

Rapid growth in CO₂ emissions after the 2008-2009 global financial crisis

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G.P. Peters, G. Marland, C. LeQuere, T. Boden, J.G. Canadell, and M.R. Raupach: *Nature Climate Change*, 2011

Objectives

- Quantity the major anthropogenic source of carbon in the global carbon cycle budget, understand national trends in fossil-fuel CO₂ emissions, produce gridded products needed for modeling activities (e.g., IPCC AR5), and provide benchmark data for mitigation efforts and policy discussions.

New Science

- 2010 estimates show global fossil-fuel CO₂ emissions have surpassed 9 Pg of carbon (Pg C) for the first time and more than offset the 1.4% decrease in 2009.
- The impact of the 2008-2009 global financial crisis (GFC) on emissions has been short-lived owing to strong emissions growth in emerging economies, a return to emissions growth in developed economies, and an increase in the fossil-fuel intensity of the world economy.
- 2010 growth was due primarily to high growth rates in a few key emerging economies namely China (10.4%, 0.212 Pg C) and India (9.4%, 0.049 Pg C).

Significance

- Globally, the latest estimates represent an emissions trajectory higher than many of the emissions scenarios used in recent IPCC scientific assessments.
- China is now clearly the world's largest emitter surpassing 2 Pg C.
- The GFC has helped developed countries to meet their production/territorial-based emissions commitments, as promised in the Kyoto Protocol and Copenhagen Accord, yet the GFC had minimal impact on emissions growth in emerging economies

