

# Carbon emissions

Sir, – Robert May's discussion of anthropogenically induced global warming (April 6) provides a good background and bibliography for those intent on understanding the issues and exploring their remedies. Unfortunately it falls into the common bear trap of misinterpreting the "wedge" model of Steve Pacala and Rob Socolow. This model, as presented, only addresses the issue of stabilizing emissions at their present value rather than addressing the essential issue of stabilizing the carbon concentration in the atmosphere at some acceptable level, currently taken to be twice the concentration of the pre-industrial era. Pacala and Socolow clearly indicated in their paper that the job will not be finished if their seven-wedge programme is successfully implemented in fifty years; however, even this may be too late to obtain a desirable goal.

A more recent approach developed by Socolow and S. H. Lam and published as "Good Enough Tools for Global Warming Policy Making" in *Energy for the Future: Philosophical Transactions of the Royal Society Series A: Mathematical, Physical & Engineering Sciences* (2007), pp365, 897–934, provides a simple mathematical understanding of this focal problem. This model notes that when carbon dioxide is emitted into the atmosphere, approximately half of it stays to contribute to the greenhouse effect. A constant emission rate therefore implies a constant rate of increase in the CO<sub>2</sub> concentration and an overshooting of the target steady-state concentration. To stabilize at any selected level requires an appropriate systematic reduction in the emission rate as a

function of time. The cost of procrastination is high. Currently we have about 200 years to achieve the desired target. For each year of procrastination the available time decreases by more than two years. Waiting at a stable emission level for fifty years reduces the lead time to about one hundred years and requires a much greater effort for the remaining period.

The Stern Report correctly suggests that a reduction in emissions to about 20 per cent of their present value will be required. In an aid to visualizing the effort involved, Lam points out that non-carbon sources of energy must be provided each year equivalent to several "Three Gorges" power plants on a worldwide basis. This will require substantial international cooperation and determination.

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## Feminist harassment

Sir, – Reading Jean Bethke Elshtain's review of *Legalizing Misandry* by Paul Nathanson and Katherine K. Young (March 30) might lead those with a tenuous hold on reality to believe that extremists of the feminist persuasion have so gained the upper hand in our society that members of the male half of our population now lead a tortured life, beset by negative stereotypes, cowering in grave danger of false accusations of horrid crimes. Elshtain endorses the authors' recitals of men's victimization by "law upon law, case upon case,