



A globally  
significant  
source of  
nickel-cobalt  
and scandium in  
Western Australia

## **Annual General Meeting**

29 November 2021

### **Ardea Resources Limited**

### **Kalgoorlie Nickel Project**

### **Globally significant sustainable and ethical Critical Minerals**

# Disclaimer

## Important notice

This presentation contains general information only and is, or is based upon, information which has been released to ASX or is contained in the Ardea Resources Limited (Ardea or the Company) prospectus dated 9 November 2016 (including supplementary prospectuses dated 18 November 2016 and 6 January 2017), the Goongarrie Nickel Cobalt Project Pre-Feasibility Study (dated 28 March 2018) the Goongarrie Expansion Study (24 July 2018), Goongarrie Pilot Plant trial produces battery grade crystals (31 October 2018), Goongarrie Nickel Cobalt Project Update (8 April 2019), Ardea Annual Report 2019 (24 October 2019), Ardea Quarterly Operations Report, for the quarter ended 31 March 2020 (9 April 2020), Quarterly Activities Report - June 2020 (23 July 2020), Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP (30 September 2020), Quarterly Activities Report - September 2020 (27 October 2020), Quarterly Activities Report - December 2020 (21 January 2021), GNCP High Grade Resource - 60 million tonnes at 1.0% nickel (15 February 2021), Quarterly Activities Report - March 2021 (21 April 2021), Basal contact nickel sulphide intersected at Ardea's Emu Lake (27 April 2021), CSIRO/Ardea research at Goongarrie BTZ – insights for nickel sulphide and gold targets (27 May 2021), Kalgoorlie Nickel Project – Feasibility Study Underway (31 May 2021), Semi-massive nickel sulphide intercept at Emu Lake (10 June 2021), Highway Nickel Deposit - Mineral Resource Estimate (16 June 2021), Successful A\$5.7M Capital Raising to Fund Kalgoorlie Nickel Project Feasibility Work (28 June 2021) Nickel Sulphide Exploration Update – Emu Lake (13 July 2021), Ardea Quarterly Operations Report, for the quarter ended 30 June 2021 (27 July 2021), Ardea Annual Report 2021 (24 September 2021), FBICRC signs contract for \$18M flagship Cathode Precursor Production Pilot Plant (22 October 2021), Quarterly Activities Report - September 2021 (27 October 2021), Goongarrie Hub Feasibility Study Update (15 November 2021).

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The Goongarrie Project has completed the Pre-Feasibility Study phase and has commenced programs that are part of the Definitive Feasibility Study. Though reasonable care has been taken to ensure that the facts are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness. Actual results and developments of projects and the market development may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors. A key conclusion of the Pre-Feasibility Study and Expansion Study, which is based on forward looking statements, is that the Goongarrie Project is considered to have positive economic potential.

No stock exchange, regulation services provider, securities commission or other regulatory authority has approved or disapproved the information contained in this news release.

# Developing KNP – Australia's next major Ni-Co project

## Kalgoorlie Nickel Project (KNP)

- ✓ Without nickel laterites there can be no battery revolution
- ✓ Ardea can supply the battery revolution with essential nickel-cobalt from its globally significant resource using proven technology

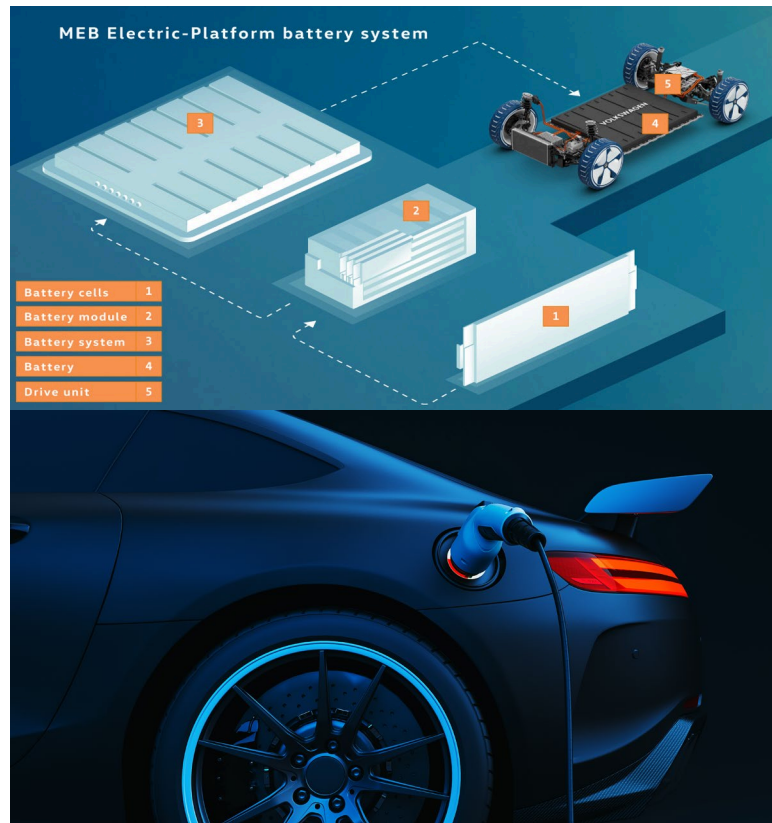


# EV Battery Pack Raw Material Demand

There is  
**~40kg of Nickel<sup>^</sup>**  
Powering the typical  
NCM811 Electric Vehicle (EV)

There is  
**5.9Mt**  
contained Nickel in the KNP\*

**This is enough for  
>147,000,000 EVs**



<sup>^</sup> 12/07/2021 UBS – Battery Material Value Chain

\* See Appendix for resource breakdown and ASX release 16 June 2021

# Why Nickel Laterites now?

## Increase in nickel demand

- The battery revolution forecasts a 10x increase in nickel demand by 2030<sup>1</sup>
- Traditional nickel uses such as stainless steel also continue to grow strongly
- With 40kg Ni typically required for a NCM811 EV battery, this translates to a significant increase in the demand for ethical and sustainable nickel supply<sup>2</sup>

## Nickel Supply concerns

- Limited Nickel Sulphide (NiS) discoveries and long lead times to production leave a significant gap in supply
- Most NiS is sourced from deep underground mines
- Many new supplies of nickel are located in countries with a poor ESG record and high political risk
- The market demands sustainable and ethical supply of nickel

