



ASX ANNOUNCEMENT

ASX : BSX



13 March 2024

## Blackstone Update on Refinery Byproduct Offtake Strategy

### KEY POINTS

- Blackstone Minerals Limited ("Blackstone" or the "Company") has progressed the Ta Khoa Refinery ("TKR" or "Project") byproduct offtake strategy (refer ASX announcement 21 December 2023). The Company has signed a non-binding Memorandum of Understanding ("MOU") with three Vietnamese companies to sell Ta Khoa Refinery byproducts, being manganese sulphate (or epsomite) and sodium sulphate. The identified companies include Vietnam Chemical Group ("VinaChem"), PV Chemical and Equipment Corporation ("PVChem") and Nam Phong Green Joint Stock Company ("Nam Phong");
- The offtake arrangements would create a pathway for Ta Khoa Refinery byproducts to enter the market as well as significantly improve revenues for the Ta Khoa Project, thus improving project financial credentials and operating costs (net of byproduct credits);
- The identified companies are also chemical suppliers, capable of supplying the necessary reagents to the Ta Khoa Refinery to convert nickel sulphide concentrate (and other intermediate products) into precursor cathode active material ("pCAM") NCM811;
- Blackstone has signed a non-binding MOU with Development for Resources Environmental Technology Joint Stock Company ("DRET") to investigate opportunities to repurpose and trade waste material (or residue) from the Ta Khoa Refinery into construction material products;
- Execution of residue offtake agreement/s will yield significant cost savings for the Project as it will reduce capex associated with on site storage requirements and improve revenue.

For a video summary of the announcement head to the Blackstone Investor Hub <https://investorhub.blackstoneminerals.com.au/link/4PK1xe>

### Byproduct Offtake & Reagent Supply Agreements

Blackstone is pleased to announce an update to its recent refinery byproduct offtake MOU announcement. The Company has signed non-binding MOUs with three Vietnamese companies to develop opportunities to trade byproducts produced from its Vietnamese Ta Khoa Refinery.

The refinery will produce three different byproducts, these are:

- copper cathode (LME grade),
- magnesium sulphate in the form of epsomite,
- sodium sulphate.

Although copper cathode can be sold directly on the London Metal Exchange ("LME"), buyers of epsomite and sodium sulphate need to be identified locally. Blackstone has entered into non-binding MOUs with chemical companies/traders being, VinaChem, PVChem and Nam Phong, who are interested in the purchase of both the epsomite and sodium sulphate byproducts.

The TKR prefeasibility study did not consider epsomite and sodium sulphate as 'cash generating'. The inclusion of epsomite and sodium sulphate as a saleable byproduct will improve revenues for the TKR DFS, thus improving project financial credentials and operating costs (net of byproduct credits).

The engaged companies will use TKR byproducts to produce products such as fertiliser, detergents, construction materials and other chemical products. These products are then used in Vietnamese and global industries such as, but not limited to, agriculture, construction, industrial cleaning products, medical, textile, chemical, paper and glass manufacture.

Importantly, the engaged companies can take the full amount produced by the refinery. The Companies confirmed the byproduct volumes produced from the refinery are only a small portion of what is currently being imported into Vietnam, demonstrating offtake security. Blackstone believes it has a competitive advantage to displace the imported epsomite and sodium sulphate products given its location within Vietnam.

In addition, the MOU also covers the supply of refinery reagents to allow the conversion of nickel concentrate feed into pCAM NCM811. Blackstone has been investigating the capability of these Vietnamese companies to supply high quality reagents to the Ta Khoa Refinery, reducing supply risk for the project. This strategy aligns with previous announcements to explore and contract local companies to assist with project development and execution (refer ASX announcement 20 July 2023).

Site visits were conducted in December 2023 (refer ASX announcement 21 December 2023) to investigate the capability of these companies. It was pleasing to see that these companies service both local and international customers, are ISO accredited and were able to demonstrate high quality of operation and safety standards.

Under the MOU, the following initiatives will be explored;

1. Develop and confirm commercial terms for supply agreements for TKR reagents and offtake agreements for byproducts (epsomite and magnesium sulphate),
2. Confirm reagent specifications and volumes,
3. Confirm byproduct specifications and volumes,
4. Confirm how the byproducts will be used (i.e. what products will they be processed into) and who are the potential customers/industries.

### **Residue Offtake Update**

The company is also pleased to provide an update to its residue offtake strategy announced on 21 December 2023. Blackstone's Managing Director, Scott Williamson, executed a non-binding MOU with Development for Resources Environmental Technology Joint Stock Company ("DRET"). The MOU underpins the Company's Green Nickel™ strategy, focussing on reducing the environmental impact of our products. DRET are interested in utilising the process residue from the refinery for construction materials such as brick manufacturing and cement production. DRET is the second company that

Blackstone has executed a non-binding MOU with to explore the re-purposing of process residue, confirming the strong interest in Vietnam for our strategy.

