

Polluted Logic

The title "Polluted Logic" is rendered in a large, black, sans-serif font. The letter "l" in "Polluted" is replaced by a graphic of two industrial smokestacks with wavy lines representing smoke rising from them.

How EPA's ozone standard illustrates the flaws of cost-benefit analysis in regulatory decision making

December 5, 2007

Executive Summary

In 1970, Congress passed amendments to the Clean Air Act and created National Ambient Air Quality Standards (NAAQS). The Act charges the U.S. Environmental Protection Agency (EPA) with the responsibility of developing, setting, implementing, and enforcing measurable limits for certain air pollutants.

The Clean Air Act directs EPA to make science the preeminent criterion at every stage of the NAAQS standard-setting process. In setting the standard, EPA is to consider only an air pollutant's effect on public health and is prohibited from considering economic factors.

One of the criteria air pollutants for the NAAQS program is ground-level ozone, sometimes known as smog. Studies have associated ozone exposure with a host of adverse health effects including inflammation of the lung; aggravation of existing lung conditions such as asthma; and premature mortality.

On June 21, 2007, EPA announced a proposed rule to revise the ozone NAAQS. EPA proposed a range, 0.070 ppm to 0.075 ppm, from which it will choose a final standard. Even though the Clean Air Act prohibits EPA from considering economic factors in setting its standard for ozone, the current regulatory framework forces EPA to prepare detailed cost-benefit analyses for NAAQS revisions. Shortly after proposing the ozone rule, EPA published a detailed cost-benefit analysis.

Cost-benefit analysis is a tool for government officials confronted with decisions during the rulemaking process. But cost-benefit analysis can be deeply flawed. The inherent inability to account for uncertainty renders meaningless the calculations in a cost-benefit analysis. The calculations, therefore, are not an aggregation of hard numbers and conclusions, but a collection of ranges, estimates, and uncertainties.

Cost-benefit analysis is particularly troubling for health, environment, civil rights, and safety rulemakings because of the magnitude of intangible and invaluable benefits. In order to inject some accuracy into the estimation of these kinds of benefits, agencies often present ranges of estimates. However, the sizes of these ranges make it impossible for policy makers to draw meaningful conclusions.

Like proposed regulations, cost-benefit analyses are subject to a White House review period by the Office of Management and Budget (OMB). OMB often makes significant edits to the language of the cost-benefit analysis in order to alter its meaning and, ultimately, the perception of the rulemaking. White House interference in the process often allows years of scientific, technical, and economic research to be manipulated to serve ideological ends.

This paper uses EPA's rulemaking for revisions to the ozone NAAQS as a case example of the ways in which cost-benefit analysis is an unreliable tool for regulatory decision-makers, the ways in which it is particularly problematic for public health rulemakings, and the ways in which OMB uses cost-benefit analyses to serve an intended ideological objective.

Background

In 1970, Congress passed amendments to the Clean Air Act and created National Ambient Air Quality Standards (NAAQS). The Act charges the U.S. Environmental Protection Agency (EPA) with the responsibility of developing, setting, implementing, and enforcing measurable limits for certain air pollutants. The NAAQS program described in the Clean Air Act is a seminal environmental law, and its effects have been profound.¹ It grants EPA both obligations and opportunities to protect the public health and welfare from the dangers of harmful emissions.

The NAAQS program is an evolving process. The authors of the NAAQS program recognized that as scientific understanding and technological capabilities advance, so too should the stringency with which the federal government treats air pollutant regulations.² The law includes a provision which directs EPA to reevaluate and, if appropriate, revise each NAAQS every five years. The NAAQS program covers six air pollutants: ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides, and lead.

The Clean Air Act directs EPA to make science the preeminent criterion at every stage of the NAAQS standard-setting process. EPA is to commission an “independent scientific review committee”³ to make recommendations on the evolution of each NAAQS. The information EPA uses to make decisions is to “reflect the latest scientific knowledge.”⁴ In setting the standard, EPA is to consider only an air pollutant’s effect on public health and is prohibited from considering economic factors.⁵

The Act does not exclude economic considerations entirely. Standard-setting is merely stage one in a two-stage process. The second stage, implementation, involves a separate rulemaking. The implementation rule identifies allowable pollutant control strategies which state and local governments then carry out. In this phase, EPA considers economics in determining the most efficient way to reduce air pollution.

