Scientists find way to make mineral which can remove CO2 from atmosphere
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Scientists have found a rapid way of producing magnesite, a mineral which stores carbon dioxide. If this can be developed to an industrial scale, it opens the door to removing CO₂ from the atmosphere for long-term storage, thus countering the global warming effect of atmospheric CO₂. This work is presented at the Goldschmidt conference in Boston.

Scientists are already working to slow global warming by removing carbon dioxide from the atmosphere, but there are serious practical and economic limits on developing the technology. Now, for the first time, researchers have explained how magnesite forms at low temperature, and offered a route to dramatically accelerating its crystallization. A tonne of naturally-occurring magnesite can remove around half a tonne of CO₂ from the atmosphere, but the rate of formation is very slow.

"For now, we recognise that this is an experimental
process, and will need to be scaled up before we can be sure that magnesite can be used in carbon sequestration (taking CO\textsubscript{2} from the atmosphere and permanently storing it as magnesite). This depends on several variables, including the price of carbon and the refinement of the sequestration technology, but we now know that the science makes it doable”.

Commenting, Professor Peter Kelemen at Columbia University's Lamont Doherty Earth Observatory (New York) said "It is really exciting that this group has worked out the mechanism of natural magnesite crystallization at low temperatures, as has been previously observed—but not explained—in weathering of ultramafic rocks. The potential for accelerating the process is also important, potentially offering a benign and relatively inexpensive route to carbon storage, and perhaps even direct CO\textsubscript{2} removal from air."

Provided by Goldschmidt Conference

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