

## ASX ANNOUNCEMENT

20 May 2025

# SUCCESSFUL PRODUCTION OF HIGH-QUALITY METAKAOLIN FOR LOW- CARBON CEMENT

## HIGHLIGHTS

- **Successfully produced a number of metakaolin samples** from the Company's various kaolin resources and deposits.
- Successful **internal testing places Green360's product at the top end of metakaolin quality benchmarks, exceeding many other variations of metakaolin available** in Australia and globally – validating the product's potential for use in low-carbon cement, and in the production of low-carbon, high-performance structural concrete.
- **Metakaolin** is a sought-after partial replacement for traditional Portland cement in concrete mixes, **improving strength and durability whilst also reducing emissions**.
- Significant milestone **allowing for rapid advancement of low-carbon cement formulations** utilising metakaolin.
- Commenced **commercial-scale concrete trials** of metakaolin-based low-carbon cement formulations with JV partner and leading pre-cast manufacturer PERMAcast, to **further validate performance** in concrete products.

Green360 Technologies Limited (ASX:GT3) (Green360 or the Company) is pleased to announce that it has produced a number of metakaolin samples from its kaolin resources and deposits. Successful internal laboratory testing of the metakaolin validates its exceptional quality, exceeding industry benchmarks, making it suitable for use in low-carbon cement formulations and high-performance structural concrete.

This is a significant milestone for the Company – confirming the key role of the Company's own metakaolin in the development of Green360 low-carbon cement formulations.

Aaron Banks  
Executive Chairman

Mark Pensabene  
Non-Executive Director

Peter Trinder  
Non-Executive Director



The Company has now succeeded in developing and optimising low-carbon cement formulations utilising its own metakaolin, for testing in commercial-scale concrete trials with its Joint Venture partner, leading pre-cast concrete manufacturer PERMAcast.

These trials are a key step in validating the performance of the Company's metakaolin-based low-carbon cement formulations in commercial concrete products.

**Green360 Technologies Executive Chairman Aaron Banks commented:**

*"The successful production of metakaolin from our resources and deposits is a significant milestone for the Company. This achievement allows us to rapidly pursue testing and optimisation of low-carbon cement formulations utilising our own metakaolin and industrial byproducts, to ultimately deliver low-cost, low-carbon alternatives to traditional Portland cement."*

*"We have now developed low-carbon cement formulations utilising our metakaolin and have moved to commercial testing in concrete with PERMAcast – a key step forward in validating the performance of our low-carbon formulations in real-world applications."*

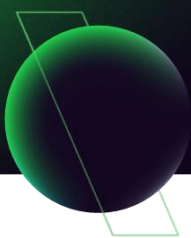
*"We are making significant strides towards the development and commercialisation of our high-quality, low-cost, low-carbon cement formulations, addressing growing pressure for the cement and concrete industry to decarbonise. We look forward to the results of commercial scale testing with PERMAcast and further optimisation of our formulations."*

**Successful development of in-house metakaolin**

Green360 has successfully completed the first stage of its product development program, achieving the controlled calcination of its kaolin into high reactivity metakaolin. Laboratory analysis, conducted in partnership with Murdoch University, confirmed the transformation using advanced Fourier Transform Infrared (FTIR) spectroscopy and X-ray Diffraction (XRD). These tests show the kaolin has been fully converted into an amorphous phase suitable for use in high-performance concrete.

Importantly, testing reveals Green360's metakaolin has an exceptionally high amorphous content of >88%, with very low levels of residual crystalline material. This places Green360's product at the top end of metakaolin quality benchmarks, exceeding many other variations of metakaolin available in Australia and globally, which typically range between 55–75% amorphous content depending on source and processing conditions.

Metakaolin is a sought-after key input for low-carbon cements, enabling the partial replacement of traditional Portland cement in concrete, both to increase the performance of a concrete product, and importantly, reduce its emissions profile.



Compared to traditional supplementary cementitious materials (SCMs) like fly ash and blast furnace slag, which often vary in consistency and contain a mix of reactive and inert components, Green360's kaolin-derived metakaolin offers greater purity, reactivity, and consistency.

Additionally, metakaolin contributes to a denser microstructure in concrete, leading to increased durability and longevity of the concrete structures. This makes it highly suitable not only for the partial replacement of traditional Portland cement, but also for premium structural concrete.

### **Commercial-scale product validation with PERMAcast**

Development of low-carbon cement formulations utilising metakaolin has now progressed to the next stage – commercial-scale concrete trials with the Company's Joint Venture partner PERMAcast. These trials are a key step to validate the performance of the Company's product in commercial concrete applications.

Metakaolin-based cement formulations have been designed and optimised with Murdoch University and PERMAcast, using samples from the Company's kaolin resources and deposits. These mixes have been developed to meet the requirements of Australian Standards (AS 1012), incorporating early-age and long-term performance testing.

Trial batching has commenced with PERMAcast using these developed formulations. Key performance indicators under evaluation include workability, finishability, slump retention, temperature sensitivity, and setting times.

These concrete trials will also assess compatibility of these metakaolin-based cement formulations with a range of admixtures and superplasticisers, with ongoing optimisation to ensure fresh and hardened concrete performance meets real-world precast standards, to validate the formulations' commercial applications.

Concrete specimens are being cast in accordance with Australian Standards procedures (AS 1012.1) and monitored at multiple ages, with test intervals at 24 hours, and at 7, 28, 56, and 90 days.

Performance will be benchmarked against typical industry mixes using standard Portland cement, slag, and fly ash to validate the suitability of Green360's metakaolin-based cement formulations for structural applications.

**Approved for release by the Board**

**-ENDS-**





*Photo: slump retention testing and comprehensive strength cylinders conducted on 20%, 30% and 40% Portland cement replacement with metakaolin*



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#### **About Green360 Technologies Limited**

Green360 Technologies (ASX:GT3) is an Australian-based building materials company leading the development of low-cost, low-carbon cement to address an immediate demand in the market. Traditional cement production is a major industrial polluter; Green360 Technologies is using innovative methods to produce an alternative, delivering improved performance and a reduced emissions profile.

Green360 Technologies is executing a commercialisation plan alongside a reputable market leader, focused on near-term and widespread industry adoption of the Company's low-carbon cement.

#### **FORWARD-LOOKING STATEMENTS**

This release may contain certain forward-looking statements with respect to matters including but not limited to the financial condition, results of operations and business of GT3 and certain of the plans and objectives of GT3 with respect to these items.

These forward-looking statements are not historical facts but rather are based on GT3's current expectations, estimates and projections about the industry in which GT3 operates and its beliefs and assumptions.

Words such as "anticipates," "considers," "expects," "intends," "plans," "believes," "seeks," "estimates", "guidance" and similar expressions are intended to identify forward looking statements and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the industry in which GT3 operates.

These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the control of GT3, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements. Such risks include, but are not limited to resource risk, product price volatility, currency fluctuations, increased production costs and variances in product grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the countries and states in which we sell our product to, and government regulation and judicial outcomes. For more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings.

GT3 cautions shareholders and prospective shareholders not to place undue reliance on these forward-looking statements, which reflect the view of GT3 only as of the date of this release.

The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made.

GT3 will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.