Setting the Ozone Standard

One of the criteria air pollutants for the NAAQS program is ground-level ozone,⁶ sometimes known as smog. Studies have associated ozone exposure with a host of adverse health effects, including inflammation of the lung, aggravation of existing lung conditions such as asthma,⁷ and premature mortality.

¹ For a discussion of this opinion, see the testimony of Vickie Patton, Senior Attorney at Environmental Defense, from the Senate Environment and Public Works Committee subcommittee on Clean Air and Nuclear Safety hearing, “Review of EPA’s Proposed Revision to the Ozone NAAQS,” July 11, 2007.

² For a discussion, see the testimony of Dr. John R. Balmes, MD, Professor of Medicine at University of California, San Francisco, from the Senate Environment and Public Works Committee hearing, “Hearing on Oversight of Recent EPA Decisions,” Feb. 6, 2007.

³ The Clean Air Act (42 U.S.C. 7401) §109(d)(2)(A).

⁴ The Clean Air Act § 108(a)(2).

⁵ This final point will be discussed later in this paper.

⁶ Ground-level ozone, or smog, is also known as tropospheric ozone. Tropospheric ozone differs from stratospheric ozone, which refers to the gas comprising the ozone layer. The adverse health effects identified above relate to tropospheric ozone, as humans are not commonly exposed to stratospheric ozone. Unless otherwise noted, the use of “ozone” in this paper refers to ground-level, or tropospheric, ozone.

⁷ The American Lung Association, “Ozone,” April 2000, last accessed Aug. 31, 2007 <www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=35352>.

On July 18, 1997, EPA published its most recent finalized revision to the ozone NAAQS.⁸ The rule officially tightened the federal exposure standard to 0.08 parts per million (ppm) and went into effect on Sept. 16, 1997.⁹

Before EPA could reach the implementation stage, the agency was sued by several industry groups, led by the American Trucking Association, who opposed the tighter standard. The industry groups argued, among other things, EPA should have considered economic factors in setting the revised standard.

In February 2002, the U.S. Supreme Court unanimously ruled against that argument when deciding *Whitman v. American Trucking Association*. Writing the opinion of the Court, Justice Antonin Scalia stated, “Were it not for the hundreds of pages of briefing respondents have submitted on the issue, one would have thought it fairly clear that this text does not permit the EPA to consider costs in setting the standards.”

Despite the Clean Air Act’s explicit provision and the opinion of the Supreme Court, the current regulatory framework forces EPA to consider economics by mandating the agency prepare detailed cost-benefit analyses for NAAQS revisions. Therefore, when it came time for EPA to propose another revision to the ozone NAAQS, EPA assessed the potential costs and benefits of the proposal.

On June 21, 2007, EPA announced a proposed rule to revise the ozone NAAQS.¹⁰ EPA proposed a range, 0.070 ppm to 0.075 ppm, from which it will choose a final standard. Shortly thereafter, EPA published a detailed cost-benefit analysis of the proposed rule.

Why Cost-benefit Analysis?

Executive Order 12866 requires agencies to prepare cost-benefit analyses – assessments of the costs and benefits of a rule as well as alternatives and the rationale behind the decision to pursue the chosen option – for proposed and final regulations. Agencies must prepare cost-benefit analyses for regulations that are likely to 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.” Agencies and the White House refer to these regulations as “economically significant.”

The White House Office of Management and Budget (OMB) is responsible for enforcing provisions of E.O. 12866. The Office of Information and Regulatory Affairs (OIRA), an office within OMB, reviews agency regulations, cost-benefit analyses, and other related actions. OIRA may also require agencies to prepare cost-benefit analyses for proposed or final regulations not considered economically significant as it sees fit.

OMB’s Circular A-4 describes the process agencies are to follow in preparing cost-benefit analyses. The circular instructs agencies to monetize costs and benefits whenever possible, and provides

⁸ 40 CFR Part 50.

⁹ Although the Clean Air Act requires EPA to decide every five years whether to revise or retain each NAAQS, EPA has not revised the ozone NAAQS since 1997. EPA is under court order, as a result of a lawsuit brought against the agency by the American Lung Association, to finalize the current revision by March 2008.

¹⁰ EPA published the rule in the *Federal Register* on July 11, 2007, 72 FR 37818.

additional direction for costs or benefits agencies cannot monetize or quantify. Agencies are to release the final product of this assessment as a regulatory impact analysis (RIA).

