

Looking forward. Mining green.

**BSX INVESTOR PRESENTATION** ASX:BSX

FEBRUARY 2021



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#### The Scoping Study at Ta Khoa, referred to in th

This report contains forward-looking statements which are identified by words such as 'may', 'could', 'believes', 'estimates', 'targets', 'expects', or 'intends' and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this report, are considered reasonable. Such forward-looking statements are not a guarantee of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the Directors and the management. The Directors cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this report will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. The Directors have no intention to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this report, except where required by law or the ASX listing rules.

The Scoping Study referred to in this announcement is based on the scoping study released to the ASX on 14 October 2020.

Further evaluation work and appropriate studies are required before Blackstone is in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. The JORC-compliant Mineral Resource estimate forms the basis for the Scoping Study that is discussed in this announcement. Over the life of mine considered in the Scoping Study, 83% of the processed Mineral Resource originates from Indicated Mineral Resources and 17% from Inferred Mineral Resources; 76% of the processed Mineral Resource during the payback period will be from Indicated Mineral Resources. The viability of the development scenario envisaged in the Scoping Study therefore does not depend on Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The Inferred Mineral Resources are not the determining factors in project viability.

This Scoping Study was completed to an overall +/- 40% accuracy using the key parameters and assumptions outlined elsewhere in this announcement. While Blackstone considers that all the material assumptions are based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this study will be achieved. To achieve the range of outcomes indicated in the Scoping Study, further funding will be required to construct the mine, processing facilities and project infrastructure including upstream and downstream processing plants. Investors should note that there is no certainty in obtaining funding to the extent required which may be achieved through a combination of debt and equity. It is also possible that such funding will only be available on terms that may be dilutive to or otherwise affect the value of Blackstone's existing shares.

Blackstone concluded it has a reasonable basis for providing these forward-looking statements and believes it has reasonable basis to expect it will be able to fund development of the project. However, a number of factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of this study. The project development schedule assumes the completion of a Pre-Feasibility Study (PFS) and a Definitive Feasibility Study (DFS) before an investment decision is finalised.

# **Cautionary Statement**

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## INVESTMENT THESIS KEY INVESTMENT HIGHLIGHTS



FLAGSHIP TA KHOA NICKEL PGE (CU CO) SULFIDE PROJECT - NORTHERN VIETNAM



Precursor NCM – Plant Design



**Experienced Board and Management team** - with a track record of executing strategy and delivering value



**Strong macro tail winds -** Blackstone provides excellent exposure to the growing electric vehicle and Li-ion battery thematic



**Unique business model compared to peers -** Vertical integration of supply chains provides exposure to high margin downstream business, whilst retaining leverage and strategic benefits attached to owning a mine



**Scalable and modular** - Blackstone has a strategy to address security of supply concerns and aims to modularly scale its chemical refining capacity to meet rising demand for downstream nickel products



**Competitive operating advantages -** Vietnam is a low-risk investment jurisdiction, with abundant access to renewable hydro power and low labor costs



**District scale nickel sulfide opportunity** - the Ta Khoa project in Northern Vietnam has up to 25 massive sulfide vein (MSV) and disseminated sulfide (DSS) targets.

### BLACKSTONE BOARD BEST IN CLASS LEADERSHIP WITH A PROVEN TRACK RECORD OF CORPORATE SUCESS







Managing Director

Mining Engineer with a Commerce degree from the West Australian School of Mines and Curtin University, with more than 10 years' experience in technical and corporate roles in the mining and finance sectors. Hamish Halliday



Non-Executive Chairman

More than 20 years corporate and technical experience, founder of Adamus Resources Ltd, a A\$3M float which became a multi-million ounce emerging gold producer and eventual takeover by Endeavour Mining for >\$160M Andrew Radonjic



Non-Executive Director

Mine Geologist and Mineral Economist with more than 25 years' experience with a focus on gold and nickel exploration and mining, MD of Venture Minerals Ltd (ASX: VMS), led the Feasibility Study of the Mount Lindsay Tin-Tungsten-Magnetite project. Peter Plakidis



Non-Executive Director

20 years of Investment Banking and Corporate experience in leadership roles including Head of Financial Sponsors Group Asia Pacific for Deutsche Bank, based in Hong Kong. Has executed numerous deals across Asia Pacific. **Hoirim Jung** 



Non-Executive Director

More than 10 years financial management experience, specifically in financing and feasibility studies for new projects. Holds a Bachelor of Economics from Seoul National University and has a qualification with the Korean Institute of Certified Public Accountants (KICPA).

