

Looking forward. Mining green.

BSX INVESTOR PRESENTATION

Paydirt Nickel Conference October 2021

ASX:BSX

CAUTIONARY & FORWARD LOOKING STATEMENT



The PFS referred to in this Presentation is the study of the potential viability of the Ta Khoa Refinery Project. It has been undertaken to understand the technical and economic viability of the TKR.

The Company has concluded that it has a reasonable basis for providing the forward looking statements included in this announcement. The reasons for this conclusion are outlined throughout this announcement. However, the assumptions and results of the PFS set out above and elsewhere in this announcement ("PFS Parameters") have been developed through feasibility work completed to the level of AACE/AusIMM Class 4 (+/-25% accuracy) and the use of macroeconomic assumptions. For the avoidance of doubt, investors are advised that the PFS Parameters do not constitute a production forecast or a target in relation any mineral resources associated with wit the Company. The Company wishes to expressly clarify that the PFS Parameters are based on the expected grade of nickel, cobalt and copper that is reliant upon 3PF for which there is currently no supply agreement. The PFS Parameters have been disclosed by Blackstone to provide investors with an intended scale and nature of the Project.

The PFS referred to in this announcement has been undertaken to assess the technical and financial viability of the Project. Further evaluation work, including a Definitive Feasibility Study ("DFS") is required before the Company will be in a position to provide any assurance of an economic development case. The PFS is based on material assumptions set out in Section 1.13 of the Executive Summary in this announcement. These include assumptions about the availability of funding and the pricing received for the Ta Khoa Refinery Project products. While the Company consider all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by this PFS will be achieved. To achieve the outcomes in this PFS, the pre-production capital (including contingency) of US\$491m, additional capital for pre-commitment activities such as a DFS, pilot plant development and working capital is likely to be required.

Investors should note that there is no certainty that the Company will be able to raise this amount of funding required when needed. It is also possible that such funding will only be available via equity funding which may have a dilutive effect on the Company's share value. The Company may also pursue other strategies in order to realise the value of the Ta Khoa Refinery Project, such as a sale, partial sale or joint venture of the Ta Khoa Refinery Project. If this occurs, this could materially reduce the Company's proportionate share of ownership of the Ta Khoa Refinery Project. Accordingly, given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PFS.

This report contains certain forward-looking statements. The words "expect", "forecast", "should", "projected", "could", "may", "predict", "plan", "will" and other similar expressions are intended to identify forward looking statements. Indications of, and guidance on, future earnings, cash flow costs and financial position and performance are also forward-looking statements. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results or trends to differ materially. These variations, if materially adverse, may affect the timing or the feasibility of the development of the Ta Khoa Nickel Project.

The project development schedule assumes the completion for the Downstream Business Unit of a Definitive Feasibility Study (DFS) by mid-2022. A PFS & DFS for the Upstream Business Unit is assumed to be completed in 2021 and 2022 respectively. Development approvals and investment permits will be sought from the relevant Vietnamese authorities concurrent to studies being completed. Delays in any one of these key activities could result in a delay to the commencement of construction (planned for early 2023). This could lead on to a delay to first production, currently planned for 2024. It is expected that the Company's stakeholder and community engagement programs will reduce the risk of project delays. Please note these dates are indicative only.

The JORC-compliant Mineral Resource estimate forms the basis for the Scoping Study in the market announcement dated 14 October 2020. 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. Please refer to the Cautionary Statement in the Scoping Study market announcement dated 14 October 2020.

