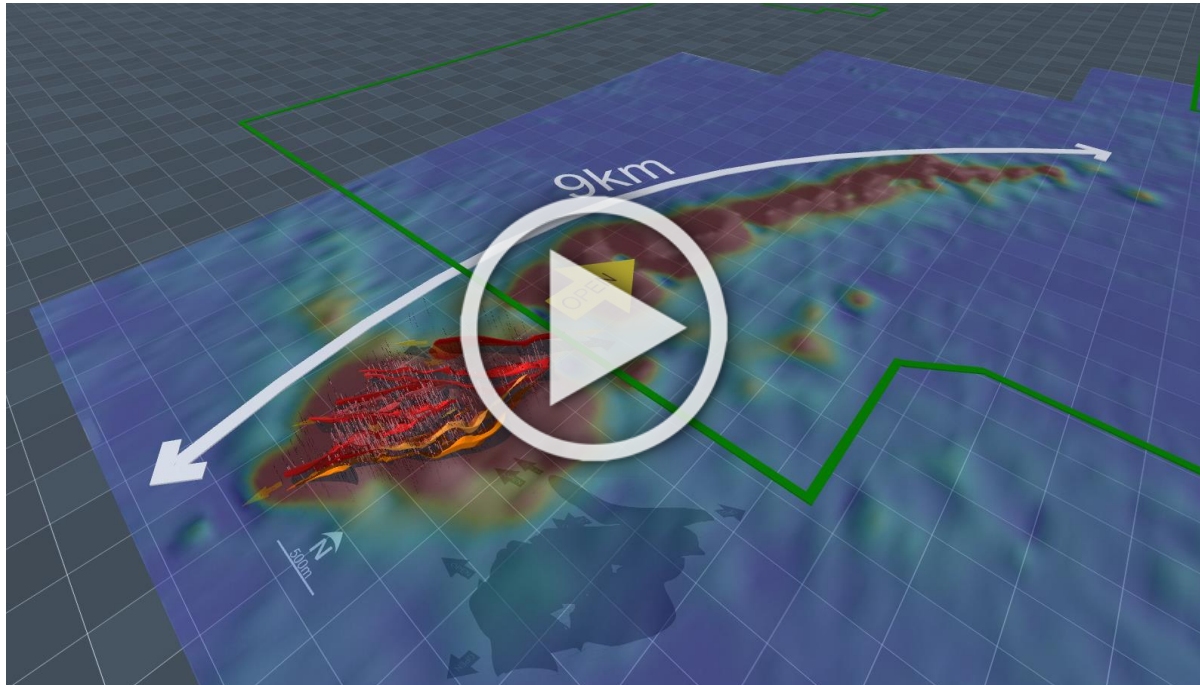
Since our 2006 IPO, we have acquired quality assets, advanced projects quickly and generated **exceptional returns**



Interactive 3D Model & Video: Take a tour of our globally significant Julimar Ni-Cu-PGE Project in Western Australia



Click here to explore Julimar in 3D:
<https://inventum3d.com/c/chalicemining>



Click here to watch the Julimar Project Video:
<https://youtu.be/zaparMvbb4g>

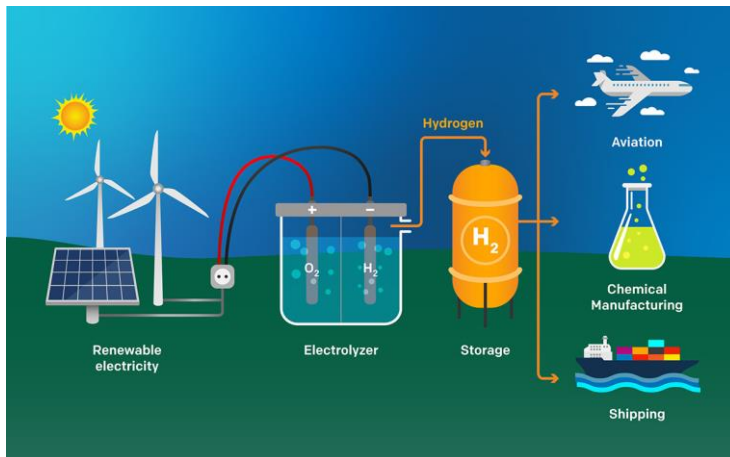


Platinum and Palladium are essential in every stage of the hydrogen value chain, a critical solution to **achieving net-zero carbon emissions**



