

4 July 2022

ZEOTECH TO FAST TRACK DEVELOPMENT OF CARBON UTILISATION TECHNOLOGY

Emerging mineral processing technology company, Zeotech Limited (ASX: ZEO, "Zeotech" or "the Company") is pleased to advise it has been accepted as an industry partner into The Australian Research Council ("ARC") Industrial Transformation Training Centre for the Global Hydrogen Economy ("[GlobH2E](#)"), led by The University of New South Wales ("UNSW").

In collaboration with research partner, The University of Queensland ("UQ"), the project will aim to develop a sustainable hydrogenation process for converting captured CO₂ and green hydrogen into syngas and value-added hydrocarbon fuels such as methanol.

Highlights

- Zeotech accepted into The Australian Research Council ("ARC") Industrial Transformation Training Centre for the Global Hydrogen Economy as an industry partner. The project will be placed in Theme 2 - Hydrogen Storage and Utilisation
- In collaboration with UQ, the project aims to develop structured metal-based manufactured zeolites as catalysts, utilised in a sustainable hydrogenation process for converting captured CO₂ and hydrogen into syngas and hydrocarbon fuels
- The metal-based zeolites utilised in the hydrogenation process will be produced using Zeotech's proprietary low-cost mineral processing technology
- By storing energy from large-scale renewable energy projects as hydrogen, or hydrogen derivatives such as methanol, global economies could expand the reach of renewable power and repurpose it for use in other sectors
- Sustainable conversion of CO₂ and green hydrogen could hold the key for decarbonising large sectors such as transportation and industrial processes which have been traditionally hard to abate
- The project aims to fast-track lab validation as well as pilot testing and develop a potential commercialisation pathway for the CO₂ conversion process advanced by Zeotech's technology

The University of Queensland's School of Chemical Engineering, Dr. Hong (Marco) Peng commented:

"I'm excited at the opportunity to be working with Zeotech in developing metal-doped zeolite catalysts capable of utilising carbon dioxide and hydrogen to produce value-add products."

The ARC Industrial Transformation Training Centre for the Global Hydrogen Economy is a consortium of research institutions, industry partners, government agencies all working together to develop technologies and supporting innovations to aid the world's transition to renewable energy, and UQ's work with Zeotech aims to develop a carbon utilisation solution, capable of being part of a portfolio approach of technologies aimed at achieving Australia's emissions reductions target by 2030 and net-zero by 2050."

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Zeotech, Managing Director, Peter Zardo added:

"We thank The University of Queensland and The University of New South Wales for supporting Zeotech's entry as an industry partner in the GlobH2E Training Centre, which offers funding support and the opportunity to apply the Company's proprietary mineral processing technology in developing a sustainable and circular approach to reducing carbon emissions."

The Project: Metal-based zeolite catalyst development for CO₂ hydrogenation

The project will aim to develop a sustainable process for converting captured CO₂ into syngas (synthesis gas) and value-added hydrocarbon fuels such as methanol.

The initiative will utilise high-performance metal-based manufactured zeolite catalysts, produced using Zeotech's proprietary mineral processing technology, to enhance production efficiency in the CO₂ hydrogenation process.

The ability to catalytically convert post-combustion CO₂ into alternative fuels or value-added chemicals presents a potential circular economy enabler and cost-effective utilisation solution.