In 2021 Blackstone identified the potential for conversion of refinery residue into building materials. In mid-2023 the Company commenced investigations into the repurposing of its residue into construction material, specifically if the material would be suitable for the manufacturing of residential bricks. Blackstone saw this as a significant opportunity as the repurposing of residue material would:

- Generate additional industry opportunities for the people of Son La Province, Vietnam;
- Reduce the dependency of a residue storage facility, ultimately yielding both capital and operating cost benefits to the Ta Khoa Project;
- Significantly reduce the environmental impact of the project and thus improve permitting timelines;
- Improve social licence to allow Blackstone to operate within Son La Province, Vietnam;
- Generating a new circular economy within Vietnam.



**Figure 1: Scott Williamson, Blackstone Managing Director and Nguyen Huu Nguyen, DRET Director**

Under the terms of the MOU, the following initiatives will be explored;

1. Negotiate offtake agreements for Ta Khoa Refinery residue;
2. Research and provide solutions/processes/business for repurposing residue from the refinery, ensuring that any developed construction material meets or exceeds Vietnamese standards;
3. Collaborate on strategic solutions to ensure construction material products meet Son La Provincial People's Committee ("SLPPC") development strategy;
4. Confirm waste treatment capacity, ensuring it can match or exceed TKR's maximum waste production volume;
5. Identify technology and equipment to process TKR residue for construction material products (such as, but not limited to, bricks, pavers, cement etc.) or feed material for other plants.

As part of the MOUs, Blackstone has despatched residue samples from the TKR pilot program (refer ASX announcement 20 December 2022) completed at ALS Laboratories Perth, to Vietnam for processing. A testwork program is currently being undertaken by licensed Vietnamese analytical laboratories to certify the residue material as non-hazardous waste and fit for use as a construction material. Subject to certification, all residue could be commercialised as input for construction materials (brick, cement,

concrete etc.), therefore negating the need for long term residue storage facilities, significantly reducing upfront and sustaining capital.

In addition to the above analysis, compression strength testing will also be carried out within Vietnam. Recent compression testing in Australia has exceeded the minimum compression strength limits as detailed in the most recent regulation released in Vietnam (QCVN 16/2023/BXD). Blackstone will progress with testing its residue material against Vietnamese standards in the coming months.

Blackstone Minerals' Managing Director, Scott Williamson, commented:

*"It is exciting to see multiple Vietnamese companies stepping forward to negotiate purchasing refinery byproducts. Vietnam is proving to be a fantastic jurisdiction to support the Ta Khoa Project. The ability to buy and sell reagents and chemical products within Vietnam demonstrates maturity and opportunities that exist within Vietnam. Furthermore, the ongoing development to repurpose process residue into construction materials is building momentum. At Blackstone we are committed to reduce our carbon footprint and social impact. Success of this initiative will not only improve project viability but will aid in building industry within the Son La Region, resulting in more jobs and prosperity for the surrounding communities."*

Authorised by the Managing Director on behalf of the Board.

### **About Vietnam Chemical Group**

The main business lines of Vietnam Chemical Group ("VinaChem") include:

- Investment into and operation of facilities to produce fertilisers and industrial chemical products;
- Trading in machinery, equipment, and raw materials for the chemical industry.

For many years, VinaChem has achieved a growth rate of industrial production value of more than 10% p.a. Many of the products have occupied a large market share in the domestic Vietnamese market such as phosphorus-containing fertilisers, NPK fertilisers, basic chemicals, detergents, tires and tubes for cars, motorbikes, and bicycles etc. With great contributions to the economy and serving people's lives, VinaChem was honoured to be awarded the Ho Chi Minh Medal twice, the First Class Independence Medal and many noble awards from the Party and State.

### **About PV Chemical & Equipment Corporation**

PV Chemical and Equipment Corporation (PVChem) is a leading chemical distributor, operating in the field of trading, importing and exporting chemicals for industry, agriculture and other industries such as: food processing, plating, electronics, rubber, water treatment, textiles, cleaning, environment, paint, ink, etc.

After more than 10 years of operation, PVChem has constantly strived to gradually build a strong position in the market with well-invested, quality, and environmental-friendly products. PVChem is always operating with the principles of accompanying and serving partners and customers with safe and quality products from the heart of business by a team of professional staff.

### **About Nam Phong Green Joint Stock Company**

Nam Phong is a trading company, which focuses on export and import goods. Nam Phong concentrate on agriculture, industrial, and consumer products. Their objective is to connect and trade quality goods



while simultaneously protecting the environment on an international scale. Their team possesses deep insights into the international market and extensive experience in trade solutions.