Production

Green hydrogen produced by electrolysis of water using renewable energy (wind, solar, hydro)



PGEs are essential catalysts in the Proton Exchange Membrane (PEM) Electrolyser

Transport and Storage

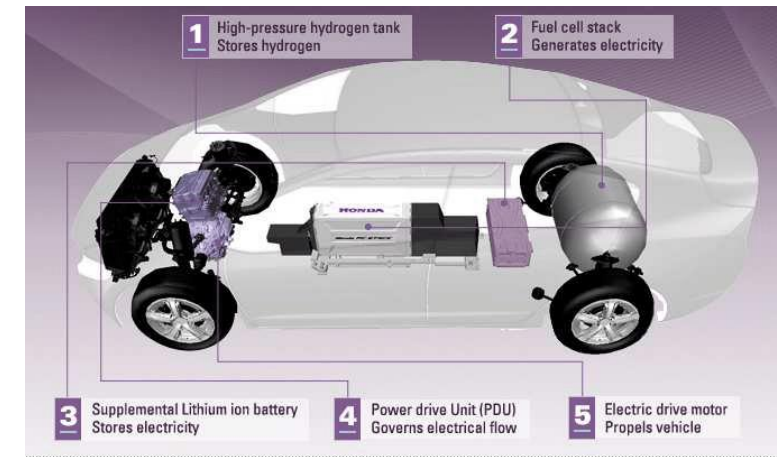
Long-term storage and transport of green hydrogen likely to be achieved using liquified ammonia (NH₃) as carrier



Pd is an essential catalyst in hydrogen-ammonia conversion and purification

Utilisation

Green hydrogen ideal for use in green steel and Fuel Cell Electric Vehicles (FCEVs), likely to be the dominant technology for heavy transport such as trucks, trains and ships



PGEs are essential catalysts in most hydrogen fuel cell designs

The rapidly growing and increasingly adopted hydrogen economy has the potential to **underpin long term PGE demand**



Current **primary supply of Pt and Pd is ~16Moz p.a.** Pd is in prolonged deficit while Pt in surplus



Our view is that with **conservative hydrogen adoption**, demand for Pt and Pd from hydrogen could be as high as **~8Moz p.a.⁽¹⁾**



A modest hydrogen adoption scenario includes **~10% share** of light vehicle market, **~40% share** of heavy vehicle market, and **50-70GW** of electrolyser capacity by 2040

