

Time for a rethink on climate change, say top environmental economists

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Governments have done so little to reduce greenhouse gas emissions, they should consider investing into the Rand D of large scale geo-engineering projects and their governance, according to 26 of the world's leading environmental economists.

Examples could include firing sulphates into the atmosphere, Iron fertilisation of the oceans or oceanic 'heat pipes'.

A ten point consensus, published this month in a book edited by two top environmental economists at The University of Manchester, argues that among other things, policy makers should 'think outside the box' to tackle [climate change](#).

Also, argues the consensus, greenhouse emissions should be taxed or capped to help consumers, businesses and governments account for the social cost of their behaviour.

Professors Alistair Ulph and Robert Hahn - from the University's Sustainable Consumption Institute (SCI) - say that despite ambitious international targets to cut [greenhouse gas emissions](#), little progress has actually been achieved.

Their book published by Oxford University Press is built around a University of Manchester conference honouring Nobel Prize winning economist Professor Tom Schelling in 2010.

“Emissions from one country may be a small part of the global emissions that drive climate change - which means there is an incentive for such countries not to act to cut emissions unless others do so,” said Professor Ulph, who is Director of the SCI.

“Moreover, the impact of global warming and the costs of reducing emissions vary across regions and time periods, so a divergence of interests pits country against country and generation against generation.”

Game theory reveals a series of virtually intractable problems - such as tipping point analysis and the prisoners’ dilemma - which stand in the way of international agreement between nations. Most game theorists – such as Schelling- are pessimistic about ever getting agreement on climate change.

“Because the prospect of international action is so slim, Schelling argues that policymakers need to think outside the box,” he said.

“More research and development is needed in technologies for removing CO₂ from the atmosphere and for managing solar radiation, even though these technologies may not be deployed for decades.”

Professor Hahn said: “Many countries already have explicit or implicit prices on greenhouse [gas emissions](#).”

“But the large revenue streams that result should be used productively by reducing other taxes that distort economic activity.

“If we do fail to regulate greenhouse gas emissions that contribute to global warming or find alternative strategies, then the damage could be catastrophic.”

Ten key points which form the Schelling consensus:

1. Economic analysis suggests that Governments have underinvested in mitigation relative to the level of effort that would be economically efficient.
2. All serious options for addressing climate change should be considered – including controlling greenhouse gas emissions, removing CO₂, adaption and geo-engineering.
3. International agreements are needed, but need not include all countries or sectors.
4. New approaches that pass a benefit-cost test should be tried, but not necessarily in a single comprehensive agreement; e.g. individual greenhouse gasses could be handled in separate agreements.
5. Putting a price on greenhouse emissions by taxing them or using emission caps would be desirable because it would help consumers, businesses and governments to account for the full social cost of their behaviours. Many countries already have explicit implicit prices on [greenhouse gas](#) reductions. The large revenue streams that result should be used productively by reducing other taxes that distort economic activity.
6. Climate stabilization requires that net CO₂ emissions decline significantly. Achieving that goal will require a technical revolution. This is one reason why R and D in energy technologies should be a priority, though policies should also ensure innovative efforts are socially productive.
7. R and D is also needed in technologies for removing CO₂ from the atmosphere and for managing solar radiation, even though these technologies may not be deployed for decades. Efforts should begin now to develop governance arrangements for the appropriate use of geo-engineering.
8. Businesses need appropriate incentives for innovation, investment and behavioural change.
9. The incentives for consumers, firms and governments to adapt are strong because they will bear most of the costs if they do not. The poorest countries will need assistance from industrialised countries,

which may be best targeted to more economic development.

10. There are great uncertainties about how best to manage the various components of the climate change problem. These uncertainties should be acknowledged by adopting a flexible approach to decision making that responds to new knowledge about climate change. Uncertainty should not be used as a rationale for inaction.

Provided by University of Manchester

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