

# Guidelines for Preparing Economic Analyses

U.S. Environmental Protection Agency



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## NOTICE

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# Preface

The U.S. Environmental Protection Agency (EPA), Regulatory Policy Council oversees regulatory planning by the Agency. In this capacity, the Council establishes analytical procedures on risk management issues to ensure that high quality and consistent practices are followed in accordance with Federal and Agency regulatory procedures. In early 1996, the conduct and consistency of economic analyses prepared in support of regulatory actions were identified as areas in need of updated and more specific guidance than was presently available in the Agency. The Regulatory Policy Council assembled a group economists and policy analysts serving in offices throughout the EPA to serve on an Economic Consistency Workgroup. The Council instructed the Workgroup to develop a series of issue papers to assess important economic analytical issues facing the Agency. After discussing the results of the findings in the issue papers, the Council charged the Workgroup with preparing a guidance document to assist in the preparation of economic analyses used for regulatory development and policy evaluation conducted by the Agency.

The *Guidelines for Preparing Economic Analyses* (or *EA Guidelines*) is part of a continuing effort by the EPA to develop improved guidance on the preparation and use of sound science in support of the decision making process. The *EA Guidelines* provide guidance on analyzing the benefits, costs, and economic impacts of regulations and policies. The document draws from several previously published sources, including existing economic guidelines materials prepared by the EPA in the mid-1980s, other Agency economic analyses and handbooks, and materials prepared by the Office of Management and Budget in support of Executive Order 12866 on regulatory planning and analysis. It seeks to incorporate recent theoretical, empirical, and modeling advances in environmental economics, drawing upon the considerable body of scholarly literature.

In an effort to ensure the *EA Guidelines* presents sound, scientific information consistent with mainstream practices in environmental economics, the Agency's Science Advisory Board (SAB) was charged with undertaking an extensive peer review of the document. The review was performed by the SAB's Environmental Economics Advisory Committee (EEAC), comprising leading U.S. environmental economists affiliated with major colleges, universities and economic research institutions. The EEAC provided substantial input on the content and organization of the document, reviewing the materials for accuracy in both economic theory and practice. In their final review report to the Agency (included as Appendix A in this document), the SAB concluded that the *EA Guidelines* receive an overall rating of "excellent," saying it "succeed(s) in reflecting methods and practices that enjoy widespread acceptance in the environmental economics profession."

Constant advances in theoretical and empirical research in the field of environmental economics will require that the Agency reexamine the *EA Guidelines* on a continual basis. The Agency will again enlist experts in the field of environmental economics and engage in an open review of the scientific basis of the document when it is reevaluated in the future.





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# Acronyms and Abbreviations

AC	annualized costs
BAT	best available technology
BCA	benefit-cost analysis
BPT	best practicable technology
CA	conjoint analysis
CE	certainty equivalent
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CGE	computable general equilibrium
COI	cost of illness
CPI	Consumer Price Index
CR	contingent ranking
CV	contingent valuation
DALY	disability-adjusted life year
DOE	Department of Energy
DOT	Department of Transportation
DWL	dead weight loss
EA	economic analysis
EBIT	earnings before interest and taxes
EEAC	Environmental Economics Advisory Committee
EIA	economic impact analysis
EO	Executive Order
EPA	Environmental Protection Agency
FINDS	Facility Index Data System
FTE	full-time equivalent employment
GDP	gross domestic product
I/O	input-output
IPCC	Intergovernmental Panel on Climate Change
LP	linear programming
MR	marginal revenue
MPC	marginal private costs
MSC	marginal social costs
MSD	marginal social damages
NAICS	North American Industrial Classification System
NB	net benefits



## Acronyms and Abbreviations

NEPA	National Environmental Policy Act
NESHAP	National Emission Standard for Hazardous Air Pollutant
NFV	net future value
NOAA	National Oceanic and Atmospheric Administration
OCC	opportunity cost of capital
OECD	Organization for Economic Cooperation and Development
OLS	ordinary least squares
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PRA	Paperwork Reduction Act
POTW	publicly-owned (wastewater) treatment work
PVC	present value of costs
QALY	quality-adjusted life year
RAPIDS	Rule and Policy Information Development System
RFA	Regulatory Flexibility Act
RIA	regulatory impact analysis
RUM	random utility model
SAB	Science Advisory Board
SAM	social accounting matrix
S&P	Standard & Poors
SBA	Small Business Administration
SBREFA	Small Business Regulatory Enforcement Fairness Act
SIC	Standard Industrial Classification
TAMM	Timber Assessment Market Model
TSLs	two-stage least squares
UMRA	Unfunded Mandates Reform Act
USC	United States Code
VSL	value of statistical life
VSLY	value of statistical life-year
WTA	willingness to accept
WTP	willingness to pay

# Acknowledgments

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