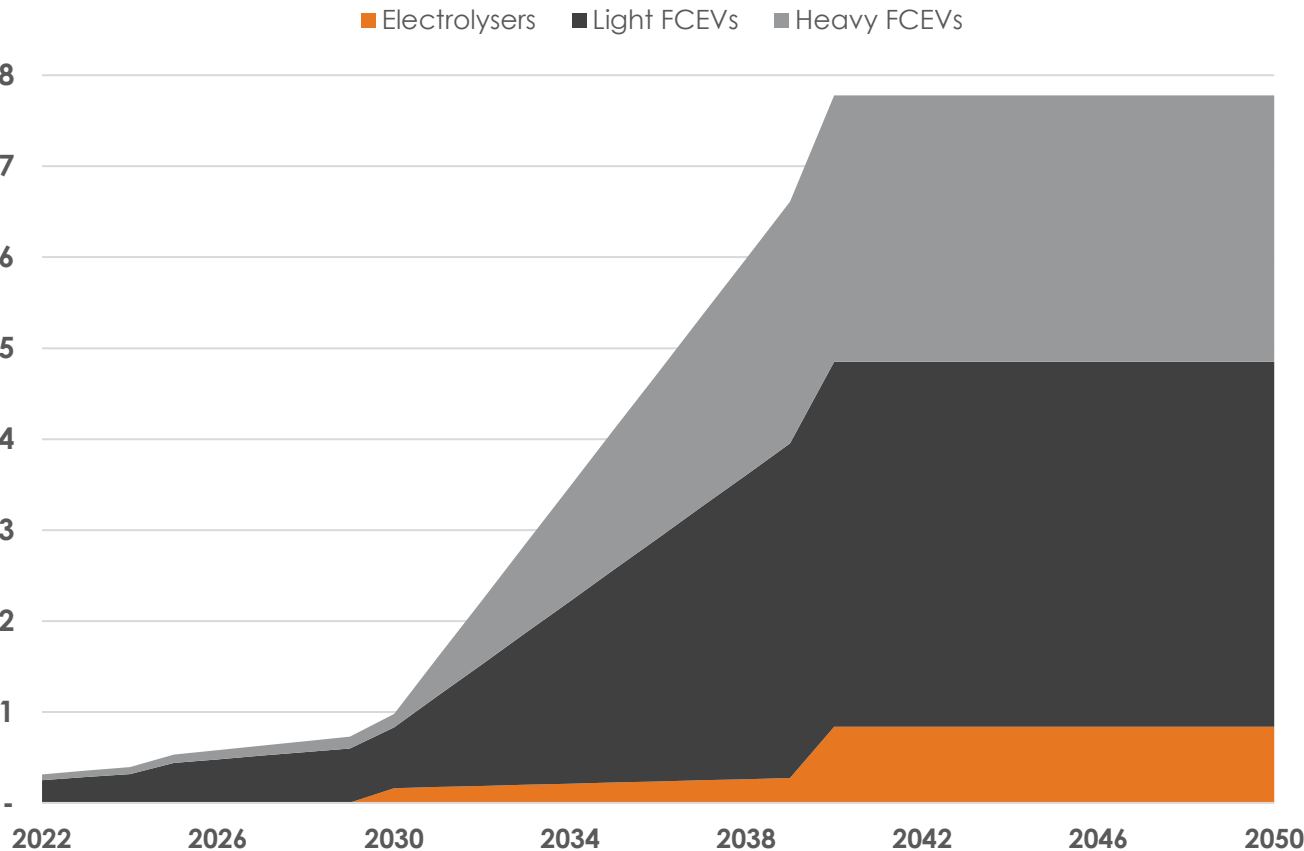


Projections do not include PGE usage from hydrogen applications in **shipping, aviation, industrial or steel manufacturing**



European Union forecasts a **970x increase in PGM demand from hydrogen by 2050⁽²⁾**

Estimated Annual Pt and Pd Demand from Hydrogen (Moz)



(1) **Cautionary statement:** The forward-looking statements have been estimated by Chalice using assumptions that have been informed by third party research. These statements are based on an assessment of economic and operating conditions and on various assumptions regarding future events and actions that, as at the date of this presentation, are considered reasonable by Chalice. Refer to “Long Term PGE Demand Forecast” slide in Appendix for additional information regarding the underlying assumptions and calculation methodology, and Slide 2 for a statement regarding the risks involved in forward-looking statements of this nature. Without limiting these risks, such forward-looking statements are predictive in character, may be affected by incorrect assumptions or by known or unknown risks and uncertainties, and may differ materially in due course. Investors are therefore cautioned against attributing undue certainty to forward-looking statements, including those outlined above. (2) European Union's Critical Raw Materials Act, Mar 2023.

Long term PGE demand forecast: supporting assumptions & calculations



The long term PGE demand impact from the Hydrogen economy have been generated by Company analysis using assumptions and forecasts that have been informed by recent third party research. The assumptions used below relate to the year 2040. Note: There is the potential risk that these projections will not be achieved should the adoption of a hydrogen economy be less than expected or if major technological developments reduce the PGE loadings required for electrolyzers and fuel cells.

Key Model Inputs (2040)

Technology	Input	Unit	Assumption	PGE Demand Calculation
PEM electrolyser	Capacity	GW	70	$70 \times 75\% \times 0.5 / 31.1^{(1)} = \sim 0.8\text{Moz}$
	Market share	%	75	
	PGE loading	g/kW	0.5	
Light Vehicles	Light vehicle market	million per annum	100	$100 \times 12\% \times 80 \times 0.13 / 31.1^{(1)} = \sim 4.0\text{ Moz}$
	Light FCEV market share	%	12	
	Light vehicle rating	kW	80	
	PGE loading	g/kW	0.13	
Heavy Vehicles	Heavy vehicle market	million per annum	7	$7 \times 40\% \times 250 \times 0.13 / 31.1^{(1)} = \sim 2.9\text{ Moz}$
	Heavy FCEV market share	%	40	
	Heavy vehicle rating	kW	250	
	PGE loading	g/kW	0.13	

Source: 'Provision of PGM market intelligence and long-term metal price forecasts', SFA Oxford, April 2020 & 2021