## Nickel Laterite to fill the gap

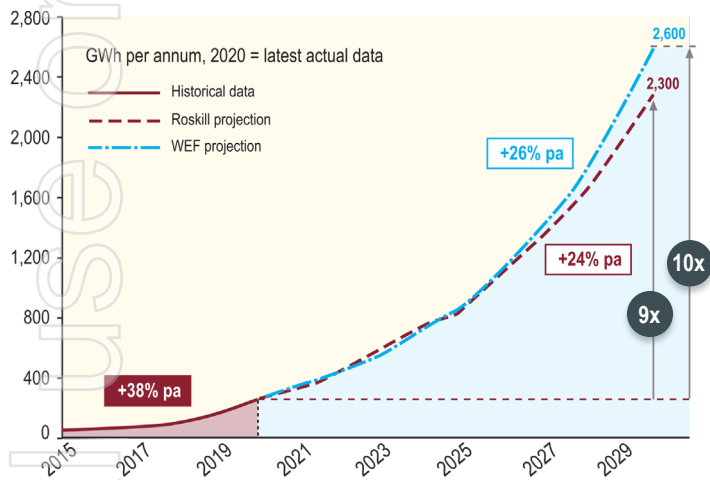
- Ni Laterite resources need to be developed to meet the gap in demand which cannot be met by NiS
- Optimisation of Ardea's KNP flowsheet using proven technology, combined with Australia's low political risk, high technical experience and strong ESG framework, demonstrate that the KNP is a compelling source of future nickel supply



# Nickel and the Inevitable Rise in Demand

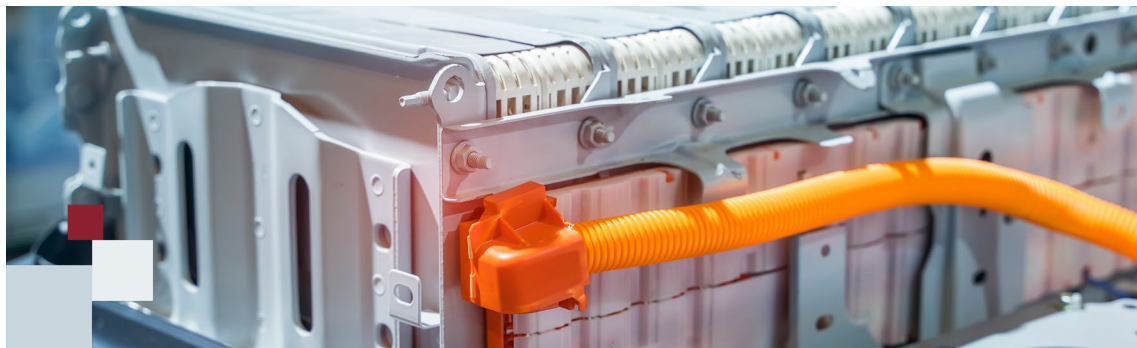
- ✓ Demand for batteries is forecast to accelerate over the next decade as energy storage becomes critical to the transformation of energy systems
- ✓ KNP poised to supply nickel and cobalt to meet the inevitable and growing rise in demand
- ✓ A KNP is required every 12 months from 2040 onwards!

## Global battery demand projected to 2030 (GWh pa)

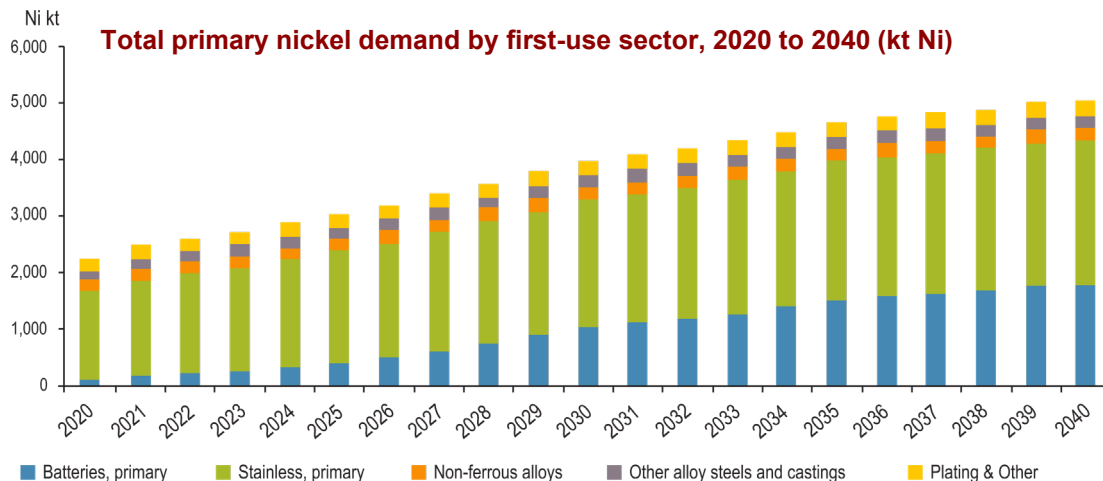


Source: Accenture report commissioned by the Future Battery Industries CRC, 2021

Notes: IRENA's high scenario forecast used for ESS in Roskill projection. Growth rates in exhibit are compounding annual growth rates.  
Source: World Economic Forum (2019) A vision for a Sustainable Battery Value Chain in 2030; Roskill (2020) Lithium-ion Batteries: Outlook to 2029, 4th Edition; International Renewable Energy Agency (2017) Electricity storage and renewables: Costs and markets to 2030; International Energy Agency (2021) Global EV Data Explorer; Jäger-Waldau (2019) Snapshot of Photovoltaics-February 2019; Accenture analysis.



## Total primary nickel demand by first-use sector, 2020 to 2040 (kt Ni)



Source: Roskill, 2020

# Nickel Laterite development essential for supply

## Global Developments

- Multiple companies, such as, Vale<sup>3</sup> and Eramet<sup>4</sup> developing HPAL projects in Indonesia
- Posco has acquired a 30% stake in the Ravensthorpe Nickel Laterite Operation in Western Australia<sup>5</sup>
- Tesla has entered into a technical advisory role on the Goro Nickel Laterite Operation<sup>6</sup>
- Nickel now classified as a Critical Mineral in USA<sup>7</sup>

## Why Western Australia (WA)

- WA is the premier global destination for development of minerals operations
- Well established health, safety and environmental policies
- Over 120 years of continuous mining with strong stake holder support
- Access to skilled professionals in an infrastructure rich region

## Why Ardea

- Globally significant nickel-cobalt resource located in WA
- All resources located on granted mining leases with direct infrastructure links
- Premium goethite geometallurgy
- Experienced team who have developed significant hydrometallurgical projects
- Enhanced and proven flow sheet

