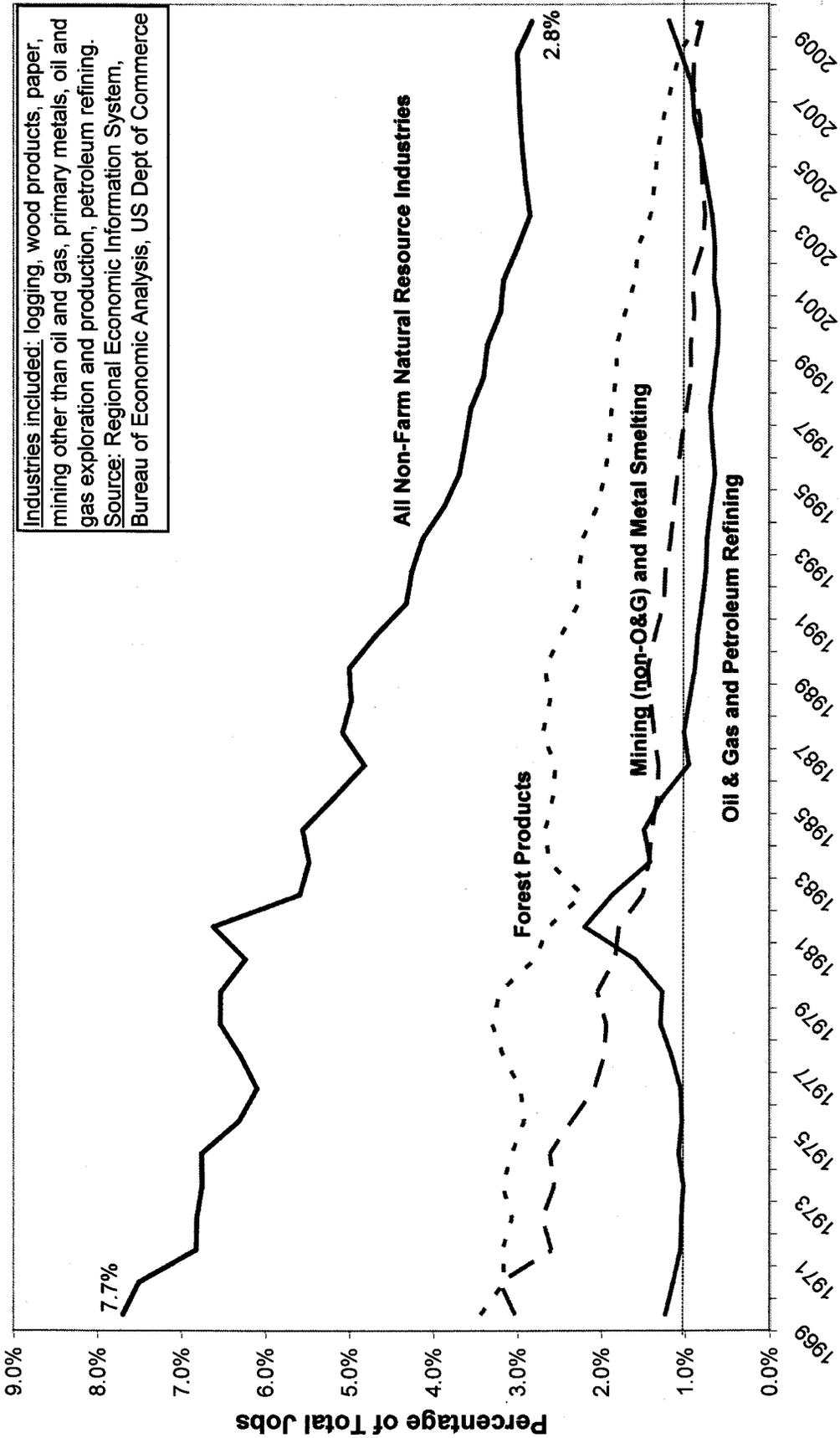
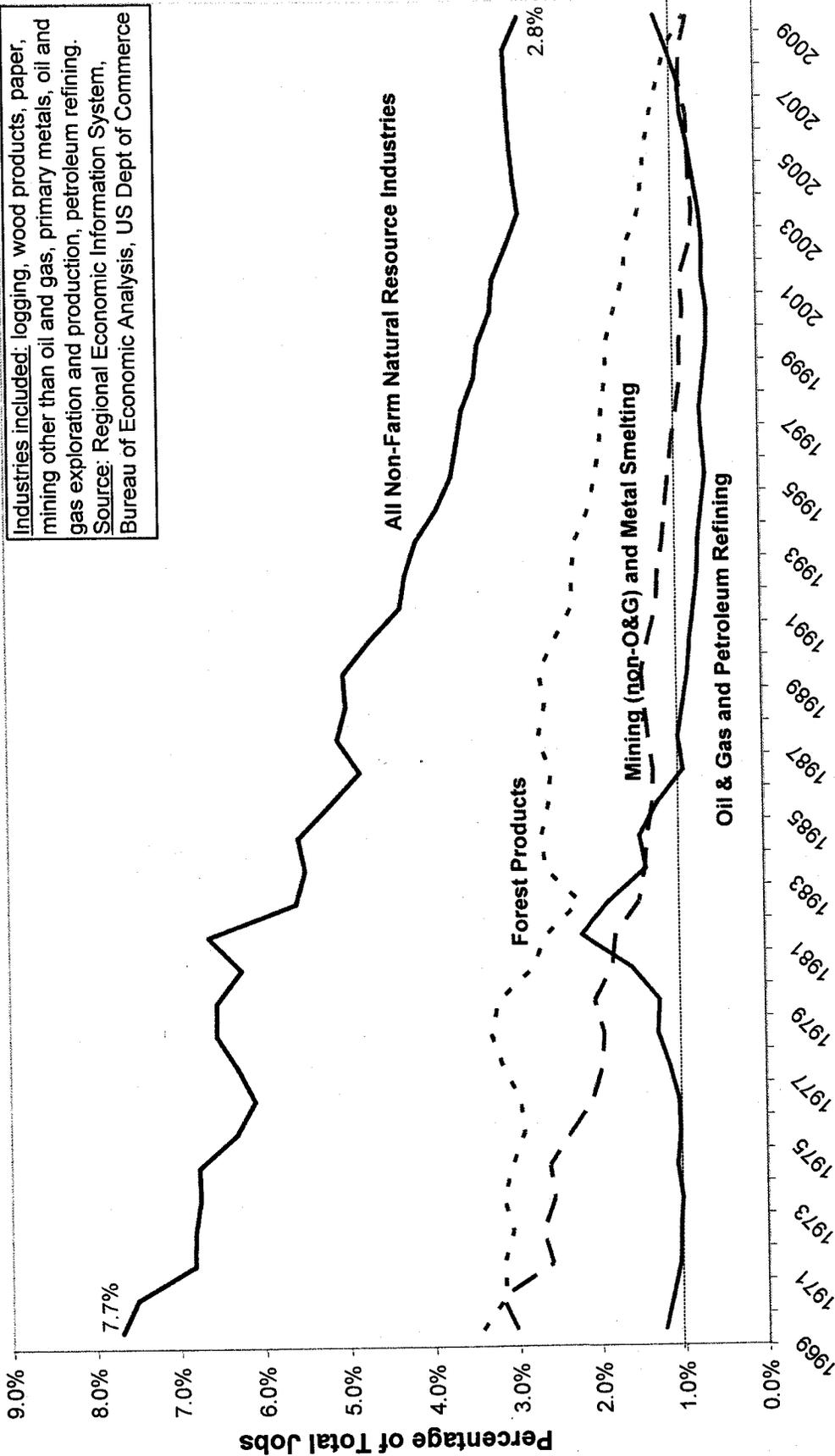