'Strategy Update', AngloAmerican Platinum, 22 February 2021

'Australian and Global Hydrogen Demand Growth Scenario Analysis', Deloitte & COAG Energy Council, November 2019

'Fuelling the Future of Mobility' Deloitte & Ballard, 2020

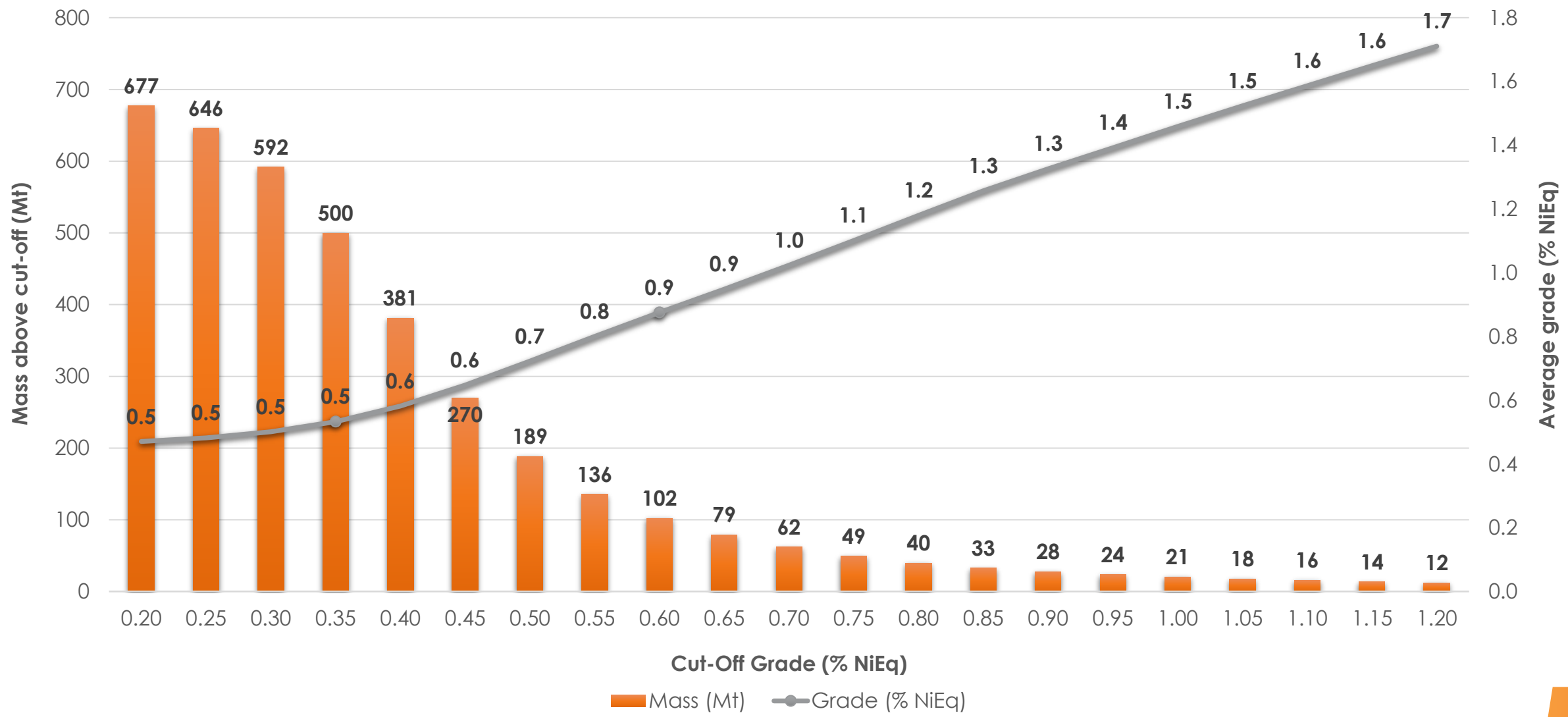
'Committed to producing green metals', Green Metals & Hydrogen Conference, Sibanye Stillwater, 26 Nov 2021

(1) Calculations use a grams to ounce conversion ratio of 31.1.