# Strong ESG – Environment, Social and Governance

## Environmentally Responsible

- Project designs and work practices based on ensuring the Company minimises green-house gas emission to ensure responsible sourcing of nickel and Critical Mineral supply
- A low carbon future is possible through proven KNP HPAL and AL flowsheet
- Waste landforms will benefit regeneration agroforestry at KNP
- Semi-arid environment, and historic mining jurisdiction conducive to best practice safe tailings management

## Socially Minded

- Ardea has strong support from the communities in which we operate and maintains a local office
- Ardea has a Native Title Agreement in place for development of the KNP
- Ardea has initiated an education fund to assist children in the Eastern Goldfields of WA
- The Ardea team comprises over 31% female participation, all in key management roles
- Ardea advocates fair representation for all community groups

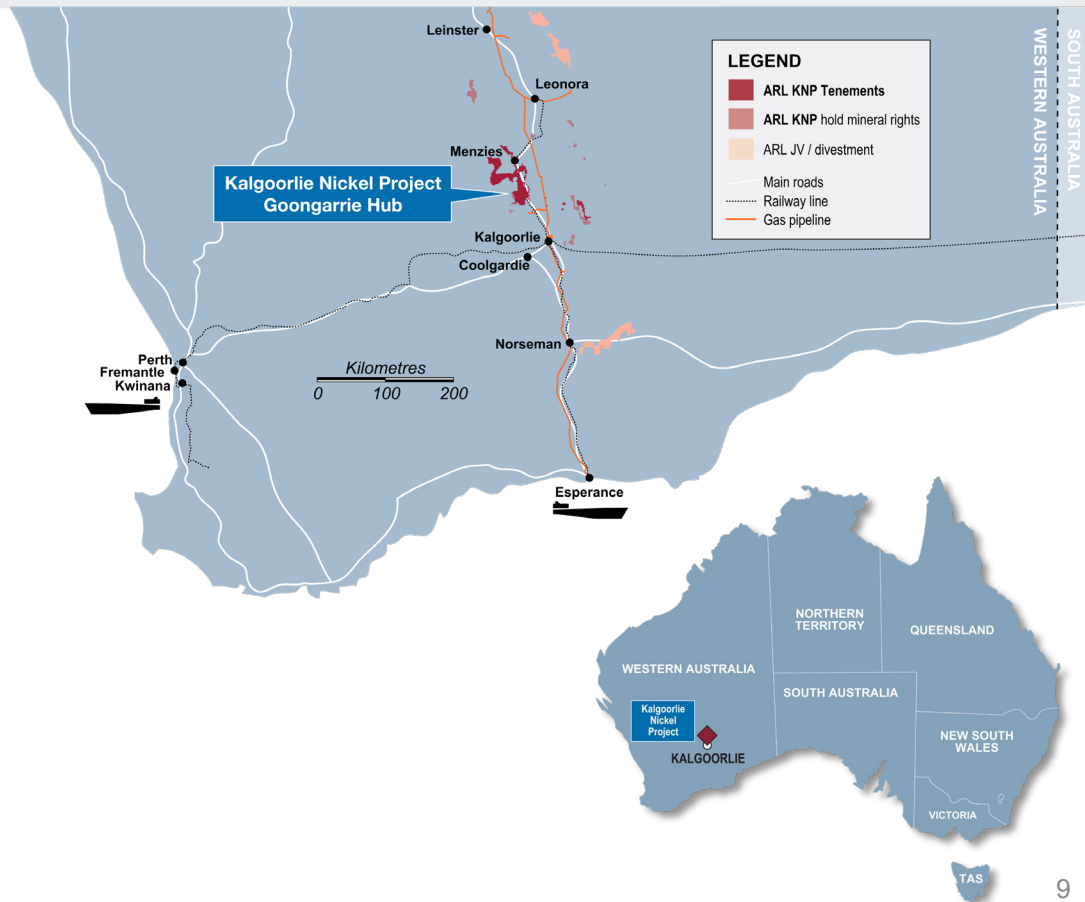
## Strong Governance

- Ardea's values are based on integrity, empathy, inclusion and teamwork
- We are an employer of choice
- Environmental Social and Governance (ESG) considerations are at the forefront of the way in which Ardea does business
- Ardea's Board continue to strengthen and document policies to underline ESG
- ESG compliance inherent in flowsheet and project development

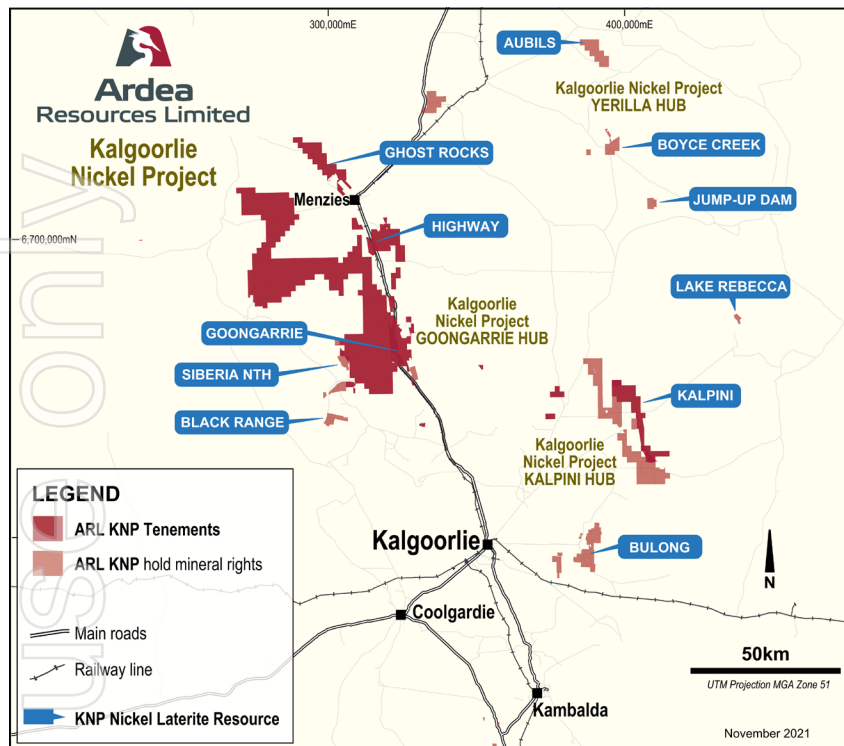


# World's best operating jurisdiction

- All Ardea Projects located in Western Australia (WA)
- >3,300km<sup>2</sup> ground position in Eastern Goldfields
- City of Kalgoorlie-Boulder is the prime resource development and operating destination within WA
  - ✓ Very strong mining support from Local Government and Community
  - ✓ Multitude of world-class mining operations serviced from the City
  - ✓ Ardea maintains a local operations office and active stake holder engagement
  - ✓ Road and rail network pass through granted Goongarrie Hub mining leases



