

SAB Meeting on Strategic Research Directions— Economics and Decision Sciences

National Center for Environmental Economics
February 16, 2011

EDS Program Overview

Prior to 2008, ORD’s National Center for Environmental Research (NCER) was responsible for administering and funding the Economics and Decision Science (EDS) program. The program was moved in FY2008 from NCER to the Office of Policy (OP) under the Regulatory/Econ Management and Analysis program project, and thirty-eight (38) active grants were moved from NCER to NCEE at this time.

When the EDS program moved funding was cut by 50% (new baseline budget of \$1 million) and was cut again due to 40 percent OP-wide cut. OP also absorbed a substantial cut in the FY2009 continuing resolution, resulting in no new obligations of funds in FY2008 and FY2009. As a result of new priorities and a better budget picture for OP, the EDS research program saw an increase that enabled the program to fund \$1.0M in grants FY2010, and continue this into FY2011 under the President’s Budget.

The following table provides an overview of the funding and FTE for the EDS program since FY2007, along with NCEE funding provided for our own competitive solicitations for grants. NCEE staff members also conduct research directly, sometimes supported by contracted efforts, but these are not included here.

	2007		2008		2009		2010		2011 (estimate)		2012 (estimate)	
	\$	FTEs	\$	FTEs	\$	FTEs	\$	FTEs	\$	FTEs	\$	FTE
EDS	2.3M	3	0	2	0	2	1.2M	3	0.6M	3	1.0M	3
NCEE	0.2M	**	0.7M	**	0.2M	**	0.4M	**	0.4M	**	0.4M	**
Total	2.5M	3+	0.7M	2+	0.2M	2+	1.6M	3+	1.0M	3+	1.4M	3+

*** = most NCEE staff are engaged in many of these research efforts in a collaborative and/or advisory capacity so a total FTE is difficult to calculate.*

The increase from 2009 to 2010 enabled the office to primarily finance the outcome of FY09 EDS solicitation supporting new research, including a set of dissertation/early career research projects. Original plans included funding for the Pollution Abatement Cost and Expenditure (PACE) survey, to be administered by the Census Bureau, However, because EPA and Census ran into difficulties in reaching a suitable agreement on the cost and scope of administering the survey on a continuous basis, efforts to renew the survey in 2010 ceased. The following sections have more information on these directions and other current research efforts at NCEE.

Current/Future Awards

NCEE funded seven grants (out of 22 eligible applications) to support environmental economics workshops from the 2008 base NCEE research program. Some of these were single event, topic-focused on subjects such as land use, meta-analysis, experimental methods, and micro-econometrics. Others were multi-year awards to support dissemination of research findings (Heartlands, Camp Resources, NBER Summer series)

NCEE's review panel funded six grants (out of 11 eligible applications) for dissertation/early career research in environmental economics from 2009 EDS competitive solicitation. This solicitation was specifically designed to support "gathering data for use in doctoral dissertations and other early career research in those areas of environmental economics involving pollution control." NCEE considers these kinds of award to be a cost-effective way to encourage research.

The review panel also recommended three awards (out of 23 eligible applications) for research on market mechanisms in 2009 EDS competitive solicitation. This part of the solicitation was to support "normative or positive research in the design of policies for pollution control using market mechanisms, particularly second-best and piecemeal approaches to regulation as well as multiple, hybrid, or adaptive policies to control one or more externalities or other problems."

NCEE is completing a new competitive solicitation issued in FY2010 to support additional workshop and dissertation/early career research projects. The expectation is that final awards from the solicitation will be announced in FY2011, using FY2010 and FY2011 funding. The solicitation invited proposals that support environmental economic workshops and dissertation/early career research projects.

NCEE Internal Research

NCEE economists and scientists engage directly in research to fill gaps in knowledge, often with support from other EPA offices. NCEE staff research continues to present research at professional conferences, and to publish in peer reviewed journals, producing an average of 20-30 papers per year in economics and risk science fields. NCEE also supports its own working paper series and added 12 entries in FY 2010 (there are 85 papers total in the series).

Ongoing research includes efforts to:

- account for uncertainty in the economic analysis of climate change policies,
- conduct a national scale assessment of the environmental justice implications of air pollution regulation,
- link EPA's air quality data with the National Center for Health Statistics survey data,
- analyze how regulation-based induced technological change impacts emissions and marginal abatement costs over time, and
- measure economic benefits of reducing air toxics emissions.