### MANAGEMENT TEAM

### DRIVING THE DEVELOPMENT OF TA KHOA AS A MINE-TO-MARKET NICKEL BUSINESS



	Jamie Byrde	CFO & Company Secretary	Chartered Accountant with more than 14 years' experience in accounting, company secretarial and corporate advisory.
	Dr Stuart Owen	Head of Exploration	BSc & PhD in Geology with more than 20 years' experience in mineral exploration.
3	Andrew Strickland	Head of Project Development	Experienced Study and Project Manager, Fellow of the Australian Institute of Mining and Metallurgy, BSc (Extractive Metallurgy), BEng (Chemical), MBA.
	Patrick Chang	Head of Corporate Development	Master of Science Degree in Geology, a Master of Computer Science Degree and Chartered Financial Analyst. Previously Corporate Development Officer with ASX-listed gold producer Medusa Mining.
	Steve Ennor	GM Project Development Ta Khoa Project	Metallurgist with 30 years of experience in gold and base metals processing, including senior management and operational positions in Australia, Africa and South East Asia.
	Vũ Hồng Cấm Vân	GM Commercial Ta Khoa Project	Joined Ban Phuc Nickel Mines in 2006 and has successfully performed in several roles transitioning from senior environment officer to HSE & CSR manager and government affairs director.
	Richard Kitchener	GM Operations Ta Khoa Project	Mining and Geology Manager at Masan Group's Nui Phao Mine in Northern Vietnam for the past 10 years, responsible for the development of systems and procedures.







### Blackstone is taking steps to become a globally significant, green nickel™ product supplier catering to the battery market



Significant amounts of capital committed (*existing, under construction and planned*) into production of high nickel content cathodes.



Nickel rich cathodes are preferred as their chemistry enhances range, which has been long-term barrier to the adoption of EVs.

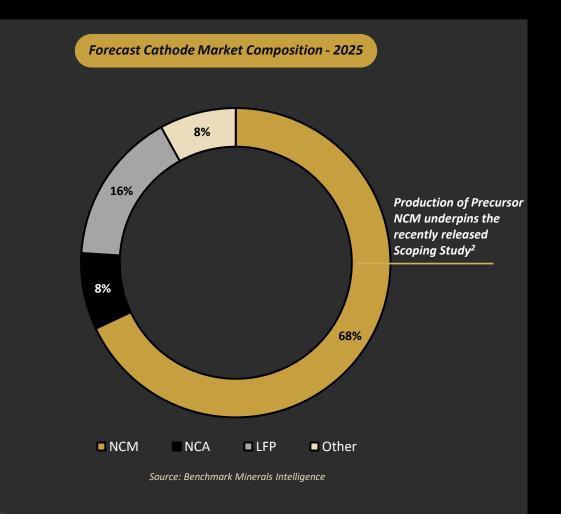


Security of supply concern is being addressed by direct investment into upstream and midstream markets:

- Chinese cathode manufacture GEM has doubled its stake to take control of the PT QMB New Energy Material Nickel/Cobalt Project in Indonesia; and
- LG signs MOU for \$9.8bn investment deal into Indonesia which will involve fully integrated investment into mines upstream though to battery production.<sup>1</sup>

Demand for ethically, environmentally and responsibly sourced nickel will direct future investment flows and locations of future EV production hubs.

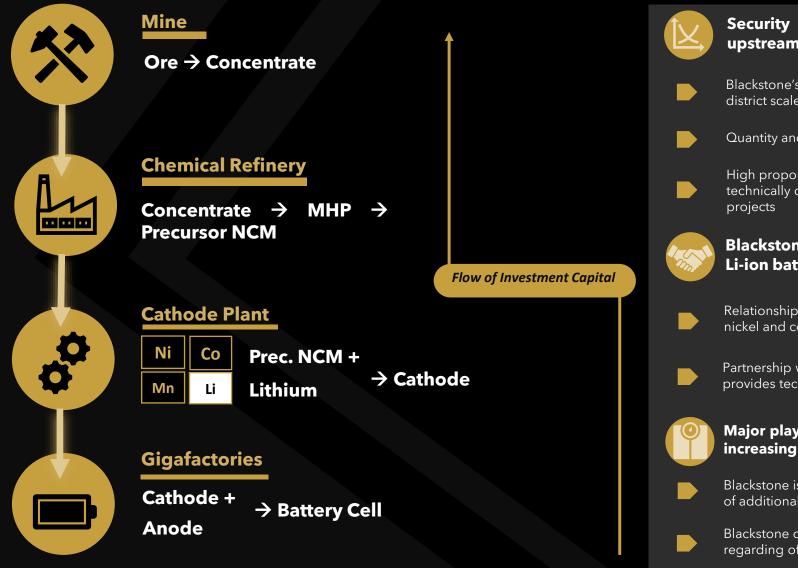
- 1. Sourced from Reuters
- 2. Refer to ASX announcement released 14 October 2020





# UNIQUE BUSINESS MODEL INTEGRATION OF LI-ION BATTERY SUPPLY CHAINS





# Security of supply concern is driving investment further upstream into Li-ion battery supply chains

- Blackstone's flagship Ta Khoa Nickel Copper PGE Project in Vietnam is a district scale, green nickel™ sulfide opportunity
- Quantity and quality of global nickel sulfide resources are in decline

High proportion of future nickel supply for the EV industry will come from technically challenging and environmentally unfriendly nickel laterite projects