# Globally Significant Resource



- ✓ Globally significant nickel & cobalt Mineral Resource
- ✓ Sustainable & ethical supply of nickel & Critical Minerals for low carbon future

**Goongarrie Hub**  
- High grade component -  
**78Mt at 1.0% Ni and 0.069% Co\***

**784kt contained Nickel**

**54kt contained Cobalt**

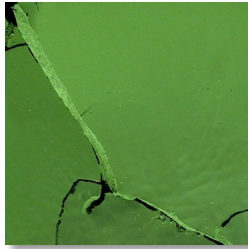
- Kalgoorlie Nickel Project (**KNP**) Feasibility Study (**FS**) scope covering **Goongarrie Hub** including satellite pits at Highway and Siberia North
- Two 1.5 Mtpa HPAL trains, supplemented with a 0.5Mtpa AL processing operation (**3.5Mtpa**)
- The FS is evaluating the potential revenue contributions from mineralised neutraliser, scandium and other Critical Minerals, including Rare Earth Elements (REE) throughout the KNP
- Direct infrastructure links to the Kwinana Battery Hub and deep seaport of Esperance

\* See Appendix for resource breakdown and ASX release 16 June 2021

- ✓ **KNP Mineral Resource 5.9Mt contained nickel and 384kt contained cobalt\***
  - ✓ 3.39kt scandium, from just Goongarrie deposits
  - ✓ Pipeline of other Critical Minerals

# Enhanced flow sheet

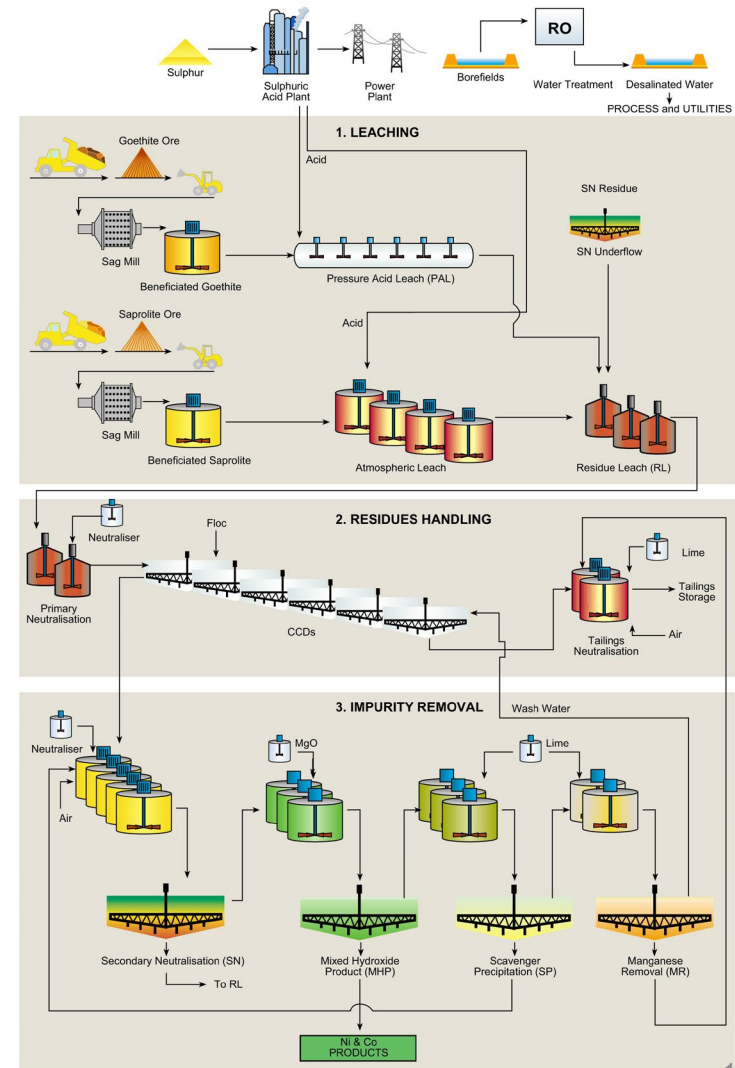
- ✓ Premium goethite ore (excellent comminution, less abrasive, lower maintenance)
  - ✓ MHP sale product during ramp up, in high demand
- ✓ Evaluating PCAM production through FBICRC membership
- ✓ Additional Critical Mineral by-products (current bench-scale metallurgy)



## Process Metallurgy

- ✓ High ore grade + slurry density = Lower Capex\$ & Opex\$ (best in Australia\*)
- ✓ HPAL Ni & Co Extraction = Efficient, low energy intensity, proven “off-the-shelf”
- ✓ AL = Stability for acid plant (energy generation), maximises resource utilisation
- ✓ AL viable Ni extraction demonstrated in Vale Inco 2009 PFS
- ✓ Water Chemistry = Scale control & better uptime
- ✓ Water Options = Using pit drainage + pending licensed borefield
- ✓ MHP = Known technology & chosen feedstock for Lithium Ion Batteries

\* See Slide 23 for data.