The Relative Importance of Montana's Non-Farm Natural Resource Industries as Sources of Jobs



The Relative Importance of Montana's Non-Farm Natural Resource Industries as Sources of Jobs

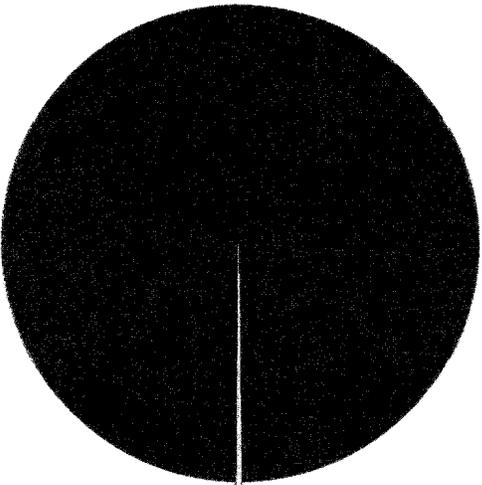


STATE NATURAL RESOURCES
 ENVYBIT NO. 3
 DATE 2/4/11
 BILL NO. 55-10

Operating Permits Burden Reductions

Without the Tailoring Rule

6 million sources would have
needed operating permits

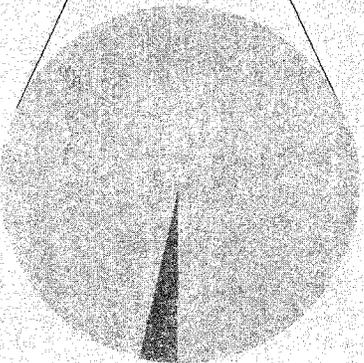


78% of total national stationary source GHG emissions
would be covered

\$21 billion annual cost to permitting authorities

With the Tailoring Rule

Only 15,550 sources will
need operating permits



67% of total national stationary source GHG emissions
would be covered

\$69 million annual cost to permitting authorities

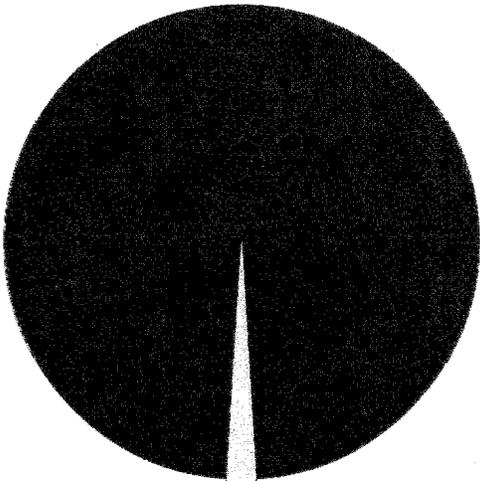
15,000 sources
already have
operating permits

Only 550
more sources
will be subject
to operating
permitting for
GHGs alone –
but not until
more than a
year from now.

PSD Permitting Burden Reductions

Without the Tailoring Rule

82,000 permitting actions per year would need to address GHGs

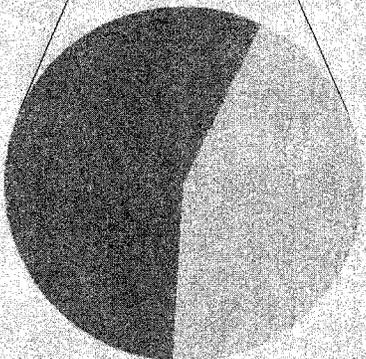


78% of total national stationary source GHG emissions are associated with facilities where actions could have occurred

\$1.5 billion annual cost to permitting authorities

With the Tailoring Rule

Only 1,600 permitting actions per year will need to address GHG



700 permitting actions that would **already** occur will need to address GHGs

900 more permitting actions will occur to address GHGs – but not until more than a year from now

67% of total national stationary source GHG emissions are associated with facilities where actions could occur

\$36 million annual cost to permitting authorities

The Clean Air Act's Economic Benefits

Past, Present and Future



October 2010



SMALL BUSINESS
MAJORITY



Acknowledgements

This report is the product of a collaborative effort by Small Business Majority and The Main Street Alliance.

Small Business Majority is a national nonprofit small business advocacy organization focused on solving the biggest problems facing America's 28 million small businesses. We conduct extensive opinion and economic research and work with small business owners, policy experts and elected officials nationwide to bring nonpartisan small business voices to the public policy table.

The Main Street Alliance is a national network of small business coalitions in 15 states supporting small business owners to bring their values into the public dialogue on pressing policy issues. Members of the alliance network share a vision of public policies that work for small business owners, their employees and the communities they serve. The alliance and its member coalitions create opportunities for small business owners to speak for themselves on issues of common concern.

Report Authors

Christopher Van Atten, M.J. Bradley & Associates, LLC
Lily Hoffman-Andrews, M.J. Bradley & Associates, LLC

For questions or comments about this report, please contact:

Christopher Van Atten, Senior Vice President
M.J. Bradley & Associates, LLC
47 Junction Square Drive
Concord, MA 01742
Telephone: 978-369-5533
E-mail: vanatten@mjbradley.com

Introduction

In 1970, the United States Congress enacted the Clean Air Act (CAA)—one of the nation’s most important environmental laws. The CAA directs the U.S. Environmental Protection Agency (EPA) to develop and enforce regulations addressing a wide range of air quality problems and challenges. According to EPA and independent assessments, the economic and public health benefits of the Act have far outweighed the costs imposed on businesses.



