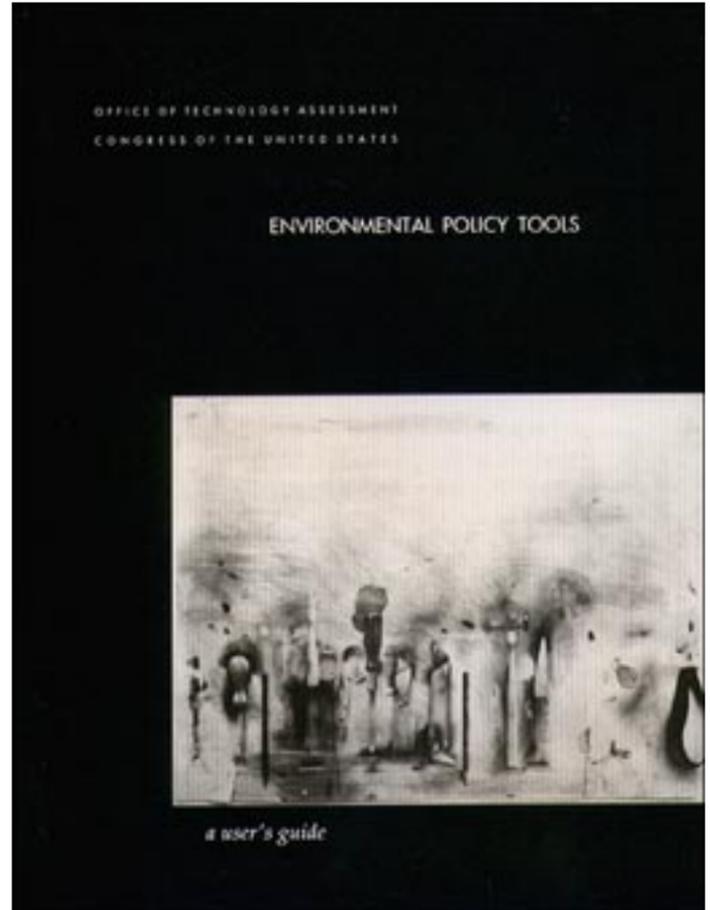


*Environmental Policy Tools: A User's Guide*

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# Foreword

Concerns over the costs of pollution control and the persistence of some pollution problems have fueled criticism of how the nation is pursuing its environmental protection goals. In particular, interest in policy instruments that utilize or improve market forces, while not new, has grown considerably over the past decade. Yet this interest continues to be met with confusion—and sometimes unrealistic expectations—about what these approaches can accomplish in some instances, and with suspicion over whether they can offer meaningful protection. The Senate Committee on Environment and Public Works asked the Office of Technology Assessment (OTA) to help Congress sort out the often conflicting claims about the effectiveness of major policy instruments.

The assessment looks at a range of regulatory and nonregulatory instruments, both the old standbys and less commonly used approaches. The “ideal” instrument would move the nation toward a cleaner environment, be as cost-effective and fair as possible, and accommodate increasingly rapid changes in science and technology. Finding an instrument to satisfy all of these objectives at once has seldom proved possible in the past—and may be even more difficult in the future. But whether Congress prefers to specify the choice of policy tool itself or delegate the choice to states, localities, or the Environmental Protection Agency (EPA), someone is faced with the difficult problem of matching tools to problems.

This “user’s guide” presents a framework to help decisionmakers narrow down the choice of instruments for addressing a particular problem. First, the report describes 12 policy tools, and how and where they are currently used. Based on state, federal, and international experience as well as theoretical literature, OTA rates the relative effectiveness of these tools in achieving each of seven criteria often considered in environmental policymaking. Given a decisionmaker’s preferences among the criteria and the characteristics of a particular problem, this framework draws attention to those instruments that might be particularly effective—or used with caution.

OTA appreciates the generous assistance of the project advisory panelists, reviewers, contractors, and other individuals who contributed ideas and information for this study. Their suggestions and advice were extremely valuable.



**ROGER C. HERDMAN**  
Director

**ERRATA --- ADVISORY PANEL  
FOR  
Environmental Policy Tools: A User's Guide**

*In the printing of this report, OTA inadvertently omitted the page listing the Advisory Panel to the study. OTA deeply regrets this error and apologizes to the individuals who gave such valuable service during the course of the project. As with all OTA projects, the Advisory Panel does not necessarily approve, disapprove, or endorse the report. OTA assumes full responsibility for the content and accuracy of all its reports. We do, however, appreciate the thoughtful comments and suggestions of the Panel.*

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**Note:** OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the reviewers. The reviewers do not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

# Abbreviations

AQMP	Air Quality Management Plan	NEPP	Netherlands' National Environmental Policy Plan
BACT	Best Available Control Technology	NOEL	No Observable Effect Level
BADCT	Best Available Demonstrated Control Technology	NO <sub>x</sub>	Nitrogen Oxides
BAT	Best Available Technology (Economically Achievable)	NPDES	National Pollutant Discharge Elimination System
BCT	Best Conventional Technology	NPO	Nonproduct Output
BDAT	Best Demonstrated Available Technology	NSPS	New Source Performance Standards
BMPs	Best Management Practices	OECD	Organisation for Economic Cooperation and Development
BOD	Biochemical Oxygen Demand	OPA	Oil Pollution Act
CAA	Clean Air Act	OPP	(New Jersey) Office of Pollution Prevention
CARB	California Air Resources Board	POTWs	Publicly Owned Treatment Works
CCAA	California Clean Air Act	PPIS	Pollution Prevention Incentives for States
CEMS	Continuous Emission Monitoring Systems	R&D	Research and Development
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (also known as "Superfund")	RACM	Reasonably Available Control Measures
CFCs	Chlorofluorocarbons	RACT	Reasonably Available Control Technology
CWA	Clean Water Act	RCRA	Resource Conservation and Recovery Act
DEP	(Massachusetts) Department of Environmental Protection	RECLAIM	Regional Clean Air Incentives Market
DEPE	(New Jersey) Department of Environmental Protection and Energy	RTCs	Regional Trading Credits
DEQ	(Oregon) Department of Environmental Quality	RTUs	Remote Terminal Units
EG&S	Environmental Goods and Services (Industry)	SAB	(EPA) Science Advisory Board
EPA	Environmental Protection Agency	SCAQMD	South Coast Air Quality Management District
EPCRA	Emergency Planning and Community-Right-To-Know Act	SIC	Standard Industrial Code
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	SIP	State Implementation Plan
HAPs	Hazardous Air Pollutants	SO <sub>2</sub>	Sulfur Dioxide
LAER	Lowest Achievable Emissions Rate	SRF	State Revolving Loan Fund
MACT	Maximum Achievable Control Technology	TRI	Toxics Release Inventory
MassOTA	Massachusetts Office of Technical Assistance	TSCA	Toxic Substances Control Act
NAAQS	National Ambient Air Quality Standards	TURA	(Massachusetts) Toxics Use Reduction Act
		TURI	(Massachusetts) Toxics Use Reduction Institute
		USGS	U.S. Geological Survey
		VOCs	Volatile Organic Compounds