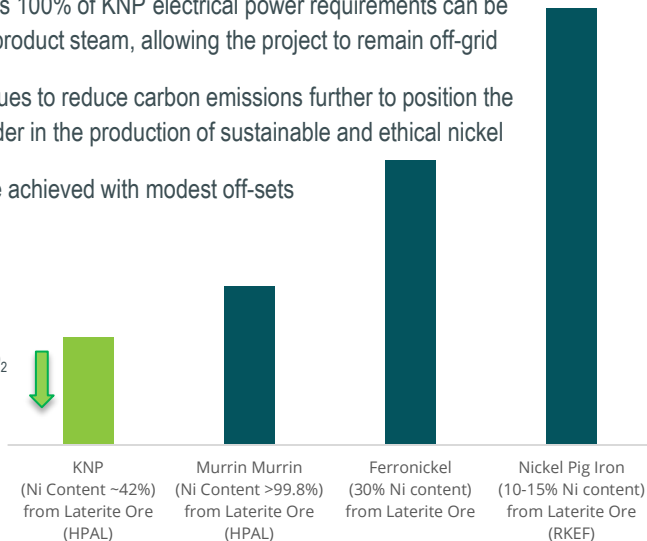


# KNP: Sustainable and Ethical Nickel Production

## Off Grid & Low Carbon Footprint

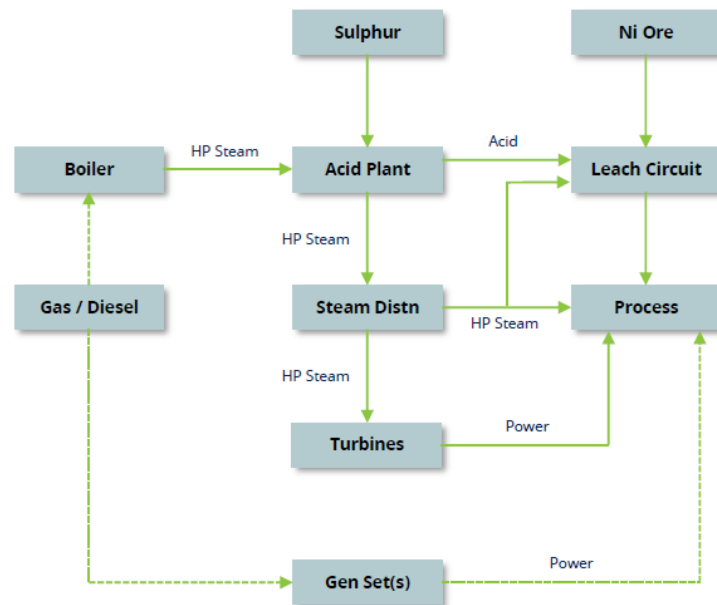
- DFS development plan, to include both a High Pressure Acid Leach (HPAL) and an Atmospheric Leach (AL) circuit
- ✓ AL will assist with full utilisation of the mineral resource and plant and burn Sulphur rather than Carbon for plant power (~17kg CO<sub>2</sub> emissions, per kg of Ni metal equivalent production)
- Heat generated from sulphuric acid production (onsite), which will be used for both process purposes and for generating electrical power via steam turbines
- Preliminary analysis indicates 100% of KNP electrical power requirements can be produced from acid plant byproduct steam, allowing the project to remain off-grid
- Ardea's ongoing work continues to reduce carbon emissions further to position the Company as an industry leader in the production of sustainable and ethical nickel
- Carbon neutral status can be achieved with modest off-sets

KNP DFS to continue to reduce CO<sub>2</sub> emissions



## KNP Acid plant – Steam Power Block Flow Diagram

- Heat generated from on-site acid plant will be used for generating electrical power via steam turbines



# Proven technology

## Coral Bay HPAL Example

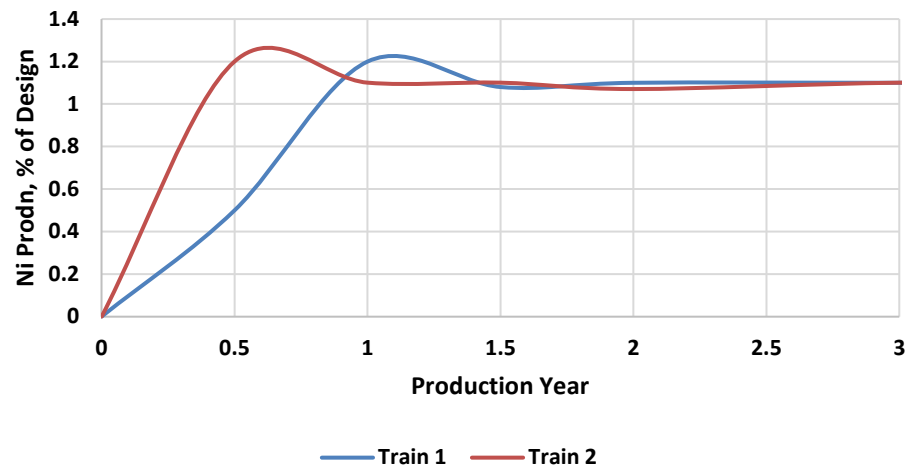
- ✓ HPAL chemistry is well known and has been applied successfully since the 1960s
- ✓ Single reactor
- ✓ Recovery of waste heat = Energy savings
- ✓ Annual scale cleaning – uptime >90%



## Ramp up rates

- ✓ Horizontal autoclave at Coral Bay built Train 1: 2005, Train 2: 2008
- ✓ At Coral Bay name plate production capacity exceeded in first year of production and thereafter

**Coral Bay Ramp Up**





# Experienced team working with quality partners

## Feasibility Study

- ✓ Gap Analysis Study and DFS Underway – Wood consulting, international engineering group and in-house experts
- ✓ Goongarrie Hub Hydrogeology Drilling completed – Rockwater & Harrington
- ✓ Goongarrie Hub Metallurgical Drilling completed – contractor DDH1
- ✓ Metallurgical Testwork – Program designed, drill core composites selected

## Other Work Streams

- ✓ Future Battery Industry Co-operative Research Centre (FBICRC), active member
- ✓ CSIRO joint research projects in nickel
  - ✓ Hylogger3 study completed for process mineralogy
  - ✓ Completed CSIRO/Ardea research at Goongarrie BTZ – insights for nickel sulphide and gold targets, notably structural preparation and weathering depth
  - ✓ Nickel Sulphide and other studies being assessed

Photograph right: Pump testing the Goongarrie Hub water extraction licence application covering the East Goongarrie Channel on granted Ardea Mining Lease tenure. A further licence application covers the base load Pamela Jean "pay-back" pit area, where the water is related to a major penetrative bedrock structure (that controls nickel laterite mineralisation to depths of up to 160m). Bedrock structures at Goongarrie tend to be better water quality than the adjoining palaeo-channels. The Goongarrie Hub pit areas require dewatering in any event ahead of mining.