As we mark the 40th anniversary of this historic legislation, EPA’s authority under the CAA is coming under threat from members of Congress that would delay or limit the Agency’s ability to regulate greenhouse gas emissions and other pollution. This has negative implications for many businesses, large and small, that have enacted new practices to reduce their carbon footprint as part of their new business models. It could also hamper the growth of the clean energy sector of the economy—a sector that a majority of small business owners view as essential to their ability to compete.¹

It is in this context that this paper examines the legacy of the CAA, its cost and benefits to the American economy (including an analysis showing that the costs of compliance have been greatly overestimated time and again), and the important innovations spurred by the Act. The record shows:

1. The Clean Air Act has proven to be a very good investment. Studies show that the economic benefits of the Act have far exceeded the costs of controlling air pollution emissions. According to the Office of Management and Budget, the total economic benefits of the Clean Air Act are estimated at more than four to eight times the costs of compliance.

2. The CAA has fostered a long period of economic growth and development by protecting public health and the environment. In the last two decades, emissions of the most common air pollutants have declined by 41 percent, while Gross Domestic Product (GDP) has increased by more than 64 percent.

3. The CAA has spurred important technological innovations, such as catalytic converters, that have helped fuel job growth in the U.S. economy. The environmental technology industry—spurred by environmental regulations and particularly the Clean Air Act—led to the creation of 1.3 million total jobs between 1977 and 1991.

The Economic Benefits of the Clean Air Act

The U.S. Environmental Protection Agency (EPA) is required, under Section 812 of the 1990 Clean Air Act Amendments (CAAA), to periodically conduct scientifically reviewed studies that assess the costs and benefits of the CAA. EPA has completed two such studies. According to Alan Krupnick, a PhD economist and former senior economist on the President's Council of Economic Advisers, "[t]hese studies are probably the most intensive and expensive cost-benefit analyses ever done at the agency. Under the auspices of the agency's Science Advisory Board, both studies were scrutinized throughout the decade-long preparation by at least three expert committees of outside economists, air quality modelers, epidemiologists, and other health experts."² The table below presents the estimates of benefits and costs developed in the two studies.

Monetized Benefits and Costs of the Clean Air Act			
Study	Benefits	Costs	Benefit-Cost Ratio
CAA 1970 through 1990 <i>EPA retrospective study (1990 dollars)</i>	\$22.2 trillion*	\$523 billion	42:1
CAAA 1990 through 2010 <i>EPA prospective study (1990 dollars)</i>	\$690 billion*	\$180 billion	4:1
Stratospheric Ozone Protection <i>EPA prospective study (1990 dollars)</i>	\$530 billion*	\$27 billion	20:1

* Central estimate.

The first of these studies was retrospective, and examined the costs and benefits of the CAA from 1970 to 1990.³ The analysis compares the state of the environment and public health under two scenarios: (1) a scenario which reflects historical economic and environmental conditions observed with the CAA in place; and (2) a hypothetical scenario which projects the economic and environmental conditions which would have prevailed without the federal, state, and local programs developed pursuant to the 1970 and 1977 Clean Air Acts.

This study concludes that the benefits of the CAA, in the form of improved worker productivity, increased agricultural yields, reduced mortality and illness, and other economic and public health benefits, far exceed the costs of compliance.

Between 1970 and 1990, the CAA yielded (relative to the no-control scenario), an estimated \$22.2 trillion in economic benefits (this is EPA's central estimate; benefits were estimated to range from \$5.6 to \$49.4 trillion). By comparison, the compliance costs to achieve these pollution reductions were estimated at \$523 billion—a cost-to-benefit ratio of more than 40:1, with net economic benefits of \$21.7 trillion dollars.

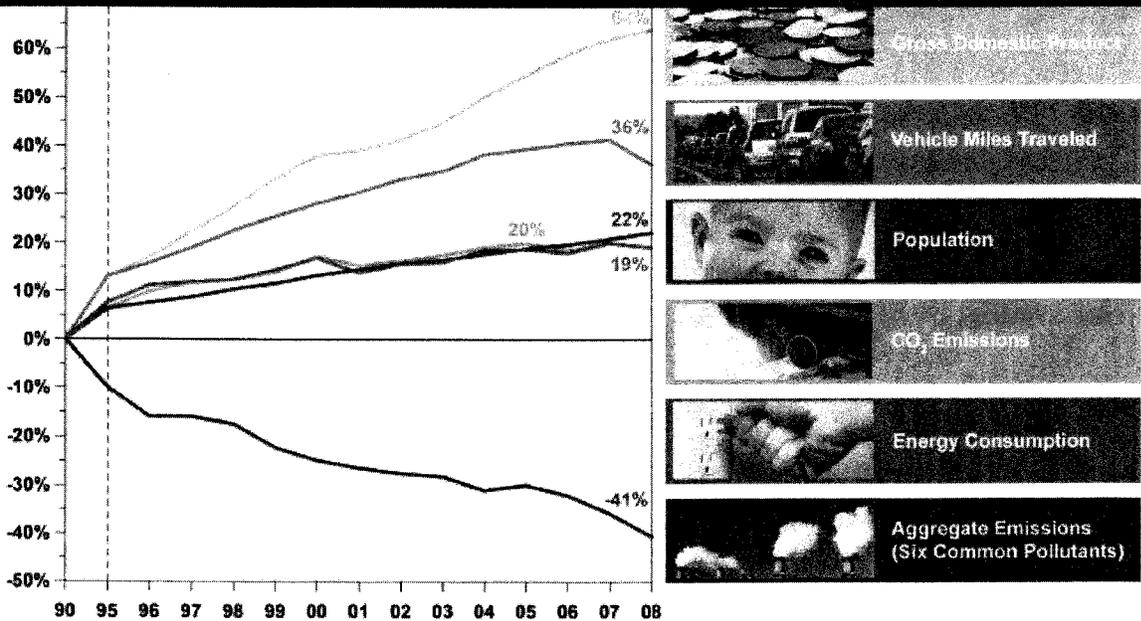
The benefits of the CAA stem from the significant reductions in air pollution emissions achieved by the Act. Sulfur dioxide (SO₂) emissions declined 40 percent as a result of the Clean Air Act; nitrogen oxide (NO_x) emissions were reduced by 30 percent; volatile organic compound (VOC) emissions were reduced by 45 percent; carbon monoxide (CO) emissions were reduced by 50 percent; particulate matter (PM) emissions were reduced by 75 percent; and lead emissions were reduced by an astonishing 99 percent. The EPA notes that these substantial reductions were

achieved “during a period in which population grew by 22.3 percent and the national economy grew by 70 percent.” These reductions led to corresponding reductions in the atmospheric concentrations of these pollutants, and resulting byproducts, such as ground-level ozone and the sulfates and nitric acids that contribute to acid rain.