# Blackstone is forging partnerships to capture value across the Li-ion battery supply chain

- Relationship with Trafigura increases and diversifies access to upstream nickel and cobalt materials
- Partnership with EcoPro, South Korea's largest cathode manufacturer, provides technical expertise into the downstream chemical industry

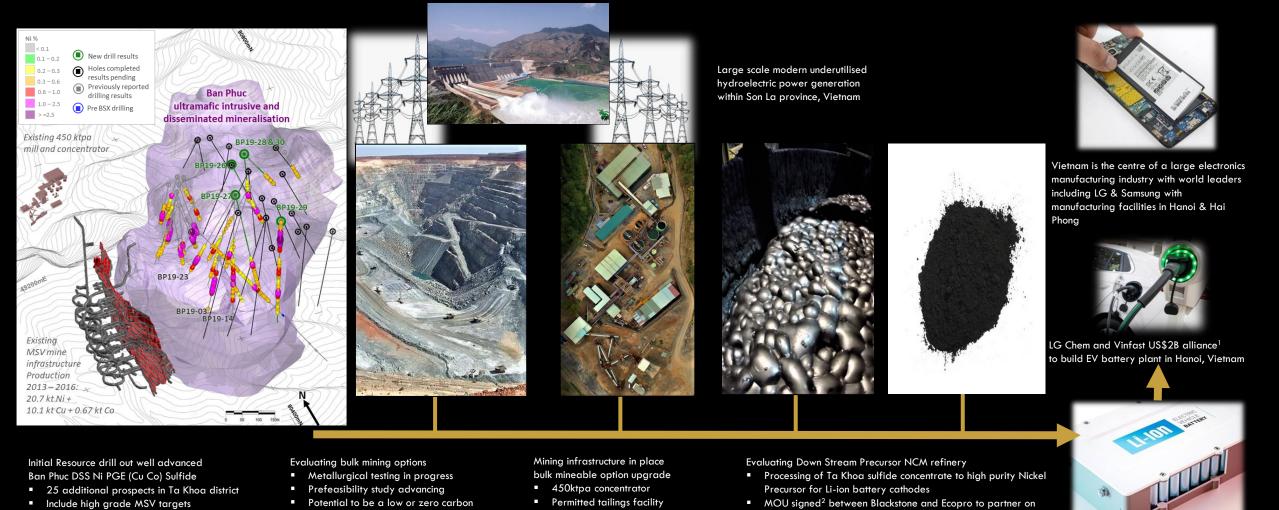
# Major players in the Li-ion battery industry are indicating rapidly increasing demand for downstream products

Blackstone is positioning to meet this demand through the staged construction of additional refining capacity

Blackstone continues to engage with multiple potential joint venture partners regarding offtake financing and or other funding options

### **UNIQUE BUSINESS MODEL** LARGE SCALE, INFRASTRUCTURE ADVANTAGE, EPICENTER OF ASIA ELECTRONICS AND EV MANUFACTURING





Initial Resource drill out well advanced Ban Phuc DSS Ni PGE (Cu Co) Sulfide

- 25 additional prospects in Ta Khoa district
- Include high grade MSV targets
- Underground access to DSS in place via previously mined MSV deposit

Evaluating bulk mining options

- Metallurgical testing in progress
- Prefeasibility study advancing
- Potential to be a low or zero carbon project with electric fleet options combined with renewable hydroelectric power

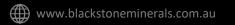
Mining infrastructure in place bulk mineable option upgrade

- 450ktpa concentrator
- Permitted tailings facility
- 250 person Camp
- Assay Lab
- Skilled cost-effective workforce

Evaluating Down Stream Precursor NCM refinery

- Processing of Ta Khoa sulfide concentrate to high purity Nickel Precursor for Li-ion battery cathodes
- MOU signed<sup>2</sup> between Blackstone and Ecopro to partner on developing a Precursor NCM refinery in Vietnam







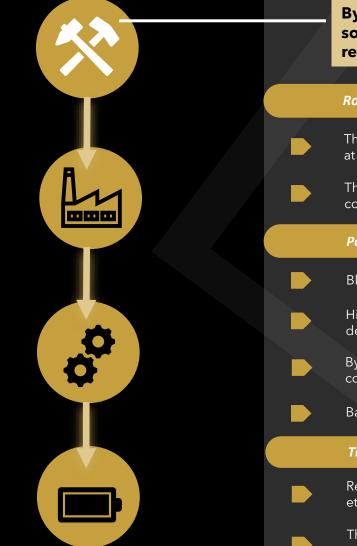
## UNIQUE BUSINESS MODEL PROJECT LOCATION AND INFRASTRUCTURE





## SCALABLE AND MODULAR ADDRESSING SECURITY OF SUPPLY CONCERNS





By combining the existing mineral inventory, exploration potential and ability to source third party concentrate, Blackstone can increase the scale of its downstream refining business to meet the rising demand for downstream nickel products

#### Robust Base Case Scoping Study Economics

The Company's recently completed Scoping Study is underpinned by the large open pit DSS orebody at Ban Phuc, which includes a maiden Indicated Resource of 44.3Mt @ 0.52% Ni for 229Kt

