

Science Suggests "350" as Target for CO2

The following excerpts are from Target Atmospheric CO2: Where Should Humanity Aim?, published in the Open Atmosphere Science Journal by James Hansen et al in 2008.

Excerpt:

An initial CO2 target of 350 ppm, to be reassessed as effects on ice sheet mass balance are observed, is suggested.

Stabilization of Arctic sea ice cover requires, to first approximation, restoration of planetary energy balance. Climate models driven by known forcings yield a present planetary energy imbalance of +0.5-1 W/m². Observed heat increase in the upper 700 m of the ocean confirms the planetary energy imbalance, but observations of the entire ocean are needed for quantification. CO2 amount must be reduced to 325-355 ppm to increase outgoing flux 0.5-1 W/m², if other forcings are unchanged. A further imbalance reduction, and thus CO2 ~300-325 ppm, may be needed to restore sea ice to its area of 25 years ago. Coral reefs are suffering from multiple stresses, with ocean acidification and ocean warming principal among them. Given additional warming 'in-the-pipeline', 385 ppm CO2 is already deleterious. A 300-350 ppm CO2 target would significantly relieve both of these stresses.