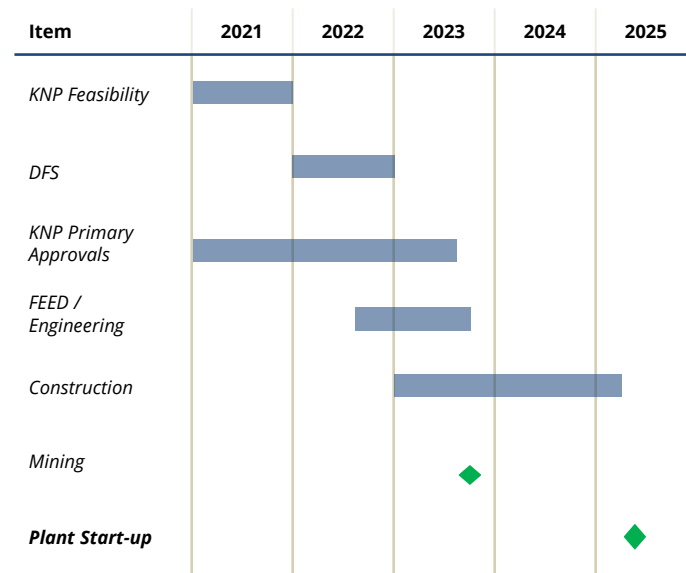


# KNP Development Plan

## Recent Developments

- ✓ Industry leading HPAL and AL practitioner, Mike Miller (previously technical management at the operating Ravensthorpe HPAL operation) is leading the KNP Feasibility Study team
- ✓ Ardea's current Feasibility Study strategy is aimed at adding further value to the development of the Goongarrie Hub and supporting resources within the KNP
  - ✓ One of the main feasibility outcomes has been to optimise the processing plant feed (based on the 2018 Expansion Study)
  - ✓ Subject to results from the Wood gap analysis study, nearing completion, the optimal flowsheet will include two 1.5 Mtpa HPAL trains, supplemented with a 0.5Mtpa AL circuit
  - ✓ In-house engineering activities are aimed at freezing the flowsheet design and doing the groundwork for a Tier 1 engineering house. The objectives are to reduce costs and to save time.
  - ✓ Pre-production capex for the two HPAL trains and AL processing circuit is to be quantified by the DFS
- ✓ KNP will initially produce MHP and following attainment of steady production, has the potential to produce PCAM as an ethical and sustainable supply chain for the Lithium-Ion Battery sector

## Pathway to Production



- ✓ Potential to streamline path to production by procuring long lead items such as the titanium plate for the autoclaves and heaters

# Investment Summary



Ardea's **KNP** offers unrivalled nickel, cobalt and scandium scale optionality (5.9Mt of nickel and 384kt of cobalt\*)



Globally significant nickel-cobalt-scandium resource in an **infrastructure-rich** and **stable jurisdiction**, ability for **sustainable** and **ethical** mineral supply



**100% off-take** available



**Highly prospective landholding** in the **Eastern Goldfields** of **Western Australia (WA)**



**WA-based Team** with **track record** of exploration, development and production **success**



**Well-funded** to maintain momentum - upcoming news flow to include **feasibility study**, **hydrogeology** and **metallurgy updates**, **nickel sulphide** and **Critical Mineral** exploration

There is  
**5.9Mt**  
contained Nickel in the KNP\*

This is  
enough for  
**147,000,000**  
**Electric Vehicles**

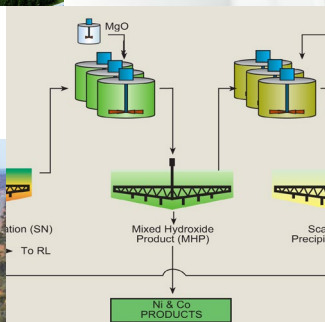
\* Based on 40kg of nickel per NCM811 EV battery. See Appendix for resource breakdown and ASX release 16 June 2021.

# For further information

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Ardea  
Resources Limited



A globally  
significant  
source of  
nickel-cobalt  
and scandium in  
Western Australia

**For further information regarding Ardea,  
please visit [www.ardearesources.com.au](http://www.ardearesources.com.au)**

## APPENDICES



# Ardea Resources Corporate Overview

## Board and Key Personnel

<b>Mathew Longworth</b>	Non-Executive Chair
<b>Andrew Penkethman</b>	Managing Director & CEO
<b>Ian Buchhorn</b>	Executive Director
<b>Sam Middlemas</b>	Company Secretary & CFO
<b>Alex Mukherji</b>	Manager Land Access & Compliance
<b>Mike Miller</b>	General Manager – Technical Services

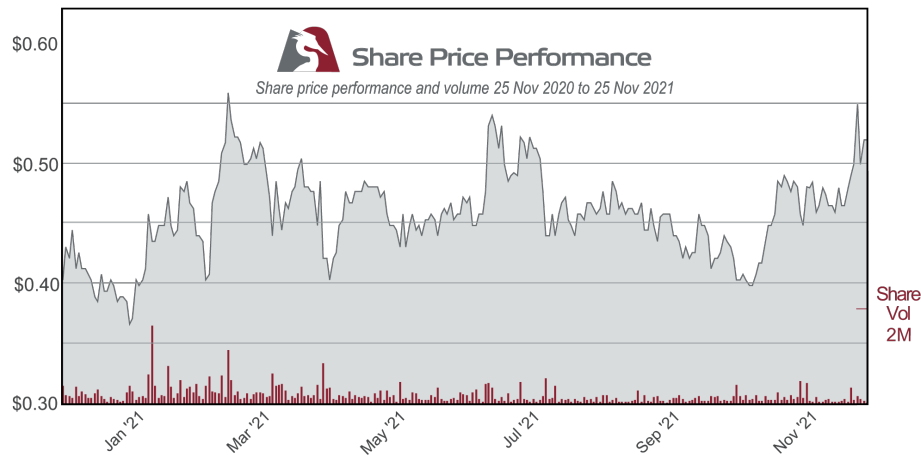
## Listed on ASX (ARL)

Shares on Issue	138,034,219
Performance Rights	4,667,000
Share Price	\$0.52
52 week high / low	\$0.63 / \$0.40
Cash (as at 30 Sep 2021)	\$8 million
Market Capitalisation	\$71 million
Board and Management	~10% equity
Top 40 Shareholders	~60% equity

## Kalgoorlie Nickel Project – Goongarrie Hub



- ✓ Globally significant Nickel, Cobalt and Scandium resource and other Critical Minerals
- ✓ Development of KNP Laterites necessary to fill the gap in Ni supply to meet rising demand
- ✓ Critical Minerals essential for green and sustainable technologies
- ✓ Located in Australia's premier mining jurisdiction, Kalgoorlie-Boulder, WA



# Experienced team working with quality partners

## Board and Key Personnel

- ✓ **Balanced financial and corporate experience, strong technical expertise in exploration, discovery, project development, metallurgical optimisation, compliance and operational management**

### **Mathew Longworth** Non-Executive Chair

33 years experience across exploration, project evaluation/development, operations and corporate management. Invaluable experience on the key Ardea exploration and development projects, being the KNP nickel-cobalt-scandium deposits and Bardoc Tectonic Zone gold.

### **Andrew Penkethman** Managing Director, CEO

Resources sector executive with over 25 years' experience, including project evaluation, exploration, discovery, resource development, feasibility study management, permitting, stake holder engagement, mine development and operations management. ASX, TSX and AIM experience.