The Scoping Study considers the construction of a new 4Mt concentrator, supplying up to 200kt of concentrate to a downstream chemical refinery

#### Potential to add high grade MSV inventory and new DSS ore bodies

Blackstone is actively exploring and currently has 10 active drill rigs

High priority MSV targets include Ban Chang, King Snake and Ta Cuong, similar to the Ban Phuc MSV deposit mined by previous owners

- By delineating multiple MSV resources, Blackstone will be able to defer upfront capital (for the 4Mt concentrator) and use the existing 450kt concentrator which has been built to international standards
- Ban Khoa is the Company's highest priority DSS target , with potential to add significant mine life

#### Third party concentrate

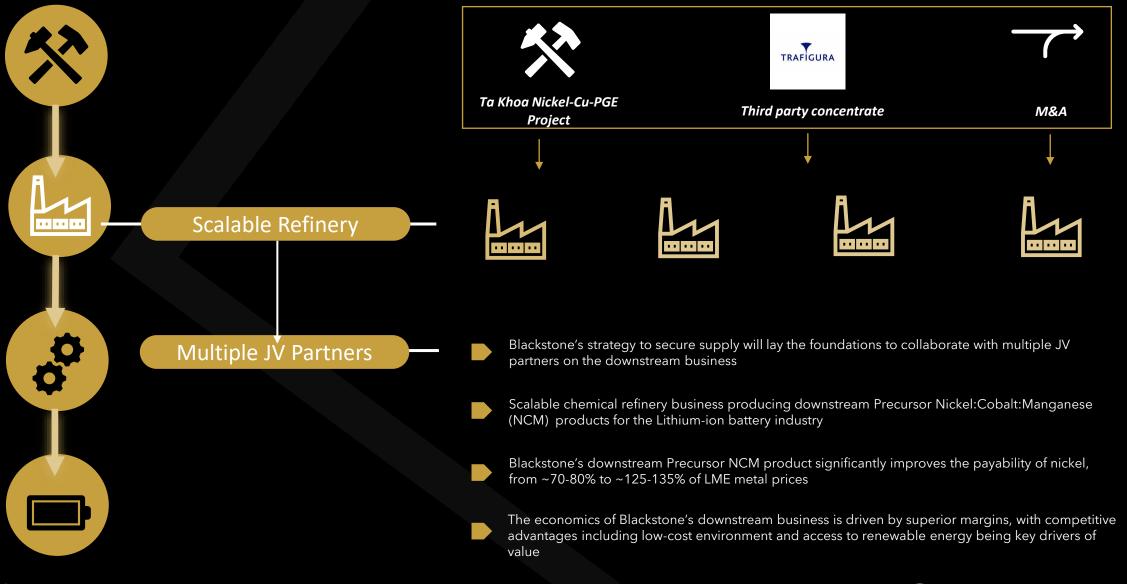
Relationship with Trafigura is a commitment to source upstream nickel and cobalt material through ethical and environmentally responsible supply chains

Third party concentrate is to be primarily sourced from Australia and Canada, with opportunities future potential alliances and partnerships to be formed



# SCALABLE AND MODULAR POTENTIAL FOR MULTIPLE JV PARTNERS

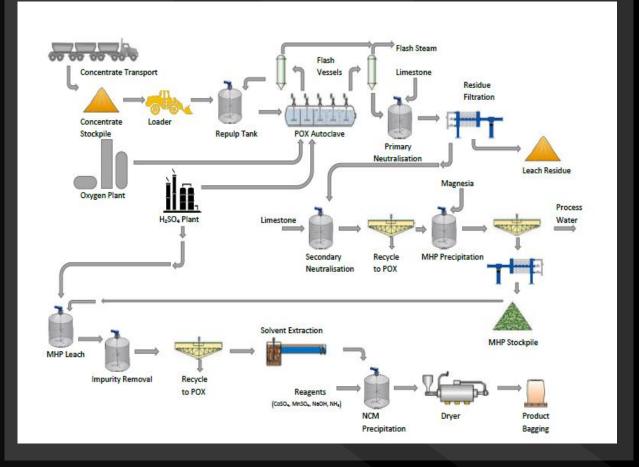




### SCALABLE AND MODULAR

### BLACKSTONE INTENDS TO PARTNER COLLOBORATIVELY ON THE DOWNSTREAM TO MAXIMISE RETURNS





Scoping Study Refinery Process Flow Diagram



Conversion of nickel concentrate into a MHP chemical, and thereafter to Precursor NCM uses established and well understood technology



Cheap hydro power renewable energy source is a key driver for compelling downstream economics (~US 7 cents per kwh)



Vietnam is located within proximity to major battery market leaders. Blackstone will maximise product margin by reducing transport and rehandling costs



Major players such as LG Chem and Samsung SDI have already established supply chains in Vietnam. There is an ability for downstream products to be delivered directly to the battery supply chain

