BLACKSTONE MINERALS

Looking forward. Mining green.

ASX ANNOUNCEMENT

17 June 2021

ASX: BSX

Blackstone Commences Green Hydrogen Study

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Blackstone Minerals Limited ("Blackstone" or the "Company") continues to expand its commitment to producing green nickel™ and is pleased to provide details on the first of several initiatives being considered as part of the Company's aim to develop a zero-carbon mining operation and downstream processing facility at Blackstone's flagship Ta Khoa Nickel-Copper-PGE Project in Vietnam.

The Company's current Pre-Feasibility Study (PFS) requires the use of oxygen in the downstream processing plant (refer Figure 1). Typically, the oxygen is produced by a conventional cryogenic oxygen plant with nitrogen as a by-product. However, the Company will investigate producing oxygen via the electrolysis of water, which will produce "green" hydrogen as by-product through the utilising of abundant renewable hydro-electric power and water available at Ta Khoa (Green Hydrogen Study).

The Green Hydrogen Study will include:

- An investigation into emerging green hydrogen technologies and their potential application at Ta Khoa
- A trade-off assessment of the economic (capital cost and operating cost) and environmental benefits of each option
- Assessment of the potential for downstream business to tap into renewable hydro-electric power and water sources.

The opportunity to produce a green hydrogen by-product at Ta Khoa strengthens Blackstone's aim to develop a zero-carbon mining operation and downstream processing facility at Ta Khoa. The following key points outline how the green hydrogen concept fits into the Company's strategy:

- Oxygen is required as in input into the POX process and the Company believes that water electrolysis with hydrogen as a by-product may be an economic and sustainable option.
- Green hydrogen for use in hydrogen fuel cells, is growing in favour as an alternate, complimentary technology to battery electric vehicles;

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- The Company intends to use this by-product hydrogen as a fuel for its own concentrate haulage road fleet

- As new hydrogen fuel cell mining fleet becomes commercially proven, the Company will also look to integrate hydrogen fuel cell vehicles into their mining fleet.

- The Green Hydrogen Study will also assess the potential to offset the Downstream Business Unit (DBU) refinery operating costs through the sale of Green Hydrogen.

Should this study yield positive economics, Blackstone will look to include Green Hydrogen into the Ta Khoa base case, and consider options to commercialise production for sale to third parties given the abundance of hydroelectric power and clean water in the north of Vietnam.

Blackstone Minerals' Managing Director Scott Williamson commented:

"The Ta Khoa Project benefits from significant competitive operating advantages including access to renewable hydropower. The decision to commence a Green Hydrogen Study reflects Blackstone's commitment to minimising its carbon footprint and producing downstream nickel products with the highest ESG credentials."