Flat grade-tonnage curve highlights the significant higher-grade component – providing the project with **development optionality**



Gonneville Nickel Equivalent Grade-Tonnage Curve in-pit (on NiEq cut-off grade basis)



Gonneville Mineral Resource Estimate (JORC Code 2012), 28 March 2023



Domain	Cut-off Grade	Category	Mass	Grade								Contained Metal							
			(Mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)	Co (%)	NiEq (%)	PdEq (g/t)	Pd (Moz)	Pt (Moz)	Au (Moz)	Ni (kt)	Cu (kt)	Co (kt)	NiEq (kt)	PdEq (Moz)
Oxide	0.9g/t Pd	Measured	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Indicated	7.3	1.9	-	0.06	-	-	-	-	2.0	0.45	-	0.01	-	-	-	-	0.47
		Inferred	0.2	1.9	-	0.07	-	-	-	-	2.0	0.01	-	0.00	-	-	-	-	0.02
		Subtotal	7.5	1.9	-	0.06	-	-	-	-	2.0	0.47	-	0.01	-	-	-	-	0.49
Sulphide (Transitional)	0.35% NiEq	Measured	0.38	0.82	0.17	0.03	0.19	0.17	0.020	0.70	2.2	0.01	-	-	0.72	0.63	0.07	2.7	0.03
		Indicated	14	0.66	0.15	0.03	0.16	0.10	0.018	0.54	1.7	0.30	0.07	0.01	22	14	2.5	77	0.77
		Inferred	0.27	0.60	0.16	0.03	0.15	0.12	0.015	0.54	1.7	0.01	-	-	0.42	0.32	0.04	1.5	0.01
		Subtotal	15	0.66	0.15	0.03	0.16	0.10	0.018	0.55	1.7	0.31	0.07	0.01	23	15	2.6	81	0.81
Sulphide (Fresh)	0.35% NiEq	Measured	2.3	1.1	0.26	0.03	0.24	0.18	0.019	0.87	2.7	0.08	0.02	-	5.4	4.2	0.43	20	0.20
		Indicated	280	0.67	0.15	0.03	0.16	0.09	0.015	0.53	1.7	6.0	1.3	0.23	440	260	43	1500	15
		Inferred	200	0.67	0.15	0.03	0.15	0.09	0.015	0.53	1.6	4.4	0.96	0.16	310	180	29	1100	11
		Subtotal	480	0.67	0.15	0.03	0.16	0.09	0.015	0.53	1.7	10	2.3	0.39	750	440	72	2600	26
Underground	0.40% NiEq	Measured	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Indicated	1.7	0.75	0.21	0.06	0.14	0.08	0.013	0.55	1.7	0.04	0.01	-	2.4	1.4	0.23	9.5	0.10
		Inferred	52	0.78	0.17	0.03	0.16	0.11	0.015	0.59	1.8	1.3	0.28	0.05	83	56	7.7	310	3.1
		Subtotal	54	0.78	0.17	0.03	0.16	0.11	0.015	0.59	1.8	1.3	0.29	0.06	86	57	7.9	320	3.2
All		Measured	2.7	1.1	0.24	0.03	0.23	0.18	0.019	0.85	2.6	0.09	0.02	-	6.2	4.9	0.51	23	0.23
		Indicated	300	0.70	0.15	0.03	0.16	0.09	0.015	0.54	1.7	6.8	1.4	0.26	460	280	45	1600	16
		Inferred	250	0.70	0.15	0.03	0.15	0.09	0.015	0.54	1.7	5.7	1.2	0.22	390	230	37	1400	14
		Total	560	0.70	0.15	0.03	0.16	0.09	0.015	0.54	1.7	13	2.7	0.48	860	520	83	3000	30

Note some numerical differences may occur due to rounding to 2 significant figures.

PdEq oxide (Palladium Equivalent g/t) = Pd (g/t) + 1.27x Au (g/t)

NiEq sulphide (Nickel Equivalent %) = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)

PdEq sulphide (Palladium Equivalent g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17 x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)

Underground resources are outside the pit above a 0.40% NiEq cut off grade based on sub-level caving mining method

Includes drill holes drilled up to and including 11 December 2022.