INVESTMENT THESIS



Exposure to rapidly intensifying green electrification movement

- Blackstone provides excellent exposure to the growing electric vehicle and Li-ion battery thematic
- Once in a generation opportunity to position for the movement towards high nickel content cathodes needed for the EV revolution



District scale nickel sulfide opportunity, significant existing infrastructure and competitive operating advantages

- Flagship Ta Khoa mine in Northern Vietnam has up to 25 massive sulfide vein (MSV) and disseminated sulfide (DSS) targets
- Attractive product pricing, low-risk investment jurisdiction, abundant access to renewable hydro power and competitive labor costs



Scalable and modular, globally relevant downstream refinery

Blackstone's intention is to collaborate with Tier 1 partners to unlock the value of its expanded downstream refinery strategy, initially in Vietnam with future potential to enact a global strategy Cathode Production Capacity* (kt) vs Nickel Demand (kt



Source: Benchmark Minerals Intelligence *Cathodes with nickel-based chemistries as of September 2021

GLOBAL CLASS I NICKEL PRODUCERS

FUTURE DEMAND FOR CLASS I NICKEL TO BE DRIVEN BY RAPID GROWTH IN THE LI-ION BATTERY INDUSTRY





Sources for Global Class I Nickel Producers

Nornickel	Q4 & 2020 Report	https://www.nornickel.com/upload/iblock/eee/NORNICKEL_PRODUCTION_RESULTS_FOR_FY2020_full.pdf
Vale	Q4 Report	http://www.vale.com/EN/investors/information-market/quarterly-results/QuarterlyResultsDocs/20210203%20PREREPORT%204T20_i.pdf
Jinchuan	镍行业深度报告	https://pdf.dfcfw.com/pdf/H3_AP202009301418401737_1.pdf?1601483998000.pdf
Glencore	Full Year 2020 Production Report	https://www.glencore.com/dam/jcr:9a549d01-c619-4e0d-b043-403a417bd79b/GLEN_2020-Q4_ProductionReport.pdf
BHP	Half Year and Quarterly Reports	https://www.bhp.com/investor-centre/financial-results-and-operational-reviews/
Sumitomo	Integrated 2020 Report	https://www.smm.co.jp/E/ir/library/annual/pdf/2020 All EN.pdf
Sherrit	2020 Production Result and 2021 Guidance	https://www.sherritt.com/English/Investor-Relations/News-Releases/News-Release-Details/2021/Sherritt-Announces-2020-Production-Results-and-Guidance-for-2021/default.aspx
Terrafame	Full Year 2020 Results	https://www.terrafame.com/news-from-the-mine/news/2021/02/terrafames-net-sales-in-2020-were-eur-338.3-million-ebitda-for-q4-was-17.1-of-net-sales.html



NCM MARKET



BY 2030, NCM IS EXPECTED TO DOMINATE OTHER NICKEL RICH CHEMISTRIES INCLUDING NCA AND LMNO

Within the NCM chemistry class, NCM811 Precursor is expected to gain the largest market share



- Blackstone began its life as an explorer when the predominant NCM battery chemistry had ratio of nickel , cobalt and manganese of 1:1:1
- The last few years have seen rapid advancement towards higher nickel content cathodes, with NCM811 expected to be the dominant battery chemistry



BLACKSTONE TA KHOA PROJECT THE TA KHOA MINE & DOWNSTREAM REFINERY IS LOCATED IN THE HEART OF A MAJOR LITHIUM-ION BATTERY HUB

Ta Khoa Mine

(Nickel-PGE-Copper-Cobalt)

- 34.8km2 of tenements 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
- Upstream PFS due later in 2021 to consider expanded concentrator (4-6Mtpa)

Ta Khoa Refinery

(NCM Precursor)

 Blackstone is inviting JV partners to complete studies and construct a downstream processing facility in Vietnam

~Base case refined nickel output of ~40ktpa, with future potential for expansion





WHAT DO WE MEAN BY GREEN NICKEL[™]?