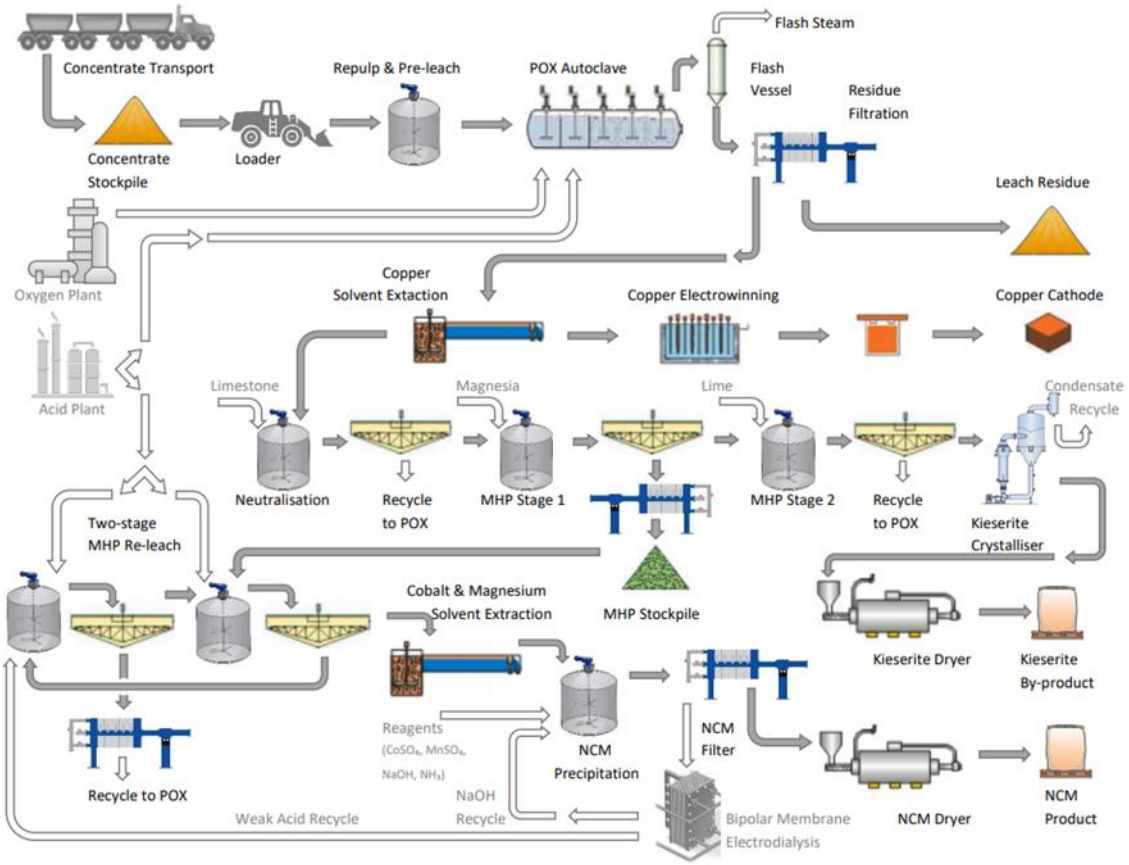

Figure 1. Proposed Pre-Feasibility Study Refinery Process Flow Diagram

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How is Green Hydrogen Produced?

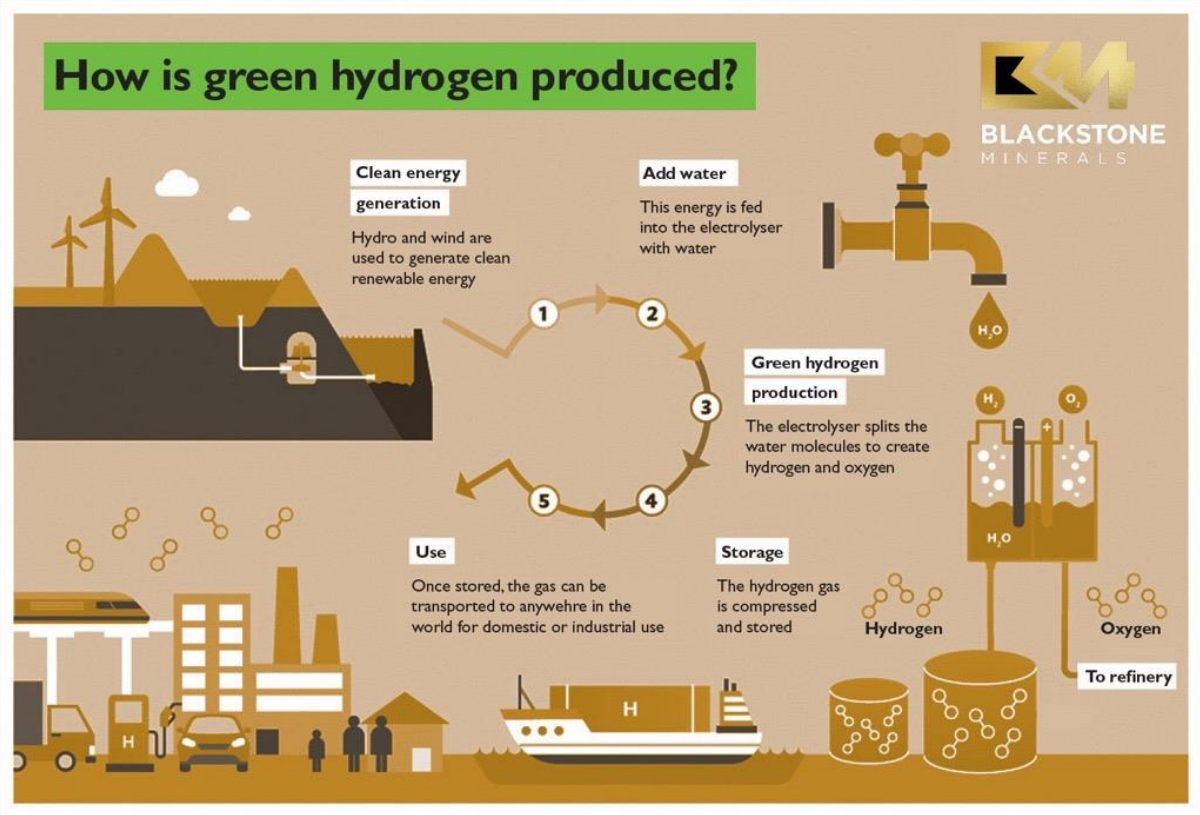

Figure 2: How is Green Hydrogen Produced?

Source: Adapted from Hydro Tasmania

Authorised by the Managing Director on behalf of the Board of Blackstone Minerals Limited.

