

2 July 2024

METHANE CONTROL PROGRAM UPDATE

Emerging mineral processing technology company, Zeotech Limited (ASX: ZEO, "Zeotech" or "the Company") is pleased to provide the following update on its Methane Control Program ("Program") at Griffith University ("Griffith"), which is being undertaken in collaboration with Cleanaway Waste Management Limited ("Cleanaway").

HIGHLIGHTS

- Significant work undertaken alongside Griffith and Cleanaway to advance the Program.
- Infield validation stage advancing well with three field simulation configurations commissioned at Griffith in May 2024 - Two containing zeoteCH₄® products that have shown constant high oxidation rates in earlier lab-scale activities and a third containing methanotroph inoculum-only and will provide a benchmark for ZEO's zeolite materials.
- Commissioning followed detailed design and development work alongside collection of landfill cover soils, supplied by Cleanaway.
- Upon commissioning a steady increase in bio-methane production was observed, which was subsequently impacted by colder, unseasonable climatic conditions - Optimisation work now being carried out to support increased bio-methane generation.
- Strategic decision to extend infield trials by 6-months to evaluate the effectiveness of ZEO's technology across broader seasonal conditions that present in typical landfill systems.
- Extension will provide ZEO with a broader dataset to advance potential commercial opportunities.
- 'Zeolites for Methane Control' provisional patent application lodged with the Australian Patent Office to establish potential novel and inventive steps associated with the Company's methane control solution.

Griffith University, School of Environment and Science, Australian Rivers Institute, Dr Chris Pratt commented:

"We are excited to have commissioned the infield simulated configurations at Griffith University. A lot of consideration was given to designing and developing these complex systems, and further optimisation work is underway to support bio-methane generation.

Extension of the program will allow the project team to gather long-term datasets and evaluate the full potential of Zeotech's methane control technology by considering seasonal factors and periods of higher bio-methane production during spring and summer."

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Zeotech, Chief Executive Officer, Scott Burkhart commented:

"We are pleased with the continued progress of the methane emissions control program, that has resulted in the 'Zeolites for Methane Control' patent application being lodged in June.

This patent application establishes novel and inventive steps associated with the technology we are developing and underpins the extension of the program to evaluate datasets that will consider seasonal factors and the extent of methane elimination that can be achieved using the Company's products."

Summary of recent activities:

Following the Program update in March¹, effort in April was focussed on designing and developing simulated infield configurations, which would be located and commissioned in May at Griffith University, alongside collection of landfill cover soil supplied by Cleanaway.

Designing the configurations was undertaken with careful planning and consideration of complex factors such as drainage, bio-methane generation, engineering of the cover soil and separation of treatment materials from controls.



(left) landfill cover soil collection at a Cleanaway Waste Management site
(right) simulated configuration development at Griffith University.



(above) simulated infield configurations located at Griffith University

¹ ASX Announcement 27/03/2024 - Methane Control Program Update

Three field simulation configurations were successfully commissioned in May. Two configurations contain the Company's two zeoteCH₄® products that have shown constant high oxidation rates in earlier lab-scale activities during the Program. A third configuration contains methanotroph inoculum-only and will provide a benchmark for the Company's zeolite materials.

Following commissioning, a steady ramp-up of bio-methane production was observed. However, as the Program entered June and due to cooler seasonal conditions, the level of bio-methane production had not yet reached targeted levels.

Lower bio-methane production during winter is not unusual, and previous work on landfill methane and methane generation in other outdoor waste treatment systems has shown that production in winter is up to 30 times lower than in summer². Further, given the simulated configurations were only recently commissioned, the low temperatures at the beginning of the activity have slightly inhibited the methanogen's capacity to acclimatise and accelerate bio-methane production to the required levels. The configurations are now being further optimised for improved bio-methane generation that better reflects an operating landfill in the current climatic conditions. Therefore, Zeotech and Griffith have taken the strategic decision to extend the infield validation stage by 6-months to accommodate additional data collection and analysis, across a range of seasonal conditions. This will extend the Program expiry to December 2024.

The extension does not reflect the potential of the Company's technology, but rather the climatic seasonal factors that have impacted the level of bio-methane generation and consequently the ability to measure the oxidation efficiency of the methane control solution. The extension is also expected to provide the Company with a fuller dataset to advance potential commercial opportunities during and upon completion of the Program.

Expansion of the field validation will allow Griffith to evaluate the effectiveness of the Company's technology by considering seasonal factors that will occur in typical landfill systems and assess the extent of methane oxidation potential during warmer periods when bio-methane generation is expected to be much higher.



(left-to-right) Dr. Taku Ide (Cleanaway), Dr. Chris Pratt (Griffith), Peter Zardo & Dr. John Vogrin (Zeotech)

² Pratt, C., Walcroft, A. S., Deslippe, J. and Tate, K. R. 2013. C. Waste Management 33(2): 412-419.

Separately in June, the Company met with Dr. Taku Ide, Head of Carbon at Cleanaway, to inspect the simulated configurations at Griffith to provide an infield update on the Program.

Patent Protection

Following extensive development of the Company's technology under the Program, a provisional patent application titled 'Zeolites for Methane Control' was lodged in June 2024 with the Australian Patent Office.

The invention relates to a method for treating ground-based methane gas emissions from an area, such as landfill, by applying the Company's methane control technology, utilising zeolite material and methanotrophic bacteria.

The patent establishes potential novel and inventive steps associated with the Company's methane control solution and aims to safeguard possible commercial opportunities that could result from the technology it is advancing.

This announcement has been approved by the Board.

- End -

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About Zeotech

Zeotech Limited (ASX: ZEO) is a team of dedicated people, working together to build a future focused company, leveraging proprietary technology for the low-cost production of advanced materials 'manufactured zeolites' to deliver solutions aimed at addressing sustainability challenges.

About Cleanaway

Cleanaway is Australia's leading total waste management, industrial and environmental services company. Cleanaway have supported Australian businesses for over 50 years with

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over 6,300 expert staff and a fleet of over 5,300 specialist vehicles across more than 250 locations around Australia.

Cleanaway's mission is to make a sustainable future possible. They are leaders not just through their total waste management solutions but also by achieving the triple bottom line of sustainability:

- a financially strong and resilient business;
- contributing to a thriving population through employment and community engagement; and
- leading their industry to protect our planet for generations to come.

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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.



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