Other Activities: Workshops and EDS Products

NCEE hosted a workshop in Alexandria, VA (January 18, 2011) showcasing EDS-funded research on the Economic Benefits of Information Disclosure. The workshop included sessions on energy efficiency labels, the effectiveness of the Toxics Release Inventory, and the interactions of inspections and audits. The workshop also had a panel featuring different perspectives on information disclosure programs, emissions, and compliance. NCEE will be publishing the proceedings shortly and a commissioned white paper will be added to the working series.

NCEE participated an inter-agency 'social cost of carbon' workgroup that used the DICE, FUND, and PAGE integrated assessment models to estimate time paths of the social costs of carbon for use in future U.S. government regulatory analyses. This work was completed in early 2010, culminating in a technical support document cited in federal regulations concerned with GHG emissions.¹ In preparation for future refinements, EPA and DOE co-hosted a pair of workshops to improve the scientific and economic understanding of the potential impact of climate change on human wellbeing. The first was held Nov 18-29, 2010 and second on Feb 27-28, 2011 with both centering on the topic "Improving the Assessment and Valuation of Climate Change Impacts for Policy and Regulatory Analysis."²

NCEE also organized a workshop (June 9-10, 2010) on analytical methods for assessing environmental justice implications of environmental regulations. The workshop gathered a small group of economists, regulatory experts, and EJ community leaders to discuss methods for incorporating EJ analyses into EPA's regulatory process. Each session of the workshop consisted of an overview of EJ activities within an EPA program (e.g., Air, Water, Solid Waste, etc.) and a technical presentation on an EJ methodology appropriate to that program, followed by an evaluation of that methodology. Each session concluded with a moderated open discussion of the technical details of the methodology presented, appropriate uses, data needs, analytical requirements, and merits and limitations. The workshop also included a panel discussion with EJ community leaders in which they outlined the types of questions they would like to see addressed by the EJ analyses.³

Other Activities: Pollution Abatement Costs and Expenditures

¹ *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866*, Interagency Working Group on Social Cost of Carbon, United States Government <http://epa.gov/otaq/climate/regulations/scc-tsd.pdf> (accessed February 11, 2011)

² *Improving the Assessment and Valuation of Climate Change Impacts for Policy and Regulatory Analysis: Modeling Climate Change Impacts and Associated Economic Damages* <http://yosemite.epa.gov/ee/epa/erm.nsf/vwRepNumLookup/EE-0564?OpenDocument> (accessed February 11, 2011)

³ *Workshop: Analytical Methods for Assessing the Environmental Justice Implications of Environmental Regulations* <http://yosemite.epa.gov/EE/epa/eed.nsf/vwpsw/3A873CA7637D0BD98525779A004E3902?OpenDocument> (accessed February 11, 2011).

(PACE) Survey

This survey of ~20,000 U.S. manufacturing facilities collects data on overall pollution abatement expenditures (by type and media), but is not designed for collecting cost information on impacts of specific regulations. Census conducted and funded the PACE Survey from 1973-1994; Census collected PACE data in 1999 and 2005 with funding by EPA.

EPA uses PACE data in some regulatory analyses and for periodic reports on national or program costs (e.g., Cost of Clean and Environment Investments, CAA 812 Retrospective Cost Analysis, EPA's Strategic Plan). Government & academic researchers also rely upon PACE data, using it to analyze the impact of environmental regulations on important economic and environmental outcomes (e.g., job growth; competitiveness; environmental performance; opening and closing of manufacturing facilities; and productivity growth).

EPA and NCEE had been making plans to collect PACE data on a more routine basis, with the goal of producing annual reports. In addition, EPA was proposing to explore how the PACE survey might be used to study GHG-related control and monitoring costs. The original FY2011 President's Budget included a proposed increase to help better sustain the PACE survey on a more continual basis, and not on the intermittent basis it has experienced since the mid-1990s. Now, uncertainties about EPA's budget and concerns with the higher costs quoted by Census to administer the survey call into question the future of the PACE survey, including its scope (e.g., cost categories and industries) and the ability to administer it on an annual basis.

The Environmental Economics Advisory Committee of the SAB has been very supportive of EPA's efforts to collect annual PACE data.