## SCALABLE AND MODULAR SCOPING STUDY REPRESENTS BASE CASE ECONOMICS



Blackstone's downstream Precursor NCM product significantly improves the payability of nickel, from ~70-80% to ~ 125-135% of LME metal prices

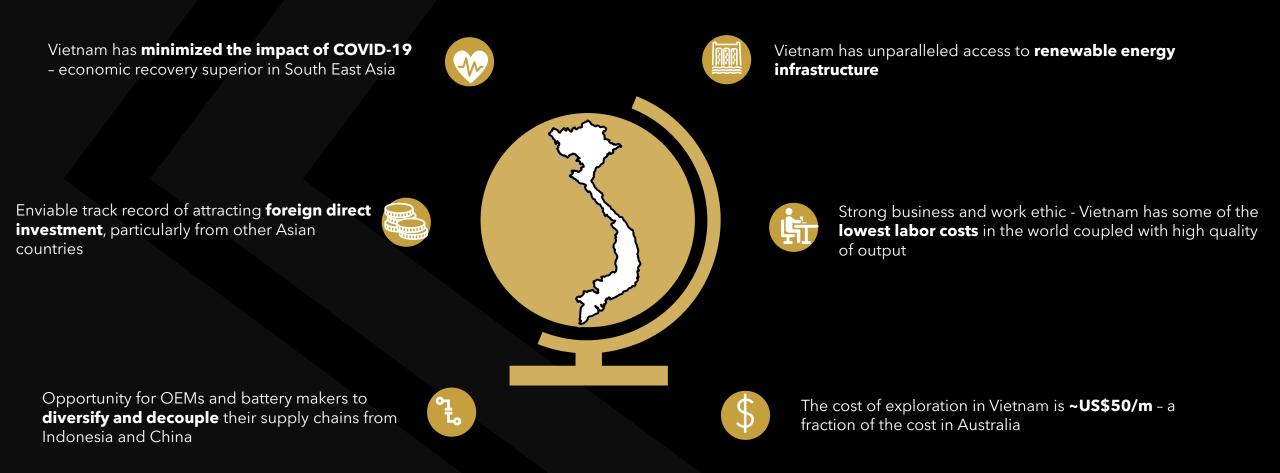


- Scoping Study represents base case production and economics
  - Annual Precursor NCM production of **25ktpa** (~51% Ni content) from one 200ktpa autoclave
  - Gross Revenue of ~US\$3.3 billion
- Security of supply solution enables the Scoping Study production profile to be scaled
- **Downstream PFS to contemplate the construction of four 200ktpa autoclaves** 
  - Significantly scaled nickel output and production of Precursor NCM
  - Ability to produce tailored products, enabling Blackstone to meet the specifications of a number of different customers





### Vietnam is a booming economy that is ideally placed to become a major hub supporting the Lithium-ion battery industry

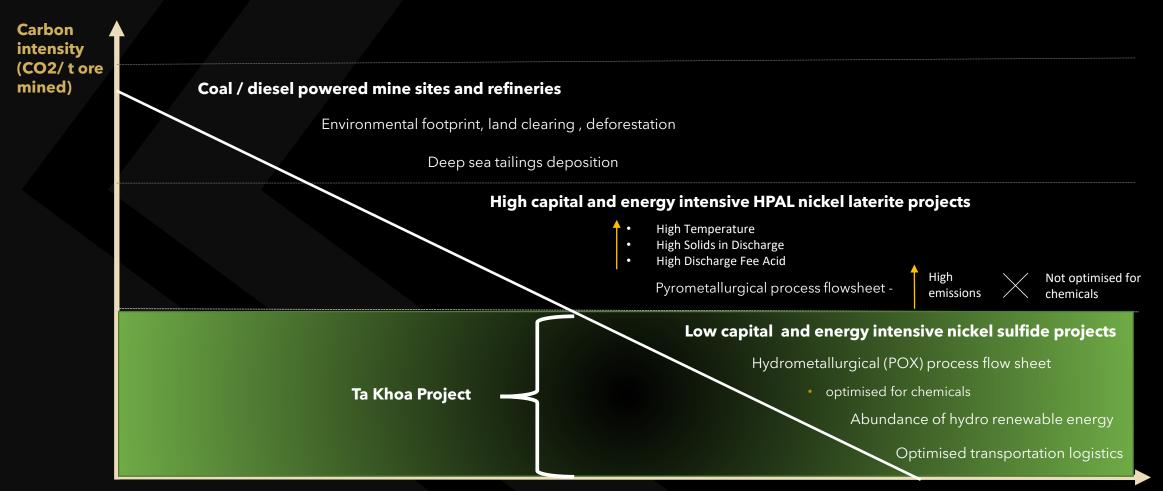


### **COMPETITIVE OPERATING ADVANTAGE**

### INVESTING IN BLACKSTONE IS AN ENVIRONMENTALLY RESPONSIBLE ALLOCATION OF CAPITAL



OEMs are demanding Li-ion batteries sourced from green nickel<sup>™</sup> supply chains. The industry will be willing to pay a premium for responsibly sourced green nickel<sup>™</sup>