Higher-grade sulphide component of Gonneville Resource (in pit and underground), 28 March 2023



Domain	Cut-off Grade	Category	Mass	Grade								Contained Metal							
			(Mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)	Co (%)	NiEq (%)	PdEq (g/t)	Pd (Moz)	Pt (Moz)	Au (Moz)	Ni (kt)	Cu (kt)	Co (kt)	NiEq (kt)	PdEq (Moz)
High-grade Sulphide (Transitional)	0.6% NiEq	Measured	0.17	1.2	0.24	0.05	0.24	0.25	0.023	0.97	3.0	0.01	-	-	0.41	0.43	0.04	1.7	0.02
		Indicated	3.4	1.1	0.21	0.04	0.20	0.16	0.020	0.79	2.5	0.12	0.02	-	6.6	5.3	0.69	27	0.27
		Inferred	0.07	0.84	0.18	0.03	0.22	0.26	0.019	0.81	2.5	-	-	-	0.16	0.18	0.01	0.57	0.01
		Subtotal	3.6	1.1	0.21	0.04	0.20	0.16	0.021	0.80	2.5	0.12	0.02	-	7.2	5.9	0.74	29	0.29
High-grade Sulphide (Fresh)	0.6% NiEq	Measured	0.88	2.2	0.47	0.05	0.39	0.35	0.027	1.6	4.9	0.06	0.01	-	3.4	3.1	0.24	14	0.14
		Indicated	58	1.2	0.26	0.06	0.20	0.18	0.018	0.87	2.7	2.3	0.48	0.11	120	100	10	500	5.1
		Inferred	40	1.3	0.26	0.06	0.19	0.18	0.017	0.87	2.7	1.6	0.33	0.08	75	73	6.6	340	3.5
		Subtotal	98	1.2	0.26	0.06	0.20	0.18	0.017	0.88	2.7	3.9	0.82	0.19	200	180	17	860	8.7
Underground	>0.6% NiEq	Measured	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Indicated	0.4	1.2	0.36	0.12	0.14	0.11	0.014	0.78	2.5	0.02	-	-	0.61	0.46	0.06	3.3	0.03
		Inferred	13	1.4	0.27	0.06	0.20	0.20	0.017	0.93	2.9	0.58	0.12	0.03	26	26	2.2	120	1.2
		Subtotal	14	1.4	0.28	0.06	0.20	0.19	0.017	0.93	2.9	0.60	0.12	0.03	27	26	2.3	130	1.3
All		Measured	1.1	2.0	0.43	0.05	0.37	0.33	0.026	1.5	4.6	0.07	0.01	-	3.8	3.5	0.28	15	0.15
		Indicated	62	1.2	0.25	0.06	0.20	0.18	0.018	0.87	2.7	2.4	0.50	0.11	130	110	11	530	5.4
		Inferred	53	1.3	0.26	0.06	0.19	0.19	0.017	0.89	2.8	2.2	0.45	0.11	100	99	8.8	470	4.7
		Total	120	1.3	0.26	0.06	0.20	0.18	0.017	0.88	2.7	4.7	0.97	0.22	230	210	20	1000	10

Note some numerical differences may occur due to rounding to 2 significant figures.

This higher-grade component is contained within the reported global Mineral Resource.

PdEq oxide (Palladium Equivalent g/t) = Pd (g/t) + 1.27x Au (g/t)

NiEq sulphide (Nickel Equivalent %) = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)

PdEq sulphide (Palladium Equivalent g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17 x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)

Underground resources are outside the pit above a 0.40% NiEq cut off grade based on sub-level caving mining method

Includes drill holes drilled up to and including 11 December 2022.

Metal equivalent assumptions of Gonneville Resource, 28 March 2023



Based on metallurgical testwork completed to date for the sulphide domain, it is the Company's opinion that all the quoted elements included in metal equivalent calculations (palladium, platinum, gold, nickel, copper and cobalt) have a reasonable potential of being recovered and sold.

Only limited samples have been collected from the transitional zone due to its relatively small volume. Therefore, the metallurgical recovery of all metals in this domain are unknown. However, given the relatively small proportion of the transition zone in the Mineral Resource, the impact on the metal equivalent calculation is not considered to be material.

Metal equivalents for the transitional and sulphide domains are calculated according to the formula below:

- $\text{NiEq\%} = \text{Ni (\%)} + 0.32 \times \text{Pd (g/t)} + 0.21 \times \text{Pt (g/t)} + 0.38 \times \text{Au (g/t)} + 0.83 \times \text{Cu (\%)} + 3.00 \times \text{Co (\%)};$
- $\text{PdEq (g/t)} = \text{Pd (g/t)} + 0.67 \times \text{Pt (g/t)} + 1.17 \times \text{Au (g/t)} + 3.11 \times \text{Ni (\%)} + 2.57 \times \text{Cu (\%)} + 9.33 \times \text{Co (\%)}$

Metal recoveries used in the metal equivalent calculations are based on rounded average Resource grades for the sulphide domain (>0.35% NiEq cut-off):

- Pd – 60%, Pt – 60%, Au – 70%, Ni – 45%, Cu – 85%, Co – 45%.