On Aug. 2, 2007, EPA released an RIA for the proposed revision to the ozone NAAQS.¹¹ The RIA includes detailed discussions and calculations for the benefits and costs of a variety of options for the ozone NAAQS.

Cost-Benefit Analysis in Rulemaking

Cost-benefit analysis is a tool for government officials confronted with decisions during the rulemaking process. Prior to the formal process of preparing RIAs, agencies often assess environmental impact, risks to human health, effects on state, local and tribal governments, and a variety of other factors. By bringing this collection of factors together and weighing them against each other, supporters of cost-benefit analysis contend the result is the ultimate determination of the value of a proposed regulatory action.

But cost-benefit analysis for the purposes of making decisions about regulations can be deeply flawed. The outcome of the RIA is a net benefits calculation – the difference between estimated costs and estimated benefits. All agency assessments, including the RIA itself, involve assumptions and uncertainties of varying degree and significance. Each layer of assumption and uncertainty makes the resulting costs and benefits calculations less valuable as a means of drawing conclusions about a policy.

The Benefits Calculation

The inherent inability to account for uncertainty renders meaningless the benefits calculation in an RIA. Each contributing factor to the RIA brings along a number of assumptions and uncertainties which the benefits calculation does not, and cannot, accurately reflect. Because of these assumptions and uncertainties, the benefits calculation is not an aggregation of hard numbers and conclusions, but a collection of ranges, estimates, and uncertainties.

For example, the RIA for the ozone NAAQS incorporates the assumption that the adverse health affects of ozone exposure are not compounded if repeated exposure occurs in a short period of time. EPA treats any incident of an ozone-induced health event as independent of all other events before or after.

The agency makes the assumption for simplicity's sake. However, EPA acknowledges, "Responses can be enhanced on the second day of exposure or attenuated after more than 2 consecutive days of exposure."¹² Subsequently, because it is not uncommon for high-levels of ozone to be present at ground-level on consecutive days, the benefits of reducing exposure will likely fluctuate in real-world situations. The resulting benefits calculation is inherently unable to account for such a caveat.

¹¹ U.S. Environmental Protection Agency, "Regulatory Impact Analysis of the Proposed Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone," July 2007, (hereinafter "RIA"). Available at: www.epa.gov/ttn/ecas/ria.html#ria2007.

¹² U.S. Environmental Protection Agency, "Review of the National Ambient Air Quality Standards for Ozone: Policy Assessment of Scientific and Technical Information OAQPS Staff Paper," July 2007 (hereinafter "Staff Paper"), 5-27. Available at: www.epa.gov/ttn/naaqs/standards/ozone/data/2007_07_ozone_staff_paper.pdf. EPA's Office of Air Quality Planning Standards (OAQPS) prepares the Staff Paper for NAAQS as a link between scientific information (such as risk assessments) and potential policy options. OAQPS also prepares RIAs for NAAQS and consults Staff Papers in doing so.

The Costs Calculation

The costs side of the analysis can be flawed too. Underlying assumptions often lead the agency to underestimate compliance costs. For the RIA for the ozone NAAQS, EPA is upfront about this problem stating, “Our cost analysis is subject to uncertainties and limitations.”

One of the most significant flaws in compliance cost estimates, particularly for emissions control rules, is the assumption of a static business model for the regulated community. Cost-benefit analyses in regulatory decision making do not, and cannot, account for technological improvements regulated entities may develop as a means to lower their compliance costs.

Past Clean Air Act rulemakings prove this. For example, in the early 1990s, EPA began regulating the phase-out of chlorofluorocarbons (CFCs) because they deplete the ozone layer.¹³ Actual compliance costs have turned out to be much lower than initially estimated.¹⁴ The discrepancy is partly due to the development of new technologies and products such as air conditioners and refrigerators that do not emit CFCs.¹⁵

Only time will tell if the stated costs in RIA for the ozone NAAQS are accurate. However, if history is an indicator, evolutions in science and technology will prove the costs side of the ledger to be inflated.¹⁶

The Net Benefits Calculation

After numerous assumptions, uncertainties and estimates are boiled down to one monetized benefits figure and one monetized costs figure, the difference is calculated in order to determine “net benefits.” This one-number approach obscures uncertainty and masks the value of those benefits that agencies cannot translate into dollars and cents. Such a simple presentation of such a complex composition paints a dramatically distorted picture of the potential effects of a regulation.¹⁷

President Clinton established the net benefits requirement when he issued E.O. 12866. The Bush administration put additional emphasis on net benefits, and the way agencies calculate them, with Circular A-4. Ironically, the certainty the Bush White House attempts to place on this number stands in stark contrast to the uncertainty the administration has tried to create when considering scientific and technical criteria in regulatory decision making. This strategy is apparent in the ozone standard debate as well, as this paper will discuss.