EPA’s prospective study of the Clean Air Act focuses on the effects of the 1990 Clean Air Act Amendments from 1990 through 2010 by estimating the incremental benefits of the 1990 Amendments.⁴ The analysis finds the CAAA resulted in further emissions reductions, improvements in air quality, and economic and public health benefits.

To calculate the economic benefits of the CAAA, EPA monetized the public health benefits of pollution reductions, effects on worker productivity, visibility, and crop yields, and two selected ecological effects: freshwater acidification and its impacts on recreational fishing, and tree growth and its negative impacts on commercial timber harvesting. Altogether, the study finds

Over the last 20 years, total emissions of the six principal air pollutants have decreased by more than 41 percent, while the Gross Domestic Product has increased by more than 64 percent.



Source: U.S. Environmental Protection Agency, Our Nation's Air - Status and Trends through 2008, February 2010.

that the cumulative economic benefits of the CAAA (Titles I-V) from 1990 through 2010 would total \$690 billion (in 1990 dollars, discounted at 5%), while the compliance costs would total \$180 billion—a 4:1 cost-benefit ratio.⁵ The measures aimed at protecting the stratospheric ozone layer were estimated over a much longer time period—1990-2075 for costs, and 1990-2165 for benefits—and these were estimated at \$530 billion in benefits and \$27 billion in costs.

In the 2010 post-CAAA scenario, SO₂ emissions were reduced by 31 percent; NO_x emissions were reduced by 39 percent; VOC emissions were reduced by 35 percent; CO emissions were reduced by 23 percent; primary PM₁₀ emissions were reduced by 3 percent; PM_{2.5} emissions were reduced by 4 percent, and mercury emissions were reduced by 42 percent.

Others have also concluded that the benefits of the CAA far outweigh the costs. The Office of Management and Budget (OMB), for example, estimated a range in the monetary benefits of regulation from 1992 through 2002 to be approximately \$121 to \$193 billion, and a range of costs to be \$23 to \$27 billion. This translates to \$4 to \$8 in benefits for each dollar invested in clean air.⁶

The acid rain program (ARP) has an even higher cost-to-benefit ratio—in 2005, researchers from Stratus Consulting estimated that the benefits exceed the costs of the ARP by more than 40:1 in 2010.⁷

The Clean Air Act has Generally Cost Less than Predicted

Not only do the economic benefits of the CAA far outweigh its costs, these costs have consistently been lower than initially predicted—by industry, and even by EPA itself. The SO₂ portion of the CAA's acid rain program provides a good example of this. The initial cost estimates for a 10 million ton reduction in SO₂ (approximately equal to the reductions required under Phase I of the acid rain program by 1995) were:

- \$2.4 billion per year (ICF Consulting, for the National Wildlife Federation)
- \$3.9 billion per year (Peabody Coal)

- \$3-4 billion per year (Office of Technology Assessment)
- \$4-5 billion per year (Edison Electric Institute)⁸.

In contrast, the Energy Information Administration (EIA) calculated the annualized costs of achieving compliance with the Phase I SO₂ emissions requirements at just \$836 million—well below early cost estimates.⁹

Similarly, key industry groups during the 1990 reauthorization of the CAA estimated that controls for volatile organic compounds (VOCs) would cost \$14.8 billion per year. However, due to technology innovation and other factors, EPA estimates that the costs of control will be no more than \$962 million in 2010.¹⁰

Overestimating the Costs of Compliance

Industry and government economists alike have overestimated the costs of the Clean Air Act, anywhere from 500% to more than 1,000%.

EPA itself has routinely overstated the future costs of its regulations—including portions of the CAA. Harrington, Morgenstern and Nelson examined EPA's cost projections and found that in 14 cases, the costs of implementing the rules was less than predicted; costs were higher in only 3 cases.¹¹

Compliance Spawns Innovative Solutions and Lowers Costs

Analysts have repeatedly overestimated the costs of the CAA in part because of the innovative compliance solutions that have emerged only after EPA regulations have been established. When the CAA was enacted in 1970, many of the control technologies necessary to reduce emissions did not exist yet, or existed only as prototypes. Innovations spurred by the emissions reductions required by the CAA, such as catalytic converters in automobiles, are now ubiquitous.

A report by the Northeast States for Coordinated Air Use Management (NESCAUM)¹² examines in detail the technological innovations spurred by environmental regulations, such as the Clean Air Act, with case studies of vehicle and power plant control technologies. The CAA's vehicle emissions standards have led to numerous innovations including three-way catalysts, direct fuel

injection, oxygen sensors and onboard diagnostic systems. These innovations have had profound results—cars have dramatically lowered their emissions over the past several decades

NESCAUM concludes that strong regulatory drivers—such as the Clean Air Act—can lead to technological innovation and lowering of compliance costs. In fact, these regulatory drivers are necessary to keep research and development going and new, lower-cost technologies being developed.

The innovations fueled by more stringent regulations, in turn, fuel the U.S. economy. According to a report prepared by ICF Consulting¹³, the environmental technology industry—spurred by environmental regulations and particularly the Clean Air Act—led to the creation of 1.3 million total jobs between 1977 and 1991. Such innovations also allowed the U.S. to become a world leader in environmental control technologies—exports of environmental technologies grew by 130 percent between 1993 and 2003, and were valued at \$30 billion in 2004.

Conclusion

The Clean Air Act has left an important legacy of widespread economic benefits across both urban and rural communities and businesses large and small. Furthermore, the Act has led to environmental advancements which improve public and worker health. It has also led to the creation of millions of jobs, and has spurred important technological innovations and new industries that have been exported around the world. Despite the progress, important challenges remain. As the success of the CAA continues to take shape and be fully implemented, the economic advantages it provides will be felt for many years to come.