Metal prices used are consistent with those used in the Whittle pit optimisation (based on long term consensus analyst estimates):

- US\$1,800/oz Pd, US\$1,200/oz Pt, US\$1,800/oz Au, US\$24,000/t Ni, US\$10,500/t Cu and US\$72,000/t Co.

Initial metallurgical testwork indicates that only palladium and gold are likely to be recovered in the oxide domain, therefore no NiEq grade has been quoted for the oxide. The PdEq grade for the oxide has been calculated using the formula:

$\text{PdEq oxide (g/t)} = \text{Pd (g/t)} + 1.27 \times \text{Au (g/t)}.$

- Metal recoveries based on limited metallurgical test work completed to date:
 - Pd – 75%, Au – 90%.
- Metal prices used are consistent with those used in the pit optimisation:
 - US\$1,800/oz Pd, US\$1,800/oz Au

For additional information on the assumptions used in the calculation of metal equivalents, refer to the ASX announcement titled “Gonneville Resource increases by approx. 50% to 3Mt NiEq”, dated 28 March 2023.

Australian Primary Nickel Sulphide Resources (28 Mar 2023)

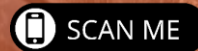


Rank	Asset	Company	Stage	Source Announcement	Date	Total Measured (Meas.), Indicated (Ind.) and Inferred (Inf.) resources								Meas.	Ind.	Inf.
						Tonnage (Mt)	Nickel (kt, %)	Copper (kt, %)	Cobalt (kt, ppm)	Gold (koz, g/t)	Platinum (koz, g/t)	Palladium (koz, g/t)	Silver (koz, g/t)	Tonnage (Mt)	Tonnage (Mt)	Tonnage (Mt)
1	West Musgrave	OZ Minerals	Feasibility	West Musgrave Mineral Resource and Ore Reserve Statement	23-Sep-22	390	1,200 0.30%	1,300 0.33%	47 120	752 0.06	1,003 0.08	1,129 0.09	10,659 0.85	91	240	59
2	Julimar	Chalice	Exploration	Gonneville Resource increases by ~50% to ~3Mt NiEq	28-Mar-23	560	860 0.16%	520 0.09%	83 150	480 0.03	2,700 0.15	13,000 0.7	- -	2.7	300	250
3	Cosmos	IGO	Development	FY22 Cosmos and Forresteria Resources and Reserves	30-Aug-22	67	656 0.98%	- -	- -	- -	- -	- -	- -	13.6	38.9	14.5
4	Avebury Restart	Mallee Resources	Restart	Updated Investor Presentation	07-Jul-22	29	264 0.90%	- -	7 229	- -	- -	- -	- -	-	8.7	20.7
5	Black Swan	Poseidon	Restart	Full Steam Ahead for Black Swan Restart	15-Dec-22	30	206 0.69%	7 0.02%	5 178	- -	- -	- -	- -	1.5	10.1	18.3
6	West Jordan	BHP	Exploration	Annual Report to Shareholders	06-Sep-22	43	224 0.52%	- -	- -	- -	- -	- -	- -	-	-	43
7	Venus	BHP	Exploration	Annual Report to Shareholders	06-Sep-22	11	189 1.71%	- -	- -	- -	- -	- -	- -	1.5	7.5	2.1
8	Jericho	BHP	Exploration	Annual Report to Shareholders	06-Sep-22	31	183 0.59%	- -	- -	- -	- -	- -	- -	-	-	31
9	Fisher East	Kinterra	Exploration	Fisher East Resource Increased to 134.1kt Contained Nickel	15-Aug-22	8	134 1.79%	- -	- -	- -	- -	- -	- -	-	2.8	4.7
10	Sherlock Bay	Sabre Resources	Exploration	Sherlock Bay Ni Scoping Study Delivers Positive Cashflow	17-Jan-23	25	99 0.40%	22 0.09%	5 220	- -	- -	- -	- -	12.5	6.1	6.1

Note: Values presented in the above table have been rounded and where totals do not add to their components is due to rounding.



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