



10 March 2022

ASX ANNOUNCEMENT

Suvo engages with Curtin University on high reactive metakaolin for green concrete

- Suvo has engaged with Curtin University to investigate the potential for the Company's White Cloud kaolin to be used as a pozzolan for creating green concrete for the application markets
- As a pozzolan, high reactivity metakaolin (HRM) will be adopted, potentially improving the properties of concrete by reducing CO₂ emissions & improving performance
- Green concrete is a variation of ordinary concrete that uses low carbon materials that are better for the environment
- Research from Curtin University will compare CO₂ emission properties of HRM produced from Suvo's White Cloud Kaolin project with other pozzolanics
- Market value for high quality HRM is between USD \$500t to USD \$750t
- Suvo to review the production of flash calcined metakaolin to incorporate into the pre feasibility study for the Gabbin kaolin project

SUVO STRATEGIC MINERALS LIMITED

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Australian kaolin producer and silica sand exploration company, **Suvo Strategic Minerals Limited** ('Suvo or the Company'), is pleased to announce that it has signed an agreement with Curtin University to investigate the application of high reactivity metakaolin (HRM) as a sustainable solution in decarbonising cement. The signing of this agreement aligns with Suvo's strategy to supply minerals critical to decarbonising the global economy.







HRM is already used and accepted by the concrete industry as an additive (pozzolan) for applications that require ultra-high performance, high strength lightweight concrete. The CO₂ emissions of HRM based concrete mixes are significantly lower and has the potential to half the industry's emissions when compared to conventional Portland cement.

Dr Thong Pham, Senior Lecturer of the School of Civil and Mechanical Engineering, Curtin University commented "Adoption of green concrete by the industry to date has been hindered due to the poor and variable quality of low carbon materials that are suitable to replace Portland cement. Compared to other sustainable binders, HRM has much higher quality control and consistent chemical compositions, which make it a great substitute to typical energy-intensive Portland cement for an alternative yet excellent and reliable binder in green concrete. Suvo metakaolin will potentially be flash calcined to minimise carbon footprint and simultaneously provide optimum properties for use as a pozzolan, allowing for high cement replacement to significantly reduce CO₂ emissions and improve concrete performance. Our research will focus on the viability and impact that HRM can have on rapidly decarbonising the global cement industry"

Cement production is the world's single biggest industrial cause of carbon pollution, responsible for 8% of global emissions – more than the global car fleet¹. For countries and industry to meet their emission-based targets it is widely recognised that the cement industry will need to quickly move away from using limestone-derived Portland cement and phase in lower emission materials that can be easily blended with Portland cement.

In a released statement, the Cement & Concrete industry has declared its ambition to deliver net zero carbon cement and concrete to Australian society by 2050.

Concrete is the world's most widely used building and construction material and is vital to securing a resilient built environment that is sustainable for life. With demand for durable and sustainable housing as well as public infrastructure expected to rise strongly in response to population and economic growth, the demand for concrete will increase.

The release of this landmark statement reinforces that the industry recognises the challenges of climate change and outlines the industry's commitment to work towards decarbonisation throughout the value chain, with a strong emphasis on technological, regulatory, structural, and behavioural change. Achieving these significant decarbonisation objectives will require changes to policy settings, material technology and design practices which can only be achieved through collaboration across the construction supply chain.

Climate Ambition Statement:

Australia's cement and concrete industries recognise the challenges of climate change and adaptation. Our industries hold an ambition to reduce their CO2 footprint and deliver society with net zero carbon concrete by 2050. We are committed to work across the value chain to deliver this in a circular economy, whole-of-life context to support a sustainable built environment.

¹ Zero Carbon Industry Plan: Rethinking Cement, Beyond Zero Emissions, August 2017





Scope of the project

Phase 1 of the project, upon which this agreement has been signed largely focuses on a literary review and data analysis to evaluate the feasibility and potential for the HRM application.

Under this first phase of research, Dr Thong Pham and his team from Curtin University will carry out a comprehensive investigation on the commercial potential of HRM in the concrete industry, including the technical benefits that HRM can provide for concrete materials, especially green concrete. Additionally, the team from Curtin University will investigate the global potential of HRM, document previous studies on the technical benefits and characteristics of HRM, conduct a lifecycle assessment of HRM based concrete in terms of carbon footprint, emission properties and energy cost savings from a sample of HRM product produced from Suvo's White Cloud Kaolin Project in Western Australia

The study is expected to demonstrate that the incorporation of HRM is an effective solution to improve the concrete properties and to generate green concretes.