For more information please contact

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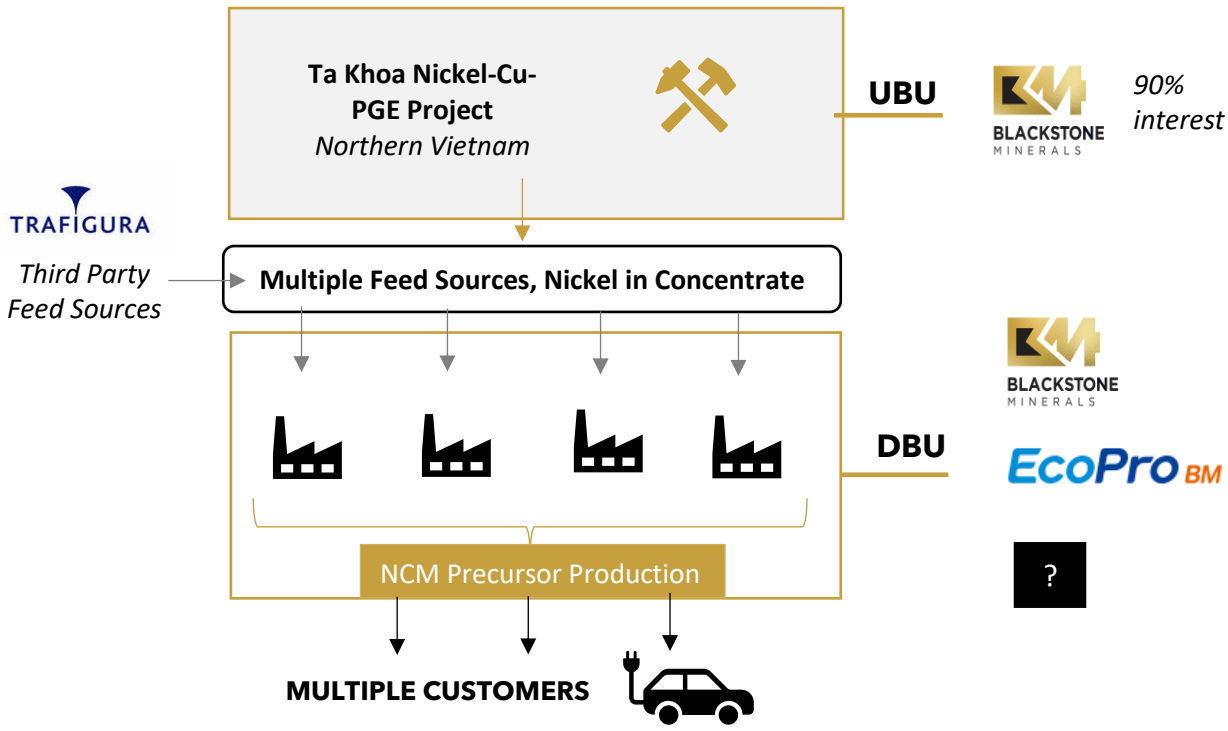
About Blackstone

Blackstone Minerals Ltd (ASX: BSX / OTCQX: BLSTF / FRA: B9S) is focused on building an integrated upstream and downstream processing business in Vietnam that produces Nickel: Cobalt: Manganese (NCM) Precursor products for Asia's growing Lithium-ion battery industry (refer Figure 3).

Figure 3 –Ta Khoa Project Snapshot



The Company owns a 90% interest in the Ta Khoa Nickel-Copper-PGE Project. The Ta Khoa Project is located 160km west of Hanoi in the Son La Province of Vietnam and includes an existing modern nickel mine built to Australian standards which is currently under care and maintenance (refer Figure 4). The Ban Phuc nickel mine successfully operated as a mechanised underground nickel mine from 2013 to 2016.

In October 2020, the Company completed a Scoping Study which investigated mining the Ban Phuc Disseminated nickel sulfide ore body and the construction of one downstream refinery. The Company is now advancing the Ta Khoa Project through two separate PFS's for the Upstream Business Unit (UBU) and DBU.

The DBU PFS will consider expanded downstream refinery capacity, for which feedstock will be met from the Ta Khoa Nickel – Cu – PGE mine as well as third party concentrate. The UBU PFS will contemplate the option to mine several higher grade massive sulfide vein (MSV) deposits, which has the potential to reduce initial upfront capital requirements by enabling the Company to restart the existing Ban Phuc Concentrator (450ktpa).

By combining the Company's existing mineral inventory (Ban Phuc Disseminated Sulfide - DSS), exploration potential presented by high priority targets such as Ban Chang and King Snake and the ability to source third party concentrate, Blackstone will be able to increase the scale of its downstream business to meet the rising demand for downstream nickel products.

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Figure 4. Ta Khoa Nickel-Cu-PGE Project Location

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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 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 information in this report that relates to Mineral Resource Estimation in respect of the Ta Khoa Nickel Project is based on information compiled 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 has sufficient experience which is 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 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.

The Company confirms that all material assumptions and parameters underpinning the Mineral Resource Estimates as reported within the Scoping Study in market announcement dated 14 October 2020 continue to apply and have not materially changed, and that it is not aware of any new information or data that materially affects the information that has been included in this announcement.

Forward Looking Statements

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 Pre-Feasibility Study (PFS) by mid-2021 and 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

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(planned for early 2023). This could lead on to a delay to first production, planned for 2024. 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 18% 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.

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