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Solar Climate Intervention

A DISCUSSION OF

Research on Solar Climate Intervention Is the Best Defense Against Moral Hazard
BY DANIEL BODANSKY, ANDY PARKER

READ RESPONSES FROM

The "moral hazard" of solar geoengineering that Daniel Bodansky and Andy Parker examine in "Research on Solar Climate Intervention Is the Cure for Moral Hazard" (*Issues*, Summer 2021) is an illustration of a general phenomenon: introducing a new, potentially low-cost opportunity for reducing the risk of a loss may weaken the incentive to take other actions that prevent that risk from occurring. Some climate policy stakeholders have opposed solar geoengineering (SG) research and deployment out of concern that SG would discourage and hence substitute for emission mitigation. This prospect of new strategies influencing the use of existing strategies to combat climate change raises two important policy and political economy questions.

First, how is SG different from other approaches that reduce the risks of a changing climate? Substitution among climate change risk-reduction strategies already characterizes climate policy in practice. Investing in solar panels reduces the emission-cutting returns of energy efficiency investments, and vice versa. R&D on battery

storage may enable dispatching of intermittent solar power, and reduce the returns to R&D on carbon capture and storage technology.

One may argue that substitution within emission mitigation is fine, but different from SG substitution, since the former represents various ways of preventing climate change risk, instead of potentially ameliorating the risk under SG. The same logic, however, applies to climate adaptation and resilience efforts. The emerging acceptance of the need for adaptation is clear evidence of insufficient emission mitigation over the past three decades. The failure of the single-pronged emission mitigation strategy has strengthened the incentives of individuals, businesses, and governments to invest in climate-adaptation programs.

This prospect of new strategies influencing the use of existing strategies to combat climate change raises two important policy and political economy questions.

Second, how could policymakers craft and implement a portfolio approach to climate change risk reduction? For example, would SG substitute for or complement emission mitigation? The underlying logic of the SG moral hazard critique is that decisionmakers optimize their risk reduction strategies. The analysis that SG deployment reduces the social return for a unit of emission mitigation thereby causing decisionmakers to undertake less emission mitigation presumes that decisionmakers already pursue optimal emission mitigation. The myriad imperfections and inadequacies of mitigation policy to date undermines this assumption and should give us pause about the prospect of optimizing the deployment of SG (and adaptation) to displace some emission mitigation.

Pursuing SG research and enhancing its salience among policymakers, stakeholders, and the public may represent an “awful action alert”—considering actions to block some of the incoming sunlight may galvanize public attention and enhance support for mitigation and adaptation. As my colleague Richard Zeckhauser and I emphasize in our paper “Three Prongs for Prudent Climate Policy,” such an awful action alert may spur greater emission mitigation and increase support for using every tool for reducing climate change risks. As Bodansky and Parker note in their compelling case for SG research, there is already preliminary social science research consistent with this notion. Going forward, we need to better understand the political economy of a portfolio approach to climate change risks. This suggests that a SG research agenda should address the political, economic, sociological, and international relations dimensions of SG research and deployment, in addition to the engineering and scientific dimensions of solar geoengineering.

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Daniel Bodansky and Andy Parker’s call for more research into solar geoengineering rests on a neat but false dichotomy. They imply that research must be either constrained or extended. In practice, what is needed is neither a ban nor a free-for-all, but appropriately regulated multilateral research.

The authors are concerned about fears of mitigation deterrence or “moral hazard,” using the latter term despite widespread criticism of its inappropriateness. They argue that such fears will motivate more opposition to research, of the sort recently mounted by an international coalition of Indigenous peoples and environmental