References

- ¹ Small Business Majority, 2010. "Small Business and Clean Energy Policy." <http://smallbusinessmajority.org/energy/>
- ² Alan J. Krupnick, Senior Fellow and Director, Resources for the Future. Testimony prepared for presentation to the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives. May 1, 2002.
- ³ Environmental Protection Agency. 1997. "The Benefits and Costs of the Clean Air Act, 1970 to 1990." <http://www.epa.gov/air/sect812/retro.html>
- ⁴ EPA. 1999. "The Benefits and Costs of the Clean Air Act, 1990 to 2010." <http://www.epa.gov/air/sect812/prospective1.html>
- ⁵ Ibid.
- ⁶ Office of Management and Budget (OMB). 2003. Informing Regulatory Decisions: 2003 Report to Congress on the Costs and Benefits of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities. Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC. Available: http://www.whitehouse.gov/omb/infor/2003_cost-ben_final_rpt.pdf
- ⁷ Chestnut, LG and DM Mills. 2005. A fresh look at the benefits and costs of the US acid rain program. *Journal of Environmental Management* 77: 252–266.
- ⁸ Office of Technology Assessment. 1984. *Acid Rain and Transported Air Pollutants: Implications for Public Policy* (Washington, D.C.: U.S. Congress, Office of Technology Assessment, OTA-O-204, June 1984).
- ⁹ Munton, D. 1998. Dispelling the myths of the acid rain story *Environment*; Jul/Aug 1998; 40, 6
- ¹⁰ Institute of Clean Air Companies. U.S. EPA STUDY FINDS CLEAN AIR BENEFITS OUTWEIGH COSTS BY BETTER THAN FOUR TO ONE – NOT INCLUDING AIR POLLUTION JOBS AND OTHER BENEFITS. November 29, 1999.
- ¹¹ Harrington, W, R Morgenstern, and P Nelson. "How Accurate Are Regulatory Cost Estimates?" *Resources for the Future*, March 5, 2010
<http://www.rff.org/wv/Documents/HarringtonMorgensternNelson_regulatory%20estimates.pdf>
- ¹² NESCAUM. Environmental Regulation and Technology Innovation: Controlling Mercury Emissions from Coal-Fired Boilers. September 06, 2000 Report. http://www.nescaum.org/documents/rpt000906mercury_innovative-technology.pdf
- ¹³ ICF Consulting, *The Clean Air Act Amendments: Spurring Innovation and Growth While Cleaning the Air*. Report to U.S. EPA Office of Air and Radiation, Oct. 27, 2005 http://www.icfi.com/Markets/Environment/doc_files/caaa-success.pdf



TTN/Economics & Cost Analysis Support

Updated on Friday, June 22, 2007

OAQPS Economic Analysis Resource Document
Analytical Guidance Documents > 2.2 Statutory and Administrative Requirements for Economic Analysis of Regulations

2.2 Statutory and Administrative Requirements for Economic Analysis of Regulations

Regulatory agencies conduct economic analyses of potential regulatory actions to inform decisionmakers about the effects of the regulation on society's current and future well-being. In addition to informing decisionmakers within the Agency, economic analyses are conducted to meet the statutory and administrative requirements imposed by Congress and the Executive Office. The statutes and EOs requiring economic analyses are listed in Table 2-1. For the purposes of this discussion, we distinguish between analyses in which both benefits and costs are estimated and compared ("benefit-cost analysis") and analyses that focus on the size and distribution of economic impacts among specific groups in society ("impact analysis").

2 Regulatory Background

2.0 Intro

2.1 OAQPS's Regulatory Authority

2.2 Statutory and Administrative Requirements for Economic Analysis of Regulations

2.3 Summary

Table 2-1. Statutes and Executive Orders Requiring Economic Analyses

	Benefit-Cost Analysis	Impact Analysis
Statutes	Periodic assessment of costs and benefits of the CAA (CAA Section 812)	Economic impact assessment of specific standards and regulations under the CAA (CAA Section 317) Regulatory Flexibility Act (RFA) Small Business Regulatory Enforcement Fairness Act (SBREFA) Unfunded Mandates Reform Act (UMRA) Paperwork Reduction Act (PRA) Foreign trade impacts (CAA Section 813)
Executive Orders	EO 12866: Regulatory Planning and Review	EO 12866: Regulatory Planning and Review EO 12875: Enhancing the Intergovernmental Partnership EO 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations EO 13045: Protection of Children from Environmental Health Risks and Safety Risks

Statutory requirements for economic analysis are often included in the language of the statute granting the Agency regulatory authority in a particular area. For example, the CAA requires EPA to perform a benefit-cost analysis of the entire CAA program on a periodic basis. In addition, the White House, through EO 12866, requires Executive Branch agencies to perform benefit-cost analyses of all rules it deems to be "significant" and to submit these analyses to the OMB for review.

In addition to benefit-cost analysis, impact analyses are required in certain circumstances by both statutes and EOs. Of key importance for ISEG, the CAA requires that the cost and economic impacts (though not necessarily benefits) be estimated for specific regulations and standards proposed under the authority of the Act. This is the core purpose of the EIA reports described in Section 1. In addition, the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), requires EPA to give special consideration to the effect of Federal regulations on small entities and to consider regulatory options that might mitigate any such impacts. EO 12875 (Enhancing the Intergovernmental Partnership) and the Unfunded Mandates Reform Act (UMRA) of 1995 require agencies to evaluate the impact of their

regulatory actions on State, local, and tribal governments.

The analytical requirements are now discussed in more detail and in correspondence with the underlying statutory or administrative authority.

2.2.1 Clean Air Act

Section 312 of the CAA requires the EPA Administrator to conduct a "comprehensive analysis of the impact of the [CAA] on the public health, economy, and environment of the United States. In performing such analysis, the Administrator should consider the costs, benefits, and other factors associated with compliance ." This provision requires periodic assessment of the overall contribution of the CAA to society's welfare. However, Section 317 of the CAA requires that an EIA be performed for individual rulemakings under the Act's authority. For each proposed standard or regulation, the EIA will, to the extent practicable, include an analysis of the following impacts:

- costs of compliance,
- potential inflationary or recessionary effects,
- effects on competition with respect to small businesses,
- effects on consumer costs, and
- effects on energy use.

Notably absent from the list is an assessment of benefits or comparison of benefits and costs. Moreover, CAA Section 317 clearly states that the EIA shall not " be construed to alter the basis on which a standard or regulation is promulgated ... preclude the Administrator from carrying out his responsibility ... to protect public health and welfare, or ... require any judicial review" (CAA §312[e]). Thus, an EIA is used to inform the regulatory process, but its findings are not strictly binding on the actions the Agency can take.

2.2.2 Executive Order 12866

In support of a rulemaking under EO 12866, regulatory agencies such as EPA must conduct an analysis of the benefits and costs of a proposed significant regulatory action. The analysis should organize information in a way that allows comparison of the benefits and costs of alternative regulatory approaches. As indicated in Section 1, this report is referred to here as an economic analysis (EA).