BLACKSTONE MINERALS - CORPORATE SNAPSHOT



BLACKSTONE MINERALS LIMITED

ASX Code	BSX
OTCQX Code	BLSTF
Shares on Issue	341.2m
Last Share Price (30 September 2021)	A\$0.465
Market Capitalisation	A\$159m
Cash at 30 September 21	~A\$13m
Options	12m
3-month Avg Daily Vol. (shares)	1.0M

KEY SHAREHOLDERS	
Deutsche Balaton	17%
EcoPro	12%
Fidelity	6%
Board & Management	12%

BOARD OF DIRECTORS



Managing Director



Non-Executive

Hamish Halliday

Andrew Radonjic



Non-Executive

Alison Gaines

Non-Executive Director

Hoirim Jung

Non-Executive Director



BLACKSTONE BUSINESS MODEL INTEGRATED UPSTREAM & DOWNSTREAM BUSINESS UNITS





PFS DEVELOPMENT STRATEGY INTEGRATION OF NICKEL SUPPLY CHAINS





TIMELINE UPSTREAM BUSINESS MILESTONES



Blackstone continues to aggressively drill several high confidence exploration targets within the Ta Khoa district.



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
- Limited regional exploration
- Target identification and prioritisation within a 5km of existing Ban Phuc 450ktpa concentrator
 - Modern geophysical methods
- Blackstone has defined a maiden resource for the **Ban Phuc DSS deposit**, a bulk open pit mining proposition
- A number of advanced stage MSV targets and several large bulktonnage DSS prospects
 - Ban Chang (MSV) infill drilling for resource estimation is at an advanced stage
 - King Snake (MSV) proceeding to infill drill program after highly successful Electromagnetic (EM) targeting phase
 - Ban Khoa (DSS) maiden Blackstone drill program complete highlighting another bulk tonnage open pit opportunity
 - Ta Cuong (MSV) target continues to be drilled to test strike and depth extensions

DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – BAN PHUC DISSEMINATED (DSS) OPEN PIT OREBODY

A resource update for the Ban Phuc DSS orebody is due in Q4 and will underpin the upcoming Upstream PFS





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

Ban Phuc Maiden Resource	Mt	Ni (%)	Cu (%)	Co (%)	Pd (g/t)	Pt (g/t)	S (%)	Ni (t)	Cu (t)	Co (t)	Pd (oz)	Pt (oz)
Indicated Resources	44	0.52	0.06	0.01	0.11	0.09	0.45	230,000	27,000	5,800	160,000	130,000
Inferred Resources	14	0.35	0.01	0.01	0.03	0.03	0.13	51,000	1,600	1,100	12,000	15,000

100m

BP20-5

74 7m @ 0 30% Ni

0.07 g/t PGE

cl. 49.0m @ 0.45% N 1.04% Cu, 0.01% Co, 0.17 g/t PGE from 2.0m

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DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – BAN KHOA DISSEMINATED (DSS) OPEN PIT OREBODY



Ban Khoa is bulk tonnage open pit opportunity that has potential to extend mine life and complement mining at the near by Ban Phuc DSS deposit



DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – MAIDEN RESOURCE AT <u>BAN CHANG</u> (MSV) EXPECTED IN 2021 Q4



Ban Chang is Blackstone's most advanced MSV underground mining target





DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – MAIDEN RESOURCE AT <u>KING SNAKE (MSV)</u> EXPECTED IN 2021 Q4



Surface EM targeting has accurately guided the down plunge drilling of hundreds of meters from the historic surfaces showing



DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – BLACKSTONE **TA KHOA PROJECT EXPLORATION PIPELINE** Suoi Chanh - 4 + **CONCEPTUAL** Nam Noi Queen Snake TARGETS PRODUCTION Suoi Phuc Co Muong READY Phai Han Suoi Lap Suoi Hao Ē Ban Phuc Suoi Phang COMMITTED **Resource: DRILL TARGET RESOURCE** 44.3Mt @ 0.52% Ni Ban Chang* Suoi Tao **TESTING DELINEATION** King Snake* Ban Mong Ta Cuong* 17 *Drill rig active **Ban Khoa**

DISTRICT SCALE NICKEL SULFIDE OPPORTUNITY – CHIM VAN BLACKSTONE TO WORK WITH VIETNAMESE GOVT TO IDENTIFY NEW OPPORTUNITIES MINERALS



Blackstone Minerals to jointly explore with the General Department of Geology & Minerals of Vietnam (GDGMV), initially conducting new geophysics exploration to advance the Chim Van target. Chim Van is a major regional opportunity outside of and adjacent to the current Ta Khoa tenement holdings.



