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A scenario process to inform Australian geoengineering policy

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Highlights:

- Geoengineering could be framed in policy as climate change mitigation, adaptation or as climate optimization.
- Australia is likely to be a geoengineering ‘policy-taker’ but a fast transition to a low-carbon economy is a safe strategy.
- Exploratory scenario exercises can be platforms for understanding policy implications and broadening the scope of options.
- Geoengineering could be a candidate for exploring systemic inclusion of foresight methods in Australian government process.

Abstract:

Geoengineering is a high-stakes policy issue that calls for research and debate that is pluralistic, reflexive and socially accountable. This paper reflects on an Australian geoengineering scenario project as a practical and innovative platform for informing governance. We produce multi-scale scenarios—representing Australia and the world—built on four fundamentally different archetypes, in which three include geoengineering. According to the four scenarios: greenhouse gas emissions continue increasing to 2050 but not long beyond; except with accelerated technology development and adoption, climate change impacts by 2050 become globally relevant; the risk of unilateral geoengineering deployment without adequate governance is low; and the framing of geoengineering deployment can be characterized as either climate mitigation, adaptation or optimization. Australia’s role in geoengineering can be described as passive in the global context, but Australia can benefit from an early transition to a low-carbon economy. A review of the evolution of ideas throughout the exercise reveals a process of shared learning that helps to focus governance discussions around key issues. This study is one step towards increasing the presence and influence of the Asia-Pacific in geoengineering discussions, and highlights the value that a tailored scenario exercise can bring to governance discussions.

Keywords: geoengineering; scenarios; governance; policy

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