

Global Warming and Economic Externalities

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We regard the emission of greenhouse gases (GHG) as an uncorrected negative externality, given the scientific evidence that human emissions of GHG contribute to global warming which will have real economic consequences through climate change, and the fact that - despite the Kyoto Protocol - there exist neither perfect market price signals for global GHG emissions due to the generous caps of and the majority of emissions not being covered by the existing restrictive mechanisms nor alternate institutions to impose limits on emissions. Economic equilibrium paths in the presence of such an uncorrected externality are inefficient; as a consequence there is no real economic opportunity cost to correcting this externality by mitigating global warming. Mitigation investment using resources diverted from conventional investments can raise the economic well-being of both current and future generations. The economic literature on GHG emissions misleadingly focuses attention on the intergenerational equity aspects of mitigation by using a hybrid constrained optimal path as the "business-as-usual" benchmark. We calibrate a simple Keynes-Ramsey growth model to illustrate the significant potential Pareto-improvement from mitigation investment, and to explain the equilibrium concept appropriate to modeling an uncorrected negative externality.