TA KHOA REFINERY FEED SOURCES



BLACKSTONE IS CONFIDENT IT WILL BE ABLE TO FILL THE BASE CASE 400KTPA TA KHOA REFINERY



DOWNSTREAM PRE-FEASIBILITY STUDY HIGHLIGHTS





43.5ktpa Globally significant refined annual nickel output



85.6ktpa

Production of premium NCM811 Precursor for the Li-ion battery industry



US\$451m

Average annual operating cash flow



US\$2.01bn

Post-tax NPV based on a 10 year life-of-operation



Post-tax IRR of 67%

Superior margins drive strong returns on invested capital



Low Capital Intensity

US\$491m project capital paid back in 1.5 yrs

TA KHOA REFINERY LOCATION STUDY BLACKSTONE HAS RECEIVED STRONG PROVINCIAL GOVERNMENT SUPPORT



Each of the proposed locations in the map below were qualitatively judged against key factors including provincial level support, residue disposal, tax incentives, logistics, renewable power supply, power cost and connection & availability of water and labour





A trade-off study was completed to assess the optimal location for the Ta Khoa Refinery



All analysis to date indicates that the TKR should be located either in Son La or Phu Tho provinces.



Significant corporate tax incentives are available to the Ta Khoa Refinery

Years of Operation	%	Corporate Tax Rate
0-4	%	0%
5-13	%	5%
14-15	%	10%
>15	%	20%

Blackstone is focused on being part of a fully integrated EV supply chain in Vietnam

Map illustrating the different locations assessed as part of the PFS study

VERSATILE BUSINESS MODEL

FLOWSHEET IS AMENABLE TO A RANGE OF INTERMEDIATE AND BATTERY GRADE PRODUCTS

The PFS refinery design will enable the production of multiple products, including NCM 811 which attracts a strong premium to metal prices.





Blackstone will be able to process and upgrade a number of products, including nickel concentrate and mixed hydroxide precipitate (MHP)



Hydrometallurgical downstream process enables Blackstone to accept low-cost nickel concentrates undesirable to the traditional pyrometallurgical downstream process route



Blackstone will be able to blend different feedstocks to optimise operational and cost performances, and **capture significant premiums on the sale of NCM precursor products**





TA KHOA REFINERY DOWNSTREAM REFINERY PROCESS FLOW DIAGRAM

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



BLACKSTONE MINERALS

DOWNSTREAM PFS ECONOMIC OUTCOMES

BASE CASE TA KHOA REFINERY GENERATES A POST-TAX NPV OF US\$2.01bn

The Ta Khoa Refinery valuation applies a conservative NCM811 Precursor price below current observable spot market rates. The economics of the Ta Khoa Refinery has low sensitivity to capital costs, with upfront project capital estimated to be repaid in 1.5 years from first production.

Life-of-Operation Economics	Unit	Base Case		
Revenue - Sale of NCM811 Precursor	US\$m	14,032		
NCM811 Precursor Price (avg realised)	US\$/t NCM811	16,397		
C1 Cash Costs	US\$/t NCM811	11,125		
All-in Sustaining Costs	US\$/t NCM811	11,423		
All-in Cost	US\$/t NCM811	11,997		
Avg Annual Operating Cash Flow	US\$mpa	451		
Operating Cash Flow	US\$m	4,512		
Net Cash Flow (Pre-tax)	US\$m	3,766		
Net Cash Flow (Post-tax)	US\$m	3,646		
Post-tax NPV (8% real)	US\$m	2,007		
IRR (Post-tax)	%	67%		
Capital Payback Period - from first production	vears	1.5		

Post-tax NPV Sensitivity Analysis (US\$m)



500 1,000 1,500 2,000 2,500 3,000 3,500 4,000



Note: The Other Operating Cost sensitivity analysis applies a +/- 20% adjustment to reagents, power, labour, site G&A, residue storage, maintenance and logistic costs.