In various forms, EAs have been prepared in support of agency rulemakings for many years. It was not until 1981, however, when President Reagan signed EO 12291, that the Executive Office sought to determine the cumulative effect of the increasing amount of regulation being promulgated by various regulatory agencies under a growing number of statutory authorities. With the signing of EO 12291 the use and importance of economic assessments of the

consequences of regulation increased. EO 12291 defined rules as either "major" or "nonmajor," based on their potential economic impacts. To assess these impacts, agencies were required to prepare analyses showing the implications of their regulations. For major rules, EO 12291 required the agencies to submit an RIA to OMB for review.

On September 30, 1993, the Clinton Administration rescinded EO 12291 and replaced it with EO 12866. Similar to EO 12291, EO 12866 requires centralized review of regulations by OMB; however, it changed many of the criteria on which regulatory review was based. In particular, EO 12866 does not categorize rules as major and nonmajor, but rather as significant and nonsignificant. The effect of this change in terminology is to expand the range of rules that require some level of economic analysis subject to OMB review. In particular, EO 12291 considered any rule major if it was likely to have a substantial economic impact. EO 12866, however, includes not only economic impact criteria in determining which rules are significant, but also any Federal regulatory action that may interfere with State, local, or tribal governments; any regulation that may interfere with regulatory actions being undertaken by another Federal agency; and any rulemaking that raises a novel legal or policy issue. As a result of the scope of this definition, OMB has broad powers to review and request revisions to all regulatory proposals to ensure their consistency with the regulatory principles contained in the Order.

EO 12866 also changed the fundamental basis on which Agency rulemakings are evaluated. In particular, EO 12291 required that "regulatory action shall not be undertaken unless the potential benefits to society for the regulation *outweigh* (emphasis added) the potential costs to society," thereby requiring a strict benefit-cost approach to evaluating regulations (EO 12291 Section 2[b]). In contrast, EO 12866 requires that the Agency "shall...propose or adopt a regulation only upon reasoned determination that the benefits of the intended regulation *justify* (emphasis added) its costs," thereby including benefit-cost analysis among a number of inputs to the regulatory decisionmaking process (EO 12866, Section 1[b][c]). The difference between these two statements indicates a recognition by the Clinton Administration that sound regulatory decisions involve a wide range of considerations and that not all benefits and costs resulting from a regulatory action are easily expressed in monetary terms. Because many of the previous analyses of major (significant) rules performed by ISEG (and its predecessor groups) were based on EO 12291, Table 2-2 compares the economic analysis requirements under EO 12291 and EO 12866. The purpose is to highlight key differences between the types of information provided in the previous analyses and those now required.

2.2.3 Statutes and Executive Orders Requiring "Impact Analysis"

"Impact analysis" is a general term used to describe various analyses that are supplemental to the estimates of total benefits and costs. For the purposes of this discussion, these supplemental impacts are separate from the "cost and economic impacts" addressed in an EIA.

Table 2-2. Economic Analysis Requirements Under EO 12291 and EO 12866

Which Rules Require Economic Analysis?

EO 12291	EO 12866
<p><u>"Major" rules require economic analysis:</u></p> <p>A major rule is any regulation that is likely to result in:</p> <ol style="list-style-type: none"> 1. <i>An annual effect on the economy of \$100 million or more;</i> 2. <i>A major increase in the costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or</i> 3. <i>Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.</i> 	<p><u>"Significant" regulatory actions require economic analysis:</u></p> <p>A significant regulatory action is any regulatory action that is likely to result in a rule that may:</p> <p>Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;²</p>

(continued)

²EO 12866 defines a significant regulatory action as one that either meets the \$100 million material adverse effects criterion stipulated here or one of three other nonquantitative criteria (see Section 3f of EO 12866). However, the OMB guidance for EAs under EO 12866 stipulates that a full EA (benefit-cost analysis) is required only when the \$100 million/material adverse effect criterion is met.

Table 2-2. Economic Analysis Requirements Under EO 12291 and EO 12866 (continued)

What Analyses are Required?

EO 12291	EO 12866
<p><u>An RIA is required:</u></p> <p>Regulatory Impact Analysis... contains[ing] the following:</p> <ol style="list-style-type: none"> 1. <i>A description of the potential benefits of the rule, including any beneficial effects that cannot be quantified in monetary terms, and the identification of those likely to receive the benefits;</i> 2. <i>A description of the potential costs of the rule, including any adverse effects that cannot be quantified in monetary terms, and the identification of those likely to bear the costs;</i> 3. <i>A determination of the potential net benefits of the rule, including an evaluation of effects that cannot be quantified in monetary terms;</i> 4. <i>A description of alternative approaches that could substantially achieve the same regulatory goal at lower cost, together with an analysis of this [sic] potential benefit[sic] and costs and a brief explanation of the legal reasons why such alternatives, if proposed, could not be adopted...</i> 	<p><u>An EA is required:</u></p> <p>An assessment of the potential costs and benefits of the regulatory action... the agency shall also provide to the Office of Information and Regulatory Affairs the following additional information developed as part of the agency's decisionmaking process...^a</p> <ol style="list-style-type: none"> 1. <i>An assessment, including the underlying analysis, of benefits anticipated from the regulatory action...together with, to the extent feasible, a quantification of those benefits;</i> 2. <i>An assessment, including the underlying analysis, of costs anticipated from the regulatory action, together with, to the extent feasible, a quantification of those costs; and</i> 3. <i>An assessment, including the underlying analysis, of costs and benefits of potentially effective and reasonably feasible alternatives to the planned regulation...and an explanation why the planned action is preferable to the identified potential alternatives.</i>

^a Unlike its predecessor, EO 12866 does not require the development of a separate RIA for review by OMB. It is clear from the above list of requirements that all analyses required for OMB review should have already been conducted by the Agency in its development of the regulation.

Impact analyses are usually concerned with examining the types of costs (e.g., direct compliance costs, administrative costs, and recordkeeping costs) and the distribution of costs and benefits (e.g., among small businesses and individuals of various race, age, and income categories). They go beyond a strict benefit-cost analysis to examine various aspects of the composition and distribution of benefits and costs. While there are many types of impact analysis, the statutes and EOs listed in Table 2-1 provide the best guidance for the specific impacts to be evaluated in developing a regulation.