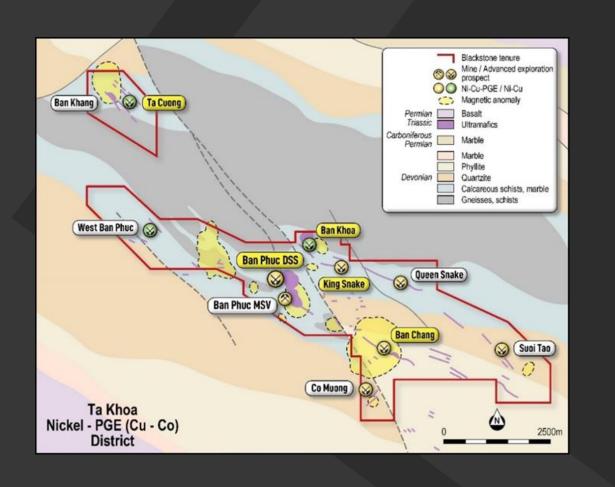


Attractiveness/ Premium applicable to downstream product



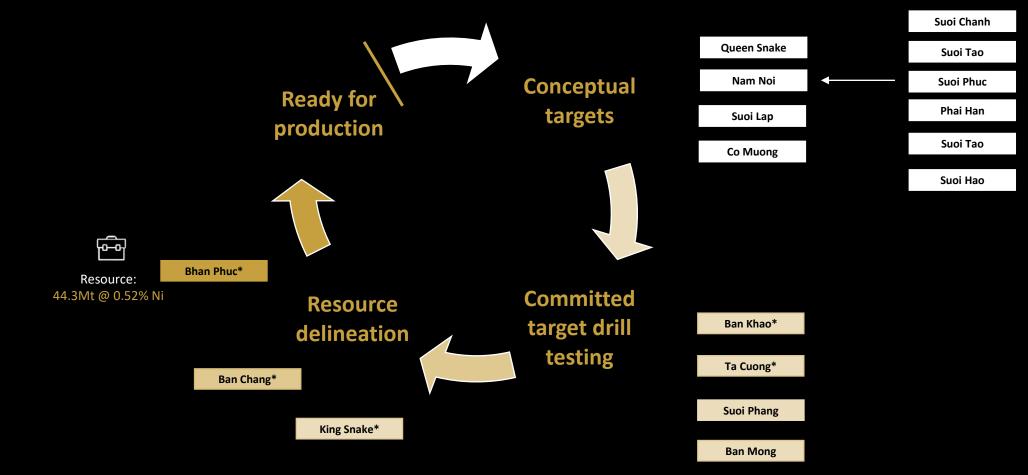
# DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – TA KHOA PROJECT AGGRESSIVE EXPLORATION TARGETING HIGH GRADE MSV & DSS MINE LIFE EXTENSIONS





- District scale Nickel PGE (Cu Co) green nickel™ sulfide project
  - Prioritising targets within a 5km of existing Ban Phuc 450ktpa concentrator
  - Blackstone has defined a maiden resource for the Ban Phuc DSS deposit, a bulk-mining proposition
- A number advanced stage MSV targets and a number of large bulk-tonnage DSS prospects
  - Ban Chang infill drilling for resource estimation is at an advance stage
- Immediate success at King Snake being followed up aggressively, mineralisation open down dip and down plunge
- Potential DSS mine life extensions are being investigated, Ban Khoa being the highest priority
- In-house geophysics crew continue to identify highly prospective targets, currently at Suoi Tao and others

Ten active drill rigs targeting MSV and DSS prospects, intended to support the construction of a new 4Mtpa concentrator as well as the restart of the existing concentrator



