

ID:DE FG02-96-ER62283

Principal Investigator: William D. Nordhaus

Institution: Yale University

Title: Induced Technological Change with Applications to
Modeling of Climate-Change Policies

Program Manager: John C. Houghton (301) 903-8288

Research Areas: Integ Assess

This grant supported research on induced innovation in the energy sector and the implications of induced innovation for climate change and climate-change policy.

The first part of the research investigated the impact of energy prices on inventive activity focusing on the energy sector. The purpose was to improve our understanding of the determinants of inventive activity and to examine a number of hypotheses and specifications of the relationship. This research was undertaken primarily by David Popp (currently at Syracuse University) and resulted in his Ph. D. dissertation and follow-up publications.

The second part incorporated the theoretical specifications and empirical results of the first part into the DICE integrated assessment models of climate change. This resulted in a revised model, known as the "R&DICE model," and the major results are forthcoming in Grubler, Nakicenovic, and Nordhaus (GNN), *Induced Technological Change and the Environment*, Resources for the Future, Washington, D.C., 2002, in a chapter entitled, "Modeling Induced Innovation in Climate-Change Policy." The work was presented at several conferences and workshops. In addition, this work was part of an ongoing effort to understare induced innovation, where the major papers are being published in GNN.

DOE Patent Clearance Granted

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5-2-02
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