### **Ian Buchhorn** Executive Director

Mineral Economist and Geologist with over 40 years' experience. Lived and worked in the Eastern Goldfields for >20 years undertaking exploration, project evaluation and development. Operated as Registered Mine Manager in the Kalgoorlie Goldfields, City Councilor 1992 - 2006



### **Sam Middlemas** Company Secretary & CFO

Chartered Accountant (CA) with more than 30 years' experience providing financial and corporate secretarial services.

### **Alex Mukherji** Manager Land Access & Compliance

Extensive geological and environmental compliance reporting. Drafting and negotiating access and commercial agreements. Assessing business development opportunities. Corporate representation with stake holders, including State and Commonwealth agencies.

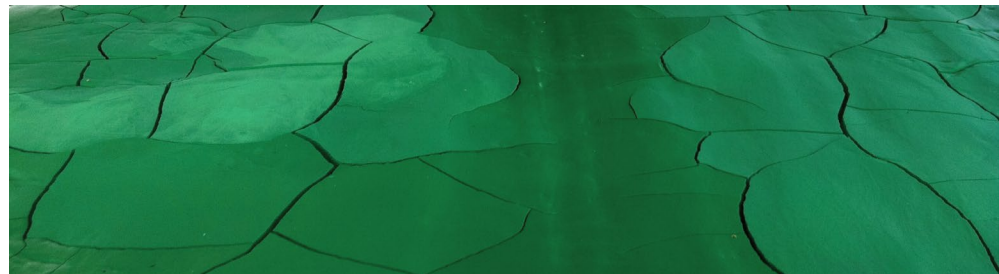
### **Mike Miller** General Manager - Technical Services

Process Engineer with over 25 years' experience in hydrometallurgical operations with a primary focus on nickel-cobalt production. Extensive study management experience with leading engineering firms.



# KNP Superior HPAL Intensity

- ✓ Good ore grade + good slurry density = Lower Capex & Opex \$\$
- ✓ Atmospheric leach = stable operation, utilizes saprolite resource
- ✓ MHP Product = known technology & good market acceptance



## Operating data from Australian HPAL Producers

Performance Driver	Ardea	Bulong	Cawse	Murrin	RNO^	Metric	Ardea Rank	Comment
Atmospheric Leach	Yes	No	No	No	Yes	-	#1	Stable operation and full resource utilisation
HPAL Feed Density	45%	31%	35%	38%	42%	% Solids	#1	The higher the better = Maximises plant throughput
Residence Time	70	75	105	90	60	minutes	#2	The lower the better = Maximises plant throughput
Slurry Grade Ni	7.55	2.89	3.07	3.87	7.39	Ni kg/m3	#1	The higher the better = Increased revenue stream
Slurry Grade Co	0.59	0.23	0.24	0.34	0.31	Co kg/m3	#1	The higher the better = Strategic Co-Product credits

### Data Sources

Ardea – Goongarrie Hub testwork results from PFS and Expansion Study, ASX release 28 March 2018 & Goongarrie Expansion Study, 24 July 2018 and ongoing project assessment as part of completing the DFS.

Bulong, Cawse, Murrin - ALTA 1999, An Engineering Comparison of the Three Treatment Flowsheets In WA Nickel Laterite Projects.

RNO – ALTA 2001, Observations from the RNO Pilot Plant at Lakefield Research, 2000 AD.

^Ravensthorpe Nickel Operation (RNO) figures based on design numbers on upgraded beneficiated ore from the Halleys Deposit which has since been mined out.

Ardea data is based on non-beneficiated material (with always an option to beneficiate selected KNP geo-met types, notably at Highway & Goongarrie Hill).

# A High-Quality Nickel and Cobalt Project

## Outstanding results delivered from 2018 PFS\* and Expansion Studies:

	1.0Mtpa	1.5Mtpa	2.25Mtpa
<i>Status</i>	PFS	PFS	ES
<i>No. Trains</i>	1	1	1
<i>Pre Tax NPV<sub>8</sub></i>	US\$ 1.13 billion	US\$ 1.52 billion	<b>US\$ 2.4 billion</b>
<i>Pre Tax IRR</i>	29 %	29 %	<b>31%</b>
<i>CAPEX</i>	US\$ 472 million	US\$ 588 million	<b>US\$918 million</b>
<i>C1 cash cost</i>	US\$ 0.42 / lb	US\$ 0.45 / lb	<b>US\$ (0.34) / lb</b>
<i>Payback</i>	5.3 years	5.6 years	<b>5.1 years</b>
<i>Cobalt sulphate</i>	5,500tpa	6,900tpa	<b>10,000tpa</b>
<i>Nickel sulphate</i>	41,500tpa	55,300tpa	<b>81,000tpa</b>

- ✓ PFS of 1Mtpa and 1.5Mtpa base case over a 25-year mine life completed
- ✓ Expansion study of 2.25Mtpa with a 25-year mine life completed
- ✓ 94.5% nickel and 95.5% cobalt recovery – life of mine
- ✓ Pre-cobalt credit C1 costs in line with current worldwide operators
- ✓ High Pressure Acid Leach (HPAL) 5th generation plant is a proven design, successfully operated in other laterite projects globally
- ✓ 2.25Mtpa case based on only 26% of Goongarrie Resource (now 3.5Mtpa, financial modelling current)
- ✓ Scandium by-product credit not factored in, so offers additional up-side

The information shown on this slide has been previously released on the ASX platform by Ardea in ASX releases, \*Goongarrie Nickel Cobalt Project, PFS study, 28 March 2018 & +Goongarrie Expansion Study, 24 July 2018. All the material assumptions underpinning the forecast financial information derived from a production target, in the initial public report referred to in rule 5.17 continue to apply and have not materially changed.

# KNP Resource Breakdown

## Kalgoorlie Nickel Project nickel-cobalt JORC Code (2012) Mineral Resource Estimate

Camp	Prospect	Resource Category	Size (Mt)	Ni (%)	Co (%)	Contained Metal	
						Ni (kt)	Co (kt)
<b>KNP TOTAL</b>		Measured	22	0.94	0.079	207	17
		Indicated	357	0.72	0.047	2,584	168
		Inferred	452	0.68	0.044	3,088	199
<b>GRAND TOTAL</b>		<b>Combined</b>	<b>830</b>	<b>0.71</b>	<b>0.046</b>	<b>5,879</b>	<b>384</b>

Note: 0.5% nickel cutoff grade used to report resources. Note figures are rounded to reflect degree of certainty and may not tally.  
The information shown on this slide has been previously released on the ASX platform by Ardea in ASX release 16 June 2021.