NCM811 PRECURSOR PRICE FORECAST

THE PFS ASSUMES AN NCM811 PRECURSOR PREMIUM of 20%

The realised NCM811 Precursor Price in the PFS modelling is below currently observable on the spot market.



Source: BSX analysis of SMM data

ltem	Nickel Metal Forecast (50.8%)	Cobalt Metal Forecast (6.4%)	Manganese Metal Forecast (6.0%)	NCM811 Precursor Price Based on Metal Inputs (a)	NCM811 Precursor Premium (b)	NCM811 Precursor Price Forecast	NCM811 Precursor Spot Price
Source:	BMI	BMI	SMM		BSX analysis of SMM	a*(1+b)	SMM
CY2024	16,000	58,387	2,696	12,020	20%	14,425	19,559
CY2025	16,400	67,145	2,696	12,783	20%	15,339	19,559
CY2026	17,300	72,011	2,696	13,551	20%	16,261	19,559
CY2027	17,800	75,904	2,696	14,053	20%	16,864	19,559
CY2028	18,300	77,850	2,696	14,432	20%	17,318	19,559
CY2029	18,500	75,033	2,696	14,354	20%	17,224	19,559
CY2030	18,800	61,227	2,696	13,625	20%	16,350	19,559
LT	18,800	58,577	2,696	13,456	20%	16,147	19,559

Note: Prices quoted in table above are denominated in US\$

Note: Benchmark Mineral Intelligence did not provide forecast information for nickel metal prices beyond CY2030, as such BSX has carried forward the CY2030 estimate as the Long Term (LT) price applied in the economic modelling.

Note: Limited relevant forecast data is available for manganese metal, as such BSX applied observable market rates for the life-ofoperations as evidenced from Shanghai Metal Markets (SMM) at the time of the completion of the Ta Khoa Refinery PFS.



BASE CASE SENSITIVITY ANALYSIS THE TA KHOA REFINERY IS A CYCLE PROOF ASSET



The table below is a two-way sensitivity analysis for the post-tax valuation of the Ta Khoa Refinery assuming a range of NCM811 Precursor Premium and concentrate payability.

	Realised NCM Precursor Price (US\$/ t NCM 811)							
Post-tax NPV (US\$m) Sensitivity Analysis	Premium	0%	10%	20%	30%	40%		
		13,664	15,030	16,397	17,763	19,129		
	-10%	1,141	1,804	2,468	3,131	3,795		
	-5%	910	1,574	2,237	2,901	3,564		
Movement in Ni Concentrate Payability (Net of Penalties) %	0%	680	1,343	2,007	2,670	3,334		
	+5%	449	1,113	1,777	2,440	3,104		
	+10%	219	883	1,546	2,210	2,873		

The Ta Khoa Refinery is a margin-based business with lower leverage to nickel metal prices as compared to a mining operation.

In general, a movement in nickel metal prices affects the two biggest drivers of value for the TKR in the same direction.

For example, an increase in nickel metal prices will typically lead to an increase in NCM811 precursor price as well as an increase in the cost of purchasing nickel concentrates

Post-tax NPV₈ Spot Case valuation of US\$3.51bn (refer ASX announcement 26 July 2021 – Blackstone Delivers Exceptional PFS Results)

Current premium is ~40%

TIMELINE DOWNSTREAM BUSINESS MILESTONES



Over the next 12 months Blackstone will increase confidence in the Ta Khoa Refinery by progressing a DFS and proceeding to build a pilot plant in Northern Vietnam. Blackstone is inviting interested parties to collaborate during this phase.



COMPETENT PERSON STATEMENT



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.

Information in this Presentation relating to processing metallurgy is based on technical data compiled and reviewed by Tony Tang, a full-time employee of the company. Tony Tang is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience relevant to the metallurgical test-work discussed in this piece of news and the activity which he is undertaking to qualify as a Competent Person under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Tony Tang consents to the inclusion of the technical data 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.



THANK YOU

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