The first set of impacts to be included in an assessment of a

regulation are those specifically cited in EO 12866. Many of these impacts may be addressed in an economic analysis; however, the analyst may find it desirable to address some of these impacts separately, depending on the nature of the regulation under consideration. The impact analysis requirements mentioned in EO 12866 include the impact of the regulation on

- the efficient functioning of the economy and private markets, including productivity, employment, and competitiveness;
- distribution of impacts and equity; and
- discrimination or bias.

While EO 12866 is quite broad in terms of the impacts that should be evaluated, more targeted impact analyses are specifically required by statute or administrative decree. Whether an impact analysis is required will depend on the nature of the regulation. Figure 2-1 illustrates the process of determining the necessary impact analyses.

In general, the goal of impact analyses is to supplement an analysis of benefits and costs and the other information available to decisionmakers on the consequences of selecting a particular regulatory option for proposal or promulgation. These analyses should not be taken on their own to indicate any particular option as a preferred option nor to disqualify any particular option.

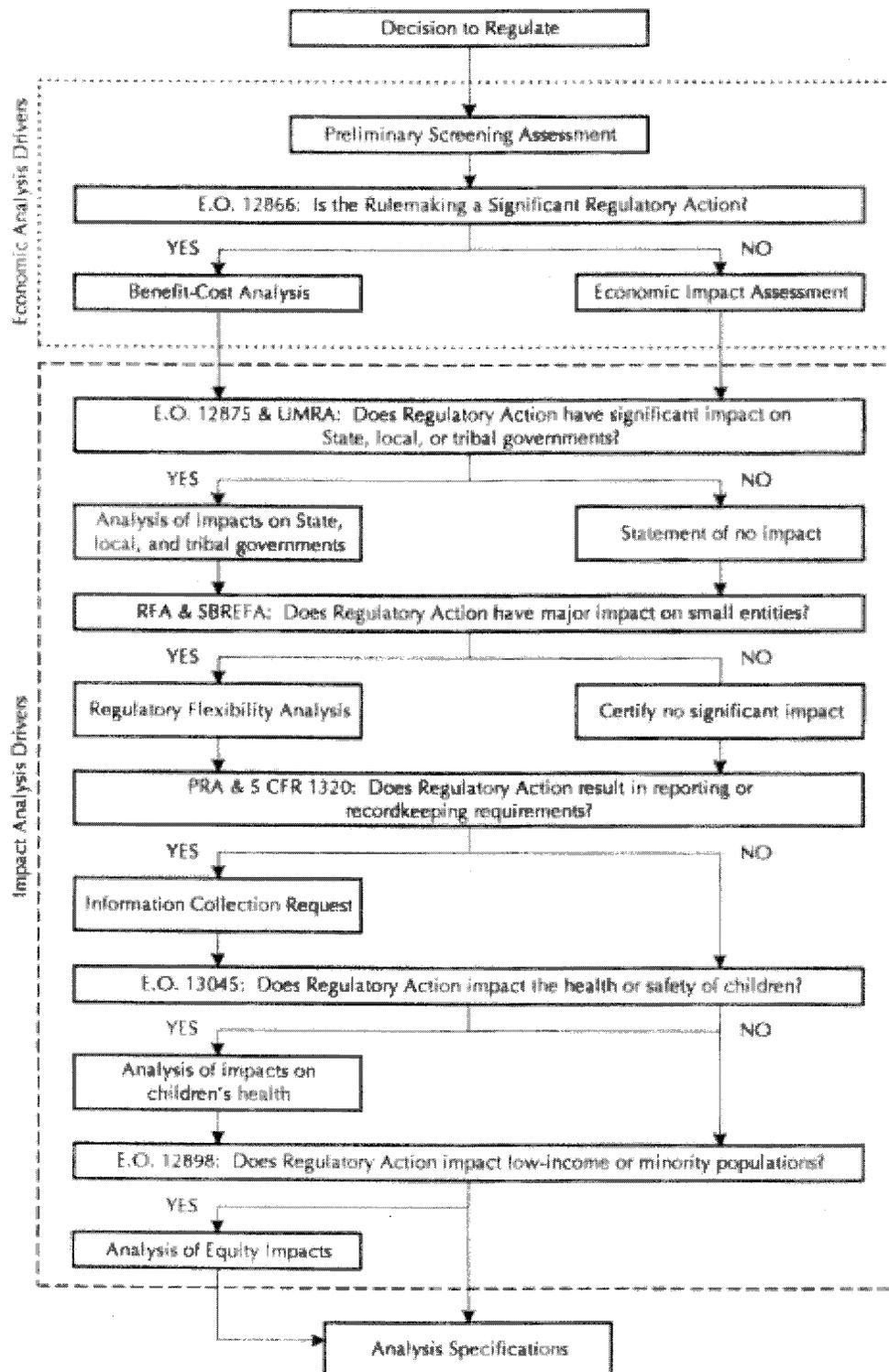


Figure 2-1. Sequence of Questions for Determining the Necessary Impact Analyses

2.2.3.1 Impacts on State, Local, and Tribal Governments

EO 12875, Enhancing the Intergovernmental Partnership, signed by President Clinton on October 26, 1993, requires that

To the extent feasible and permitted by law, no executive department or agency...shall promulgate any regulation that is not required by statute and that creates a mandate upon a State, local, or tribal government, unless:

1. funds necessary to pay the direct costs incurred by the State, local, or tribal government in complying with the mandate are provided by the Federal Government; or
2. the agency, prior to formal promulgation of regulations containing the proposed mandate, provides to the Director of the Office of Management and Budget a description of the extent of the agency's prior consultation with representatives of affected State, local, and tribal governments, the nature of their concerns, any written communications submitted to the agency by such units of government, and the agency's position supporting the need to issue the regulation containing the mandate. (Section 1(a))

UMRA expands the coverage of EO 12875 to include regulations that affect the private sector. EO 12875 applies to all regulations affecting State, local, or tribal governments; UMRA applies only to regulations including a "Federal mandate that may result in expenditures by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) in any one year." UMRA directs regulatory agencies to prepare a written statement, including a benefit-cost analysis, for all proposed and final rules including such a mandate. In particular, the statute requires that the Agency consider a reasonable range of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative. Most of these requirements are already addressed under EO 12866. For additional guidance on conducting an impact analysis under EO 12875 and UMRA, see the EPA draft *Unfunded Mandates Guidance* of August 11, 1993.