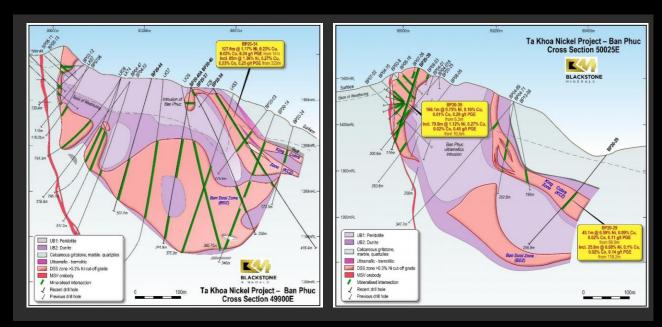
\*Drill rig active



### DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – TA KHOA PROJECT BAN PHUC DSS UNDERPINS BASE CASE ECONOMICS



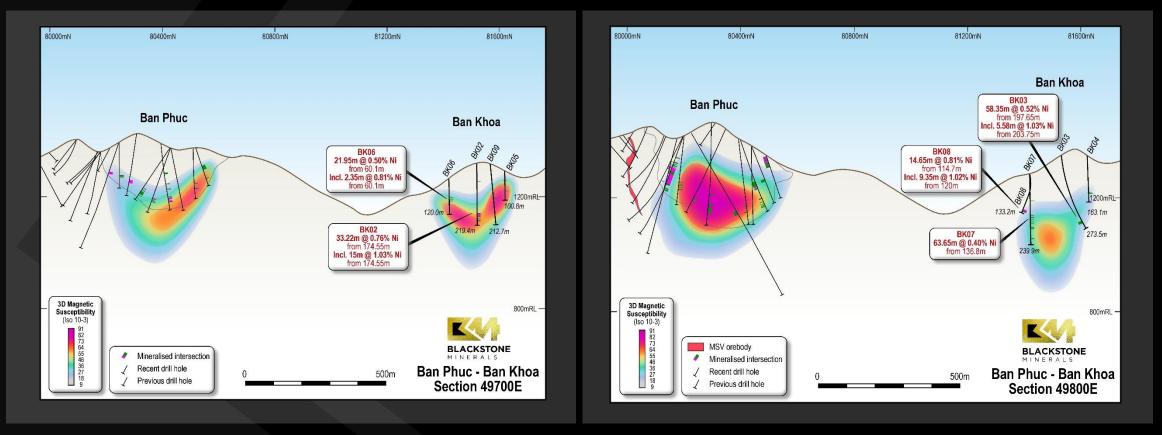




Blackstone discovered the King Cobra shallow, high grade zone within the Ban Phuc DSS

# DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – TA KHOA PROJECT BAN KHOA HAS POTENTIAL TO ADD SIGNIFICANT MINE LIFE



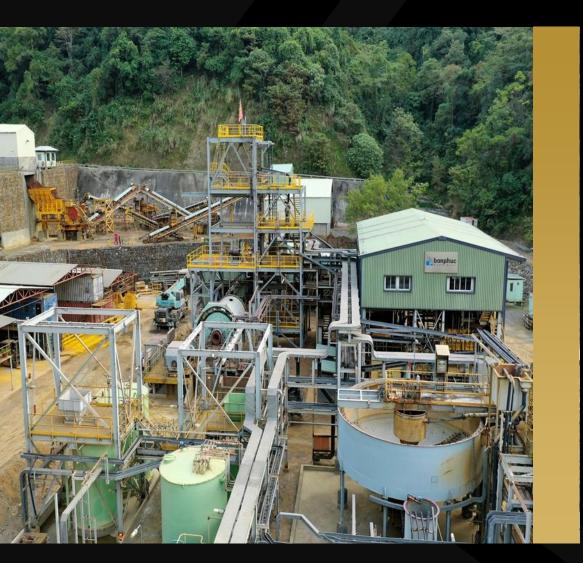


The Ban Khoa prospect is analogous to the Ban Phuc DSS orebody

Blackstone has commenced drilling to delineate DSS resources at Ban Khoa

### DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – TA KHOA PROJECT STAGED CAPEX AND BY-PRODUCTS





Staged Capex

- Scoping Study considers immediate construction of 4Mtpa treatment facility to process ore mined at the large tonnage, Ban Phuc DSS orebody
- Project also features an established and well-maintained 450ktpa concentrator and multiple high grade MSV prospects
- Potential to defer construction and associated capex of the 4Mtpa plant by initially restarting the existing concentrator to treat high grade MSV ore
- Doing so would improve the overall project NPV, as the initial capex requirement will be significantly reduced and may be funded through future cash flow

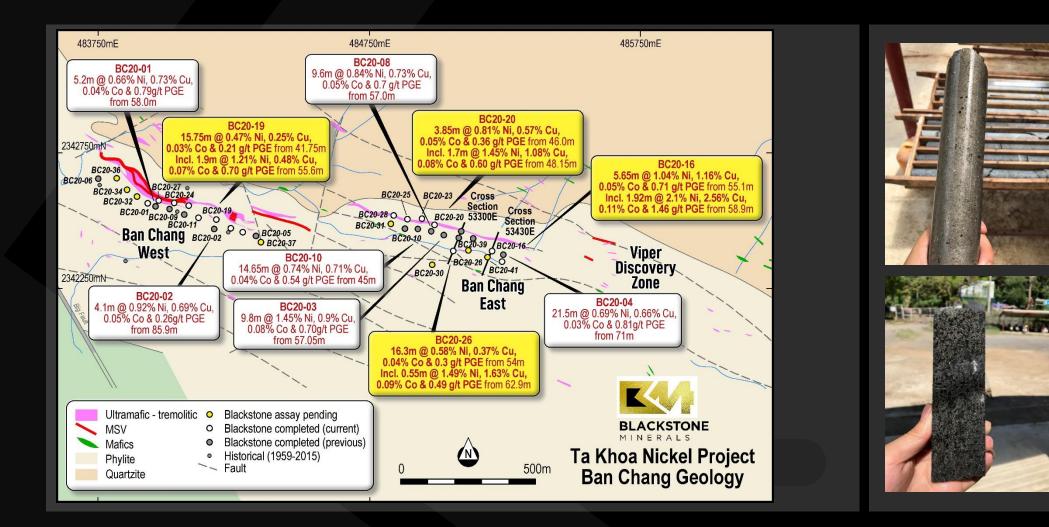
#### **By-Product Credits**

02

- By-product minerals (including copper, gold, platinum, palladium and rhodium) that exist within the Ban Phuc DSS orebody can be recovered through flotation and processed within the downstream refinery
- Additional processing infrastructure to allow the downstream processing to produce secondary saleable products to generate by-product credits is considered