### About Development of Resources Environmental Technology Joint Stock Company

DRET is licensed by the Ministry of Natural Resources and Environment for hazardous waste treatment. DRET provide specialised environmental consulting and treatment of:

- industrial waste (hazardous waste, normal industrial waste);
- design and installation of wastewater treatment systems;
- implementation of environmental pollution control;
- preparing environmental impact assessment reports;
- supply of machinery and environmental technology equipment.

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Investors are also encouraged to join and engage through the Blackstone Minerals Investor Hub, post questions and feedback through the Q&A function accompanying each piece of content, and [engage directly](#) with the Blackstone team.

### How to join the Blackstone Minerals InvestorHub

1. Head to our [Investor Hub](#) or scan the QR code with your smart device
2. Follow the prompts to sign up for an Investor Hub Account
3. Complete your account profile and link your shareholdings if you are a current shareholder.



### About Blackstone

Blackstone Minerals Ltd (ASX: BSX / OTCQX: BLSTF / FRA: B9S) is focused on building an integrated battery metals processing business in Vietnam that produces Nickel:Cobalt:Manganese precursor products for Asia's growing lithium-ion battery industry.

Blackstone will produce the lowest emission precursor as verified by Minviro and the Nickel Institute (refer ASX announcement 15 September 2022).

The existing business has a modern nickel mine built to Australian standards, which successfully operated as a mechanised underground nickel mine from 2013 to 2016. This will be complemented by a larger concentrator, refinery and precursor facility to support integrated production in-country.

To unlock the flowsheet, the Company is focused on a partnership model and is collaborating with groups who are committed to sustainable mining, minimising the carbon footprint and implementing a vertically integrated supply chain.

The Company's development strategy is underpinned by the ability to secure nickel concentrate and Ta Khoa is emerging as a nickel sulphide district with several exploration targets yet to be tested.



**Figure 2: Ta Khoa Project Location**

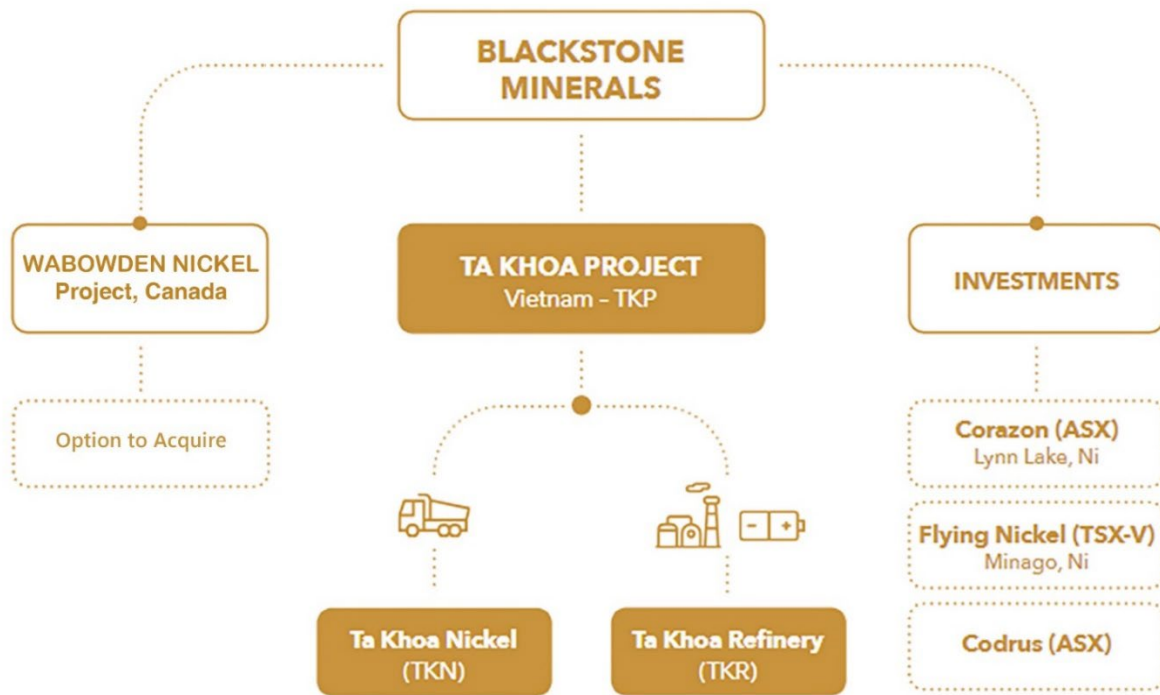


Figure 3: Blackstone Minerals Business Structure Schematic