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The importance of and a method for disposing of carbon dioxide in a thermodynamically stable form

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Abstract (Summary)

In this paper we argue for the importance of methods for sequestering carbon dioxide. We first discuss the importance of energy to society and the role that fossil fuels play. This leads us to outline a set of constraints that we propose should be considered or imposed upon any sequestration technology. Due to the importance of fossil fuels, coal in particular, in the energy mix for most nations, and objective of sequestration and our research is to maintain the viability of carbon-based fuels. Toward this end, we outline a process to bind carbon dioxide as a mineral carbonate. We describe experimental results and process concepts that could allow us to economically dispose of carbon dioxide in a thermodynamically stable form.