In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A:

The information in this report that relates to KNP Exploration Results is based on information originally compiled by previous full time employees of Heron Resources Limited and or Vale Inco. The Exploration Results and data collection processes have been reviewed, verified and re-interpreted by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently an executive director of Ardea Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.

The information in this report that relates to Mineral Resources for the Goongarrie Hill, Goongarrie South, Big Four, Scotia Dam and Highway nickel-cobalt deposits that comprise the Goongarrie Hub is based on information compiled by Mr James Ridley who is a Member of the Australasian Institute of Mining and Metallurgy, a full time employee of Ardea Resources and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ridley consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

# Goongarrie Hub Mineral Resources using a 0.8% Ni cut-off grade

Summary of Mineral Resource Estimate from the Goongarrie Hub, based on a 0.8% Ni cut-off grade, comprising resources at Goongarrie Hill, Goongarrie South, Highway, Big Four, Scotia Dam and Highway (ASX release 16 June 2021).

Deposit	Resource Category	Tonnes (Mt)	Ni %	Co %	Contained Metal	
					Ni (kt)	Co (kt)
Goongarrie Hill	Indicated	5.3	0.92	0.050	49	2.6
	Inferred	1.9	0.92	0.034	17	0.6
	<b>Subtotal</b>	<b>7.2</b>	<b>0.92</b>	<b>0.046</b>	<b>66</b>	<b>3.3</b>
Goongarrie South	Measured	11.0	1.13	0.106	125	11.6
	Indicated	21.1	0.99	0.071	208	15.0
	Inferred	1.2	0.92	0.043	11	0.5
	<b>Subtotal</b>	<b>33.3</b>	<b>1.03</b>	<b>0.081</b>	<b>344</b>	<b>27.1</b>
Big Four	Indicated	12.1	0.97	0.068	118	8.3
	Inferred	2.7	0.94	0.062	25	1.7
	<b>Subtotal</b>	<b>14.7</b>	<b>0.97</b>	<b>0.067</b>	<b>143</b>	<b>9.9</b>
Scotia Dam	Indicated	2.9	0.98	0.108	29	3.2
	Inferred	1.4	1.02	0.057	14	0.8
	<b>Subtotal</b>	<b>4.3</b>	<b>0.99</b>	<b>0.091</b>	<b>43</b>	<b>4.0</b>
Highway	Indicated	15.1	1.01	0.053	152	8.0
	Inferred	3.7	0.98	0.053	36	2.0
	<b>Subtotal</b>	<b>18.8</b>	<b>1.00</b>	<b>0.053</b>	<b>188</b>	<b>10.0</b>
<b>Combined Deposits</b>	Measured	11.0	1.13	0.106	125	11.6
	Indicated	56.5	0.98	0.066	556	37.1
	Inferred	10.8	0.95	0.051	103	5.6
	<b>Grand Total</b>	<b>78.3</b>	<b>1.00</b>	<b>0.069</b>	<b>784</b>	<b>54.3</b>

Note figures are rounded to reflect degree of certainty and may not tally.

# Goongarrie Deposits Mineral Resources including Sc, using a 0.5% Ni cut-off grade

Summary of Mineral Resource Estimate from the Goongarrie deposits based on a 0.5% Ni cut-off grade (ASX release 15 February 2021).

Deposit	Resource Category	Tonnes (Mt)	Ni %	Co %	Contained Metal		Sc Resources	
					Ni (kt)	Co (kt)	Mt	Sc ppm
Goongarrie Hill	Indicated	40	0.65	0.037	260	14.7	10.5	16
	Inferred	29	0.60	0.025	178	7.3	2.0	16
	<b>Subtotal</b>	<b>69</b>	<b>0.63</b>	<b>0.032</b>	<b>438</b>	<b>21.9</b>	<b>12.5</b>	<b>16</b>
Goongarrie South	Measured	18	0.94	0.085	172	15.4	18.2	40
	Indicated	82	0.71	0.049	587	40.2	53.1	23
	Inferred	10	0.64	0.033	61	3.1	5.5	24
	<b>Subtotal</b>	<b>110</b>	<b>0.75</b>	<b>0.053</b>	<b>820</b>	<b>58.7</b>	<b>76.8</b>	<b>27</b>
Big Four	Indicated	49	0.71	0.047	345	22.9	31.9	24
	Inferred	14	0.68	0.043	95	6.1	2.9	24
	<b>Subtotal</b>	<b>63</b>	<b>0.70</b>	<b>0.046</b>	<b>440</b>	<b>28.9</b>	<b>34.8</b>	<b>24</b>
Scotia Dam	Indicated	12	0.71	0.065	82	7.4	11.2	25
	Inferred	5	0.72	0.043	37	2.2	0.6	22
	<b>Subtotal</b>	<b>17</b>	<b>0.72</b>	<b>0.058</b>	<b>118</b>	<b>9.6</b>	<b>11.7</b>	<b>25</b>
<b>GNCP Total</b>	Measured	18	0.94	0.085	172	15.4	18.2	40
	Indicated	182	0.70	0.047	1,274	85.1	106.6	23
	Inferred	58	0.64	0.032	371	18.6	11.0	23
	<b>Grand Total</b>	<b>259</b>	<b>0.70</b>	<b>0.046</b>	<b>1,817</b>	<b>119.2</b>	<b>135.8</b>	<b>25</b>

Note figures are rounded to reflect degree of certainty and may not tally.

# Source Documents

Data sources for information appearing on slides 5 and 7.

1. Accenture report commissioned by the Future Battery Industries CRC, 2021.
2. 12/07/2021 UBS – Battery Material Value Chain
3. Vale - <https://news.metal.com/newscontent/100953015/vale-plans-to-invest-us-5-billion-to-build-a-nickel-plant-for-chinese-enterprises-to-develop-the-market-by-leaps-and-bounds>
4. Eramet - [https://www.eramet.com/sites/default/files/2021-05/Eramet\\_Group\\_Detailed\\_Presentation\\_May2021.pdf](https://www.eramet.com/sites/default/files/2021-05/Eramet_Group_Detailed_Presentation_May2021.pdf)
5. Posco - <https://www.first-quantum.com/English/announcements/announcements-details/2021/First-Quantum-Minerals-Announces-Sale-of-30-of-Ravensthorpe-Nickel-for-240-Million/default.aspx>
6. Tesla Inc NASDAQ:TSLA - <https://www.proactiveinvestors.com.au/companies/news/943232/teslas-move-in-new-caledonia-highlights-just-how-strategic-big-nickel-assets-are-likely-to-become-943232.html>
7. USGS - <https://www.afr.com/world/north-america/australia-well-positioned-to-supply-critical-minerals-to-us-20211109-p597bq>