

## ASX ANNOUNCEMENT

19 April 2022

### CALIX AND SUVO ENTER INTO AGREEMENT

#### HIGHLIGHTS

- Suvo enters into a Materials Transfer Agreement with ASX-listed Calix Limited (ASX:CXL)
- Calix to assist Suvo in accelerating its metakaolin green cement supply initiative from Pittong
- Under the Company's newly formed Continuous Improvement Program, it identified Calix had successfully produced 20 tonnes of metakaolin from Pittong clay obtained from the mine's previous Imerys ownership
- The Calix engagement will assist identifying high value metakaolin end products and off takers
- The Company could potentially enjoy first mover advantage as it is the only commercial scale operating kaolin mine in Australia and only hydrous kaolin producer in the country
- Cement production estimated to contribute 8% of global CO2 emissions - the equivalent to the global car fleet<sup>1</sup>
- Metakaolin has the potential to reduce carbon intensity of cement by up to 40%<sup>1</sup>
- The Green Cement market estimated at USD\$27.2 billion<sup>2</sup>

**Suvo Strategic Minerals Limited (ASX: SUV)** ("Suvo" or "the Company") is pleased to announce it has signed a Materials Transfer Agreement with global industrial technology provider Calix Limited (ASX: CXL). The Agreement aims to calcine kaolin supplied from Pittong and create market ready metakaolin samples, using Calix's cutting-edge calcination technology ([see video here](#)).

The electric calciner directly flash heats kaolin to create metakaolin. The technology is highly compatible for use in renewable energy. All energy consumption data during conversion will be captured and provided to Suvo.

Calix's research, development and production facility is strategically located at Bacchus Marsh, near Suvo's Pittong operations just west of Ballarat, Victoria.

The new agreement between Calix and Suvo will look to replicate and build on previous test work, which in turn allows the Company to do further downstream testing with various end users.

Suvo plans on partnering with key users to determine the quickest pathway to market with metakaolin samples to be sent to existing and new off-takers.

<sup>1</sup> [https://bze.org.au/research\\_release/rethinking-cement/](https://bze.org.au/research_release/rethinking-cement/)

<sup>2</sup> Source: Green Cement Market 2022-2027, IMARC Group

**SUVO STRATEGIC MINERALS LTD.**  
ABN: 97 140 316 463

Level 11, 40 The Esplanade  
Perth, Western Australia 6000

+61 (8) 9389 4495  
info@suvo.com.au

**Henk Ludik**  
NON-EXECUTIVE CHAIRMAN

**Oliver Barnes**  
NON-EXECUTIVE DIRECTOR

**Dr Ian Wilson**  
NON-EXECUTIVE DIRECTOR

**Aaron Banks**  
EXECUTIVE DIRECTOR

Calix conducted a trial 20 tonne bulk sample using Pittong clay obtained from the mine's previous Imerys ownership.

Data from the trial shows kaolin was calcined at temperatures between 550C - 700C, demonstrating good conversion and high aluminium availability.

Metakaolin is a supplementary cementitious replacement for clinker, a key ingredient in cement production.

It has been used by the cement industry for over 50 years as a pozzolanic to drastically reduce porosity, increase compressive and flexural strength, and offer greater durability and control of concrete breakdown caused by alkali-silica and other aggressive substance reactions.

Cement production is estimated to contribute 8% of global CO<sub>2</sub> emissions, about the same carbon footprint as the global car fleet.

Studies have shown that increasing the percentage of metakaolin used in cement has the potential to reduce the carbon intensity of cement by up to 40%<sup>1</sup>.

The green cement market has an estimated value of US\$27.2 billion<sup>2</sup> with rising eco-consciousness and growing demand for sustainable materials anticipated to see this value increase substantially.

Suvo's engagement with Calix comes as the Company continues testing kaolin samples from its WA-based Gabbin project to determine its suitability for conversion to metakaolin.

**Suvo Non-Executive Chairman Henk Ludik commented:**

*"This is an exciting engagement that will assist Suvo's entry into greening the cement and concrete sectors, with studies attributing up to 8 per cent of annual CO<sub>2</sub> emissions globally to this sector.*

*"With global demand increasing and the global green cement market anticipated to grow to US\$56 billion by 2027, we see this engagement as a crucial step towards diversifying Suvo's product basket and meeting demand for low-carbon raw materials with industrial application.*

*"Successful conversion of our kaolin would make Suvo the nation's only producer and supplier of the highly refined metakaolin used in green concrete and other clean technology applications."*

**Calix Managing Director Phil Hodgson commented:**

*"This engagement with Suvo represents an exciting opportunity to help develop in Australia what is already happening elsewhere - the decarbonisation of the cement sector - in this case through the opportunity to replace some of the clinker with activated clays.*

*"We look forward to working with Suvo on this assessment program."*

The release of this announcement has been approved by the Board of Directors of Suvo Strategic Minerals Limited.

**-ENDS-**

## **Key Terms**

### **1. Objectives of the trial**

The objectives of this trial are to characterise the Pittong supplied mineral within the Calix pilot scale flash calciner located at the Calix operations site in Victoria, Australia.

### **2. Raw material supply**

350kgs of dry and ground kaolin feed delivered to Calix Bacchus Marsh operations.

### **3. Test work**

Step 1 - Sample and characterisation analyses at Calix laboratory before calcination run.

Step 2 - Undertake calcination runs at 4 wall temperatures and 3 throughputs. The calciner will be operated at varying temperatures and throughputs to generate samples for analysis of the extent of Metakaolin Phase transformation.

Approximately 5kg samples of each test condition will be collected for return to Suvo for analysis and downstream process testing.

Step 3 - Extended calcination run at chosen temperature to provide steady state samples and energy consumption data.

### **4. Target product quality**

Conversion of kaolin to metakaolin to activate the aluminium content.

### **5. Product**

Final product will be packed into sample containers for analysis and testing at SUV's Pittong site for further downstream testing.

## **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 Muchea1 (silica sands) projects located in Western Australia.

## **Pittong Operations**

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 413km<sup>2</sup>, 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%.

## **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 169km<sup>2</sup>. 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.