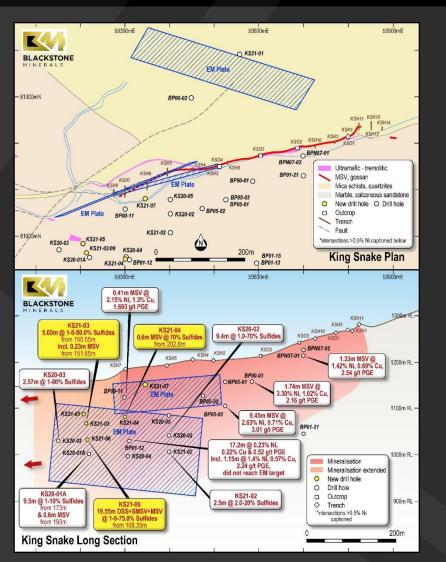
## DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – TA KHOA PROJECT MAIDEN RESOURCE AT <u>BAN CHANG</u> EXPECTED IN 2021 H1



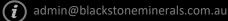


### DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – TA KHOA PROJECT DRILLING OF NEW EM CONDUCTORS AT KING SNAKE IS INTERSECTING MASSIVE NI SULFIDES RESULTS INDICATE SYSTEM IS OPEN DOWN PLUNGE AND DOWN DIP











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### **APPENDIX 1 - PROJECT PORTFOLIO**



# **03** Sil

### Silver Swan South Project

(Gold-Nickel)

- Drill ready targets for both gold and nickel sulfide along strike of major gold and nickel sulfide mines, accessed via sealed road ~40km from Kalgoorlie, Western Australia
- Silver Swan South Project, together with some of Blackstone's other highly prospective gold projects Record Mine, Red Gate & Middle Creek, are intended to be spun-out into a new listed vehicle Codrus Minerals (Blackstone to retain ~50%)

#### Gold Bridge Project (Gold-Copper-Cobalt)

02

- District-scale tenure with 48km strike length of untested prospective geology in high-grade Bralorne Gold district (4.4Moz @ 17g/t Au) of British Columbia
- Recent mapping, rock chip sampling and IP geophysics returned very high-grade Cu-Au assays underlain by porphyry scale chargeability anomalies

Ta Khoa Project

01

(Nickel-Copper-PGE-Cobalt)

- 34.8km<sup>2</sup> of exploration and mining leases with multiple Ni PGE (Cu Co) prospects, a well maintained 450ktpa mill, concentrator and mine facilities built to international standards in 2013 for US\$136m
- Leverage existing mine infrastructure +/- new technology to deliver a high value Ni (Mn Co) Sulfate product into Vietnam based Lithium-ion battery manufacturing industry

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### **APPENDIX 2 – CORPORATE SNAPSHOT**

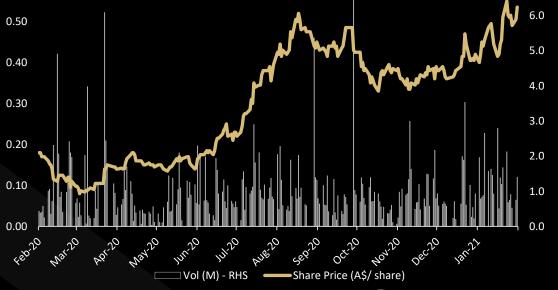


BLACKSTONE MINERALS LIMITED			
ASX Code	BSX		
OTCQX Code	BLSTF		
Shares on Issue	321.8m		
Last Share Price (16 Feb 2021)	\$A0.54		
Market Capitalisation	A\$174m		
Cash at 31 Dec 20	A\$22m		
Options	24m		
3-month Avg Daily Vol. (shares)	1.3m		

KEY SHAREHOLDERS				
Deutsche Balaton	13%			
EcoPro	13%			
Fidelity	6%			
Board & Management	14%			



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The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr Andrew Radonjic, a Non-Executive Director and Technical Consultant of the company, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Andrew Radonjic has sufficient experience which is relevant to the style of mineralisation and type of deposits 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 Andrew Radonjic consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Mineral Resource Estimation was conducted by BM Geological Services (BMGS) under the supervision of Andrew Bewsher, a director of BMGS and Member of the Australian Institute of Geoscientists with over 21 years of experience in the mining and exploration industry in Australia and Vietnam in a multitude of commodities including nickel, copper and precious metals. Mr Bewsher consents to the inclusion of the Mineral Resource Estimate in this report on that information in the form and context in which it appears.

#### No New Information or Data

The Company confirms that it is not aware of any new information or data that materially affects the information including in the original market announcements above, and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons' finding are presented have not been materially modified from the original market announcements.

# **Competent Person Statement**

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