The research undertaken by Dr Throng Pham and the Curtin University team can be broken down into three main categories, being;

1. Investigate the commercial potential of HRM in the concrete industry,

Tasks in this category range from current sectors of concrete adopting HRM to emerging potential sectors that will need HRM, current and future demand for HRM, current and future supply markets for HRM, commercial potentials of HRM by way of a gap analysis, and

2. Based on previous studies, investigate the technical benefits including the characteristics of concrete that HRM can improve,

Investigation may include but will not be limited to, workability and setting times, durability and curing, strength, and

3. Conduct a life cycle assessment of HRM based concrete,

Items such as calculating the carbon footprint, emission properties and energy cost savings, environmental impacts.

The release of this announcement has been approved by The Board of Directors.

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Company Profile

Suvo Strategic Minerals Limited is an Australian hydrous kaolin producer and exploration company listed on the Australian Securities Exchange (ASX:SUV). Suvo is focused on production at, and expansion of, their 100% owned Pittong hydrous kaolin operation located 40km west of Ballarat in Victoria. Suvo's exploration focus is on near-term kaolin and high purity silica assets with 100% owned Gabbin (kaolin), Eneabba and Muchea² (silica sands) projects located in Western Australia.

Pittong Mine & Plant

The 100% owned Pittong Operations, located in Victoria 40km west of Ballarat, is the sole wet kaolin mine and processing plant in Australia and has been in operation since 1972. Pittong comprises the Pittong, Trawalla and Lal Lal deposits located on approved Mining Licences MIN5408, MIN5365 and MIN5409 respectively.

At Pittong mining contractors deliver crude kaolin ore to stockpiles from the two currently operating mines, Pittong and Lal Lal. The plant takes its feedstock from the ROM and it is processed into four separate products for end users. These products are 10% moisture lump, high solids slurry, 1% moisture powder and 1% moisture pulverised powder. The solids slurry is used in paper and board manufacturing. The other products are used in paper, coatings, paint and specialist industries including rubber and pharmaceutical applications. Around 20-25kt per annum is supplied to various end users.

3.74Mt Indicated and 1.97Mt Inferred Mineral Resource of kaolinized granite.

Gabbin Kaolin Project

The 100% owned Gabbin Kaolin Project (White Cloud)is located 215km northeast of Perth, Western Australia. The project area comprises four granted exploration licences (E70/5039, E70/5332, E70/5333, E70/5517) for 413km², centred around the town and rail siding of Gabbin.

The generally flat area is primarily cleared farming land devoid of native bushland and is currently used for broad-acre cereal cropping. A mining access agreement is in place over the current resource area with the landowner and occupier.

The main rock types at Gabbin are primarily Archaean granite, gneiss, and migmatite. These rocks are overlain and obscured by Tertiary sand and Quaternary sheetwash. The weathering profile is very deep and contains thick kaolin horizons capped by mottled clays or laterite zones. The current JORC 2012 Mineral Resources are 72.5Mt of bright white kaolinised granite with an ISO Brightness of 80.5%, <45µm yield of 41.2% results in 29.9Mt of contained kaolin.

Eneabba Silica Sands Project

The 100% owned Eneabba Silica Sands Project is located 300km north of Perth, Western Australia. The project comprises four granted exploration licences (E70/5001, E70/5322, E70/5323, E70/5324) for 169km².

The project is located on the Eneabba Plain whose sandy cover is very flat to gently undulating. Outcrop is rare due to the accumulations of windblown and alluvial sand at surface. Below this is a thin hard silcrete or lateritic claypan which overlies deep white and yellow sands.

Preliminary exploration has included 54 drillholes for 1,620 metres to depths of up to 30m. This program is anticipated to deliver an initial resource for the project and a process route.

Forward looking statements

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company





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operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control.

Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

No New Information

Except where explicitly stated, this announcement contains references to prior exploration results and Mineral Resource estimates, all of which have been cross-referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the results and/or estimates in the relevant market announcement continue to apply and have not materially changed.

