

Sample abstract analysis E4: Rating E (Cook), NR: re:look climate;

Author(s)	Reference	Cook category (abstract + title based) E – N – R/U	re:look main category (data based) NR - R	re:look sub category (data based), if R RS – RN - RR	re:look reassessment (this paper)	Details of assessment Comments / Open items
Vaughan et al.	Climatic Change. Sep 2009, <b>96</b> (1/2) 9-43.	<b>E</b>	<b>NR</b>	-	<b>E4</b>	Climate Change Mitigation paper

Title: Climate change mitigation: trade-offs between delay and strength of action required.

Abstract:

Climate change mitigation via a reduction in the anthropogenic emissions of carbon dioxide (CO<sub>2</sub>) is the principle requirement for reducing global warming, its impacts, and the degree of adaptation required. We present a simple conceptual model of anthropogenic CO<sub>2</sub> emissions to highlight the trade off between delay in commencing mitigation, and the strength of mitigation then required to meet specific atmospheric CO<sub>2</sub> stabilization targets. We calculate the effects of alternative emission profiles on atmospheric CO<sub>2</sub> and global temperature change over a millennial timescale using a simple coupled carbon cycle-climate model. For example, if it takes 50 years to transform the energy sector and the maximum rate at which emissions can be reduced is  $-2.5\% \text{ year}^{-1}$ , delaying action until 2020 would lead to stabilization at 540 ppm. A further 20 year delay would result in a stabilization level of 730 ppm, and a delay until 2060 would mean stabilising at over 1,000 ppm. If stabilization targets are met through delayed action, combined with strong rates of mitigation, the emissions profiles result in transient peaks of atmospheric CO<sub>2</sub> (and potentially temperature) that exceed the stabilization targets. Stabilization at 450 ppm requires maximum mitigation rates of  $-3\%$  to  $-5\% \text{ year}^{-1}$ , and when delay exceeds 2020, transient peaks in excess of 550 ppm occur. Consequently tipping points for certain Earth system components may be transgressed. Avoiding dangerous climate change is more easily achievable if global mitigation action commences as soon as possible. Starting mitigation earlier is also more effective than acting more aggressively once mitigation has begun.

Justification of Classification (re:look):

Cook: **E**: The abstract clearly mentions reduction of anthropogenic emissions as the principle requirement for reducing global warming (explicit endorsement)

re:look climate: **NR (non-relevant)** As already stated in the abstract and confirmed in the main text the work deals with emission reduction scenarios (mitigation). It does not add anything to the underlying science, which is taken as a basis.