

Media Release
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Immediate Release: **NZ start-up founders named as Breakthrough Energy Fellows, accelerating commercialisation of carbon capture technology.**



Aspiring Materials' co-founders Dr Allan Scott and Dr Christopher Oze named as Breakthrough Energy Fellows.

As part of Breakthrough Energy's Third Cohort of Fellows, Aspiring Materials' co-founders secure extensive funding and support to help accelerate the commercialization of their unique carbon capture, utilisation and storage technology.

New Zealand's emissions may be trending downwards but the challenge to reduce gross industrial process emissions for the hard-to-abate industries still stands.

Aspiring Materials, a NZ based start-up, has developed a viable solution to that challenge, and it has been recognised as one of the "next generation of world changing ideas" by Breakthrough Energy, a innovation accelerator organisation founded by Bill Gates.

Key points:

- Aspiring Materials (www.aspiringmaterials.com), based in Ōtautahi Christchurch, has developed a novel approach to carbon capture, utilisation and storage (CCUS) that uses commonly found igneous rocks called olivine.
- Their patent-pending process is a breakthrough in CCUS as captured CO₂ is not compressed as a gas but mineralised into a solid state carbonate, eliminating any potential of leakage.
- Aspiring Materials co-founders Dr Allan Scott and Dr Christopher Oze have been named as the only two Australasian based innovators in the Third Cohort of the Breakthrough Energy Fellow program (BE Fellow), an accelerator for early-stage climate innovation.
- Acceptance into the programme requires projects to demonstrate an ability to reduce 500 million tons of greenhouse gas emissions per year at scale.
- The programme will provide Aspiring Materials access to much-needed research funding, mentorship, as well as the extensive global BE network, right at a time when the start-up is ready to scale.

This is an inspiring, hopeful story that demonstrates how crucial science-led innovation is, as we scramble for sustainable solutions to mitigate emissions from hard-to-abate industries.

For more information or to arrange an interview please contact:
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Full media release below:

Ōtautahi Christchurch, NZ: Today, Breakthrough Energy announced the third cohort of its Fellows programme as part of the organisation's mission to accelerate climate-tech innovation. Dr Christopher Oze and Dr Allan Scott, co-founders of Aspiring Materials were named as Fellows working in the industrial carbon capture and storage sector.

Aspiring Materials has developed a novel approach to industrial decarbonisation using commonly found igneous rocks, often rich in a mineral called olivine. Their patent-pending mineralisation process is able to capture and abate up to 3 tonnes of carbon dioxide emissions for every one tonne of olivine-rich rocks processed.

The Breakthrough Energy Fellows (BE Fellows) programme provides the world's best and brightest innovators with crucial resources, including research funding, mentorship, education, and access to the extensive Breakthrough Energy network. BE Fellows fast-tracks the early development of novel technologies so they can go from lab to market on the timeline the world needs to reach our climate goals.

"Building a clean energy future requires constant innovation and new ideas, so I'm thrilled to welcome our third cohort of Fellows whose groundbreaking work around the world unlocks new possibilities", said Ashely Grosh, Vice President of Breakthrough Energy Fellows. "Breakthrough Energy's Fellows programme ensures that innovators and entrepreneurs working on transformative climate solutions receive the vital support they need. We are fully committed to guiding them every step of the way to accelerate climate tech innovation and launch the next generation of world changing ideas."

Aspiring Materials' process is a breakthrough in the decarbonisation solution arena, standing apart from many of the more traditional approaches that pump captured CO₂ underground.

Christchurch based start-up has developed a solution that captures CO₂ emissions using a magnesium hydroxide material they extract from olivine-rich rocks. Through their unique geochemical process, CO₂ is bonded to the magnesium, creating a solid stable magnesium carbonate.

That means captured emissions cannot leak back into the atmosphere, CO₂ emissions reductions are directly quantifiable and the added bonus is the magnesium carbonate, a non-toxic chalk material, can be used as a product in a variety of industries from food to fertilisers, building materials to medicines.