2.2.3.2 Small Entity Impacts

The RFA, as amended by SBREFA of 1996, requires Federal regulatory agencies to determine whether a proposed or final regulation will have a significant impact on a substantial number of small entities. In particular, the RFA requires that agencies prepare an initial regulatory flexibility analysis (IRFA) for a proposed rule and a final regulatory flexibility analysis (FRFA) for a final rule unless the agency head certifies that the rule will not have a significant impact on a substantial number of small entities. If the agency makes a "no significant impact" certification, it must support that certification with a factual explanation.

A major provision in the SBREFA amendments to the RFA is a requirement that EPA convene a "Small Business Advocacy Review Panel" for any proposed rule for which the Agency prepares an IRFA. The purpose of the panel is to solicit the input of small businesses, small governmental jurisdictions, and small nonprofit organizations that are affected by the rule. EPA's interim SBREFA guidance recommends that the Agency involve small entities early in the rulemaking process "when their comments and insights can inform the Agency's thinking about fundamental issues of rule design and scope, as well as more specific issues posed by the particular regulatory program at issue" (EPA, 1997f, p. 3-1).

Before promulgation, all major rules and any benefit-cost analyses conducted in support of the rule are subject to congressional review. The definition of a "major rule" under the RFA is identical to the definition of a "major rule" under EO 12291 and therefore potentially more narrow than the definition of a "significant regulatory action" under EO 12866. Under SBREFA, Agency rulemakings are also subject to judicial review.

Before the enactment of SBREFA, EPA policy on the implementation of the RFA required that a regulatory flexibility analysis be prepared for *any* rule that would have *any* impact on small businesses. According to *EPA Interim Guidance for Implementing the Small Business Regulatory Enforcement Fairness Act and Related Provisions of the Regulatory Flexibility Act*, current Agency policy is to implement the RFA as written; that is, "regulatory flexibility analyses as specified by the RFA will *not* be required if the Agency certifies that the rule will not have significant economic impact on a substantial number of small entities."

2.2.3.3 Reporting and Recordkeeping Requirements

In many rulemakings, various recordkeeping, reporting, labeling, testing, and other requirements are included to help EPA verify compliance with the rule after it has been promulgated. Under the Paperwork Reduction Act (PRA), the Agency is required to estimate the "burden hours" associated with the recordkeeping and reporting requirements and to weigh this burden against the "practical utility" of the information collection. This analysis must be presented to OMB for review in a standardized document known as an Information Collection Request (ICR).

The definition of an information collection was expanded with the 1995 amendments to the PRA. In particular, 5 CFR 1320, the regulation implementing the provisions of the 1995 PRA, defines a collection of information to include "any requirement or request for persons to obtain, maintain, retain, report, or publicly disclose information" (Section 3(c)).

New to the 1995 amendments to the PRA is the inclusion of third-party reporting requirements in the definition of an information collection:

Requirements by an agency for a person to obtain or compile information for the purpose of disclosure to members of the public or the public at large, through posting, notification, labeling or similar disclosure requirements constitute the "collection of information" whenever the same requirement to obtain or compile information would be a "collection of information" if the information were directly provided to the agency. (5 CFR 1320.3 (c)(2))

Determining the burden hours associated with reporting and recordkeeping provisions of Agency regulations is a crucial part of the regulatory development process, particularly when the purpose of the regulation is to codify reporting and recordkeeping requirements. Without OMB approval of the ICR, EPA cannot legally conduct any collection of information included in an Agency rulemaking.

The Agency is responsible for preparing estimates of burden hours associated with recordkeeping and reporting requirements as well as preparing the ICR itself. The group with primary responsibility for this task (ISEG or other groups within OAQPS) will vary by project. Burden hours should be estimated in the course of estimating the costs of any administrative requirements. The burden hour estimates should be clearly summarized in the impact analysis so that they can be easily incorporated into the ICR.

2.2.3.4 Impacts on Children

On April 21, 1997, President Clinton signed EO 13045, Protection of Children from Environmental Health Risks and Safety Risks. Under this Order, agencies are required to conduct certain analyses if a regulatory action is likely to result in a rule that may

1. be 'economically significant' under Executive Order 12866...; and
2. concern an environmental health risk or safety risk that an agency has reason to believe may disproportionately affect children. (Section 2)

EO 13045 requires two analyses:

1. an evaluation of the environmental health or safety effects of the planned regulation on children; and
2. an explanation of why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the agency. (Section 5)

Although EO 13045 does not explicitly require an analysis of

the economic implications of regulatory impacts on children, the analyses outlined above must be submitted to OMB, along with the other analyses outlined in this chapter.

2.2.3.5 Impacts on Low-Income and Minority Populations

Equity effects analysis involves examining the distribution of gains and losses resulting from a regulation and the magnitude of these gains and losses. Such an analysis should address any significant issues regarding the distribution of gains (who realizes reduced risk; the firms, industries, or products that have increased sales or profits) and losses (who bears new costs, reduced sales or profits, or increased risks) in industry and in the population at large.

For a general discussion of conducting an analysis of the distributional effects of a regulation, see the "white paper" *Evaluating the Equity of Environmental Policy Options Based on the Distribution of Economic Effects: Preliminary Draft* (EPA, 1997g).

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, encourages the examination of the equity effects of regulatory actions:

Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin. (Section 2)

In response to EPA's *Environmental Justice Strategy* (EPA, 1995a) dated April 3, 1995, the EPA Office of Federal Activities (OFA) has developed guidance for incorporating environmental justice goals into the Agency's activities under the National Environmental Policy Act (NEPA) (EPA, 1997h). Although the OFA guidance does not specifically address regulatory analysis, it does provide guidance for identifying disproportionately high and adverse effects of alternative actions and recommends specific methods to analyze the effects of a regulatory action on minority and low-income populations.

⁴ According to the RFA, small entities include small businesses, as defined by the Small Business Administration (SBA), small government jurisdictions, and small nonprofit organizations. For more details on the definitions of

small entities, see *EPA Interim Guidance on Implementing the Small Business Regulatory Enforcement Fairness Act and Related Provisions of the Regulatory Flexibility Act* (EPA, 1997f).

5 For definitions of "significant impact" and "substantial number of small entities," see the SBREFA discussion in Section 8 of this guidance document.

6 A certification of "no significant impact" in the proposed rule stage does not preclude a FRFA at the final rule stage, and an IRFA at the proposed rule stage does not preclude a certification of "no significant impact" at the final rule stage, because information provided through notice-and-comment rulemaking and changes to the substance of the rule can change the expected impact of the rule between the proposed and final stages.

7 Under the PRA, burden hour estimates and ICRs are not required for paperwork requirements that affect fewer than ten entities.

8 As of this writing, OMB is finalizing guidance on preparing ICRs.