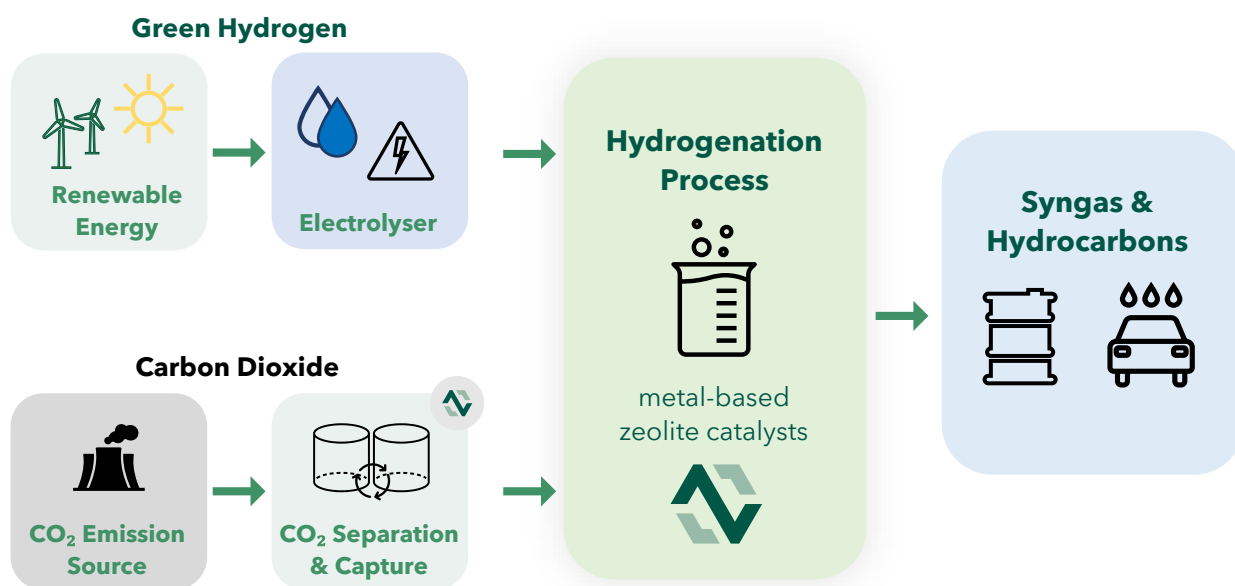


Diagram: Hydrogenation process utilising metal-based zeolite catalysts for converting captured carbon dioxide and green hydrogen into syngas and value-added hydrocarbon fuels

By storing energy from large-scale renewable energy projects as hydrogen, or hydrogen derivatives such as methanol, global economies could expand the reach of renewable power and repurpose it for use in other sectors.

Sustainable conversion of CO₂ and green hydrogen have the potential to assist in decarbonising traditionally hard to abate large sectors, such as transportation and industrial processes.

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By working closely with the GlobH2E Training Centre, the CO₂ conversion process advanced utilising Zeotech's technology, aims to fast-track lab validation as well as pilot testing and develop a potential commercialisation pathway.

The ARC training centre will provide UQ grant funding to support the recruitment of a postdoctoral research fellow, PhD student and other personnel required for the project.

The project will be led by Professor John Zhu and Dr Hong (Marco) Peng of UQ as Chief Investigators (CI), and supported by Ms Sylvia Tulloch, Chair of Zeotech, as Partner Investigator (PI).

ARC Training Centre for The Global Hydrogen Economy (GlobH2E)

[GlobH2E](#) is an international consortium of research institutions, industry partners, government agencies and hydrogen start-ups, administered by UNSW.

Established in 2020, the training centre will run for five years and engage world-class PhD candidates and hydrogen researchers to develop technologies, business skills and supporting innovations to aid the world's transition to renewable energy. The emerging global hydrogen economy is increasingly seen as a way to secure Australia's energy future, while mitigating catastrophic climate change. GlobH2E will support the fledgling industry and the professionals who will lead it, through quality training and expertise.

Global Hydrogen Economy

The hydrogen industry is already valued at over \$100 billion per year and has the potential for rapid growth.

Almost all of current hydrogen is produced using fossil fuels, which emits significant amounts of CO₂. Green hydrogen is the product of electrolysis (on water) that is powered by renewable energy, such as solar or wind.

Australia is playing a leading role in developing a renewable hydrogen market which strengthens the domestic economy, whilst supporting the transition to low emissions energy, improving resilience of energy systems, and providing consumers with cost-competitive energy options.

About Synthesis Gas (Syngas)

Syngas is considered as the chemical equivalent of 'lego blocks', as the basic building blocks of carbon monoxide (CO) and hydrogen (H₂). Various syngas ratios have already been established for using syngas as an intermediary and potential use as an energy source or feedstock for generating a wide variety of chemicals and fuels.

This announcement has been approved by the Board.

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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.

Zeotech Limited - Social Media Policy

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

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

Words such as "anticipates," "expects," "intends," "potential," "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 process of developing technology and in the endeavour of building a business around such products and services.

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 Zeotech, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements.

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

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