In NZ, the actions (and funding) to decarbonise large industries have been squarely focused on energy transition. While that is crucial, it only delivers a partial solution. Aspiring Materials' process offers industries here and abroad who are struggling with the challenge to eliminate emissions from industrial process and product use (IPPU) a viable, cost efficient solution.

"It's said innovation is hard, but it's even more difficult alone. To join a global network of people leading the edge of climate-tech is like oxygen for myself, Allan and the Aspiring Materials team. It's been hard work to get here but we're grateful that Breakthrough Energy exists to support people like us to bring our ideas to fruition. All we want is to get the world to net-zero, and with this opportunity we're one step closer." - Dr Christopher Oze, co-founder and Principal Scientist at Aspiring Materials

"Being selected as a fellow to the Breakthrough Energy programme is an incredible opportunity for Chris and I as well as the whole team at Aspiring Materials. We're on the brink of something truly groundbreaking with our technology, so this recognition and support at a global level is exactly what we need to help us scale our science to a size where it will have a measurable impact on industrial decarbonisation." - Dr Allan Scott, co-founder and Principal Engineer at Aspiring Materials.

BE Fellows focuses its support on innovations across Breakthrough Energy's Five Grand Challenges. The Third Cohort of Fellows consists of innovators working across nuclear fusion, agriculture, steel, electrification, hydrogen, carbon capture and storage, and more. The projects were selected through a competitive application process and must demonstrate and model the potential to reduce 500 millions tons of greenhouse gas emissions per year at scale.

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Read FAQs about Aspiring Materials: <https://bit.ly/3PRXpls>

Access [media images here](#)

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About Aspiring Materials

Aspiring Materials is a mineral conversion company based in Ōtautahi Christchurch Aotearoa New Zealand, The team of scientists and chemical engineers developed a process that can capture and abate carbon dioxide emissions from heavy industry using ultramafic rocks.

The company was founded by geologist Dr. Christopher Oze and civil engineer Dr. Allan Scott after a decade of collaborative scientific research into developing construction materials able to be produced from the scarce resources available on Mars.

Today, the focus is all about Earth, pivoting years of research and experience towards carbon removal and abatement in heavy industry, using a commonly found abundant rock that contains the mineral olivine. Their patent-pending technology

captures carbon dioxide emissions and locks it away permanently in a naturally occurring solid - magnesium carbonate.

The process to capture carbon emissions is net zero, it's a circular system and in addition to carbon capture, useful byproducts are made that can be used to further abate and supplement emissions intensive materials - silica, iron, nickel and hydrogen. These materials are already essential in the steel, concrete and energy industries and demand will only increase as the world transitions to a low carbon economy.

Seed investors Icehouse Ventures and Outset Ventures supported Aspiring Materials in 2021 as they began their commercial operation. In August 2023, lead investor Motion Capital, joined by Icehouse Ventures, invested additional funds to help the company accelerate the design and build of a pilot plant in New Zealand, that would enable scaling their technology for industrial applications and commercial trials.

About Breakthrough Energy Fellows program

Breakthrough Energy is an organisation that provides an accelerator environment for climate-tech innovation. It was founded by Microsoft founder and philanthropist Bill Gates. The Breakthrough Energy Fellows program helps emerging innovators to build out their ideas that will accelerate the world to net zero emissions.

Since its launch in 2021, the Breakthrough Energy Fellows program has supported 90 Fellows across 15 countries. This portfolio of Fellows projects have made significant progress toward their technical milestones, advanced their IP, launched pilot projects, grown the size of their teams, raised millions of dollars in funding, connected with climate leaders, established industry partnerships, and much more.

The Breakthrough Energy Fellows program is continuing to grow – adding 28 new Innovators and Business Fellows, representing 7 countries and 13 companies as part of its third cohort.

The mission of the Fellows program is to provide technical support, funding, and business resources to companies that are working on climate breakthroughs in industries that are notoriously hard to decarbonize, like cement and steel production. Without this type of tailored support, many innovations fall into the “valley of death”, or fail to scale to the level needed for commercialization and wide-spread adoption.

BEF press release about the Third Cohort is available here:

<https://breakthroughenergy.org/news/cohort-3-fellows/>