¹³ EPA regulates CFCs under the Clean Air Act, although CFCs are not one of the criteria air pollutants for the NAAQS program.

¹⁴ The RIA presents this example, *supra* note 11, at 5-25.

¹⁵ RIA, *supra* note 11, at 5-22.

¹⁶ Winston Harrington, Richard D. Morgenstern, and Peter Nelson present a broad study of the accuracy of cost estimates made during consideration of the rule, or *ex ante* estimates, in their paper “On the Accuracy of Regulatory Cost Estimates.” The study evaluates 25 emissions regulations promulgated by EPA and the U.S. Occupational Safety and Health Administration. The authors find, “[C]omparisons indicate that *ex ante* estimates of total cost have tended to exceed actuals. We find this to be true of 12 of the 25 rules in our data set, while for only 6 were the *ex ante* estimates too low.” The paper is available at: www.rff.org/Documents/RFF-DP-99-18.pdf

¹⁷ For a more detailed discussion of the ways in which cost-benefit analysis obscures uncertainty, see page 6 of the Center for Progressive Reform’s comments on OMB’s “Draft 2007 Report to Congress on the Costs and Benefits of Federal Regulations.” Available at: progressiveregulation.org/articles/Comments_OMB_2007.pdf.

The Legal Dilemma

The use of cost-benefit analysis in rulemaking presents a legal dilemma as well. In our representative democracy, the U.S. Congress serves as the primary institution responsible for choosing national policy from a range of choices (including the choice of inaction) and as the primary outlet for public opinion concerning those policy choices. The president and executive branch officials often play large roles in setting the policy agenda and urging Congress to accept or reject options. Once the two branches agree on a policy choice, the resulting statutes become federal law to be enforced by federal agencies. Agencies are obligated to enforce statutes with the speed and spirit intended by Congress.

But both speed and spirit can suffer in the presence of cost-benefit analysis. Cost-benefit analysis too often delays rulemaking. Typically, agencies wait to publish proposed or final rules until they are also able to publish the accompanying RIA. The onerous process of preparing a detailed economic assessment expends valuable agency staff time and resources, and may place a considerable strain on the ability of agencies to meet deadlines for both the rule related to the RIA and other activities.

The spirit of a statute, which often aims to improve lives and expand opportunities in society, suffers as well. The attention given to a cost-benefit analysis recasts proposed regulations in economic terms. This allows executive branch officials to reinvent the debate over a policy. In many cases, however, the policy is changed without debate and out of sight of Congress and the public. While agency officials often have latitude in choosing a particular approach to enforcing a law through regulation, they do not have the option of not regulating when Congress has mandated they do so. Unfortunately, cost-benefit analysis can be used to force agency officials to consider inaction as an option.

The legal dilemma is plainly evident in NAAQS rulemakings. As previously discussed, the Clean Air Act is explicit in prohibiting EPA from considering costs in the standard-setting stage of the NAAQS process. The Supreme Court upheld this notion in *Whitman v. American Trucking Association*. EPA is legally unable to use the results of any cost-benefit analysis in judging the strictness of NAAQS, thus making cost-benefit analysis in the standard-setting process for NAAQS a futile endeavor.

Cost-Benefit Analysis and Public Health

Cost-benefit analysis is particularly troubling for health, environment, civil rights, and safety rulemakings because of the magnitude of intangible and invaluable benefits. In order to inject some accuracy into the estimation of these kinds of benefits, agencies often present ranges of estimates. However, the sizes of these ranges make it impossible for policy makers to draw meaningful conclusions.

The Value of Life

According to EPA, "[T]he overall body of evidence is highly suggestive that (short-term exposure to) ozone directly or indirectly contributes to non-accidental cardiopulmonary-related mortality."¹⁸ For the purposes of cost-benefit analysis, assuming a causal relationship dramatically increases the economic benefits of reducing ozone exposure by incorporating the monetized value of human lives

¹⁸ RIA, *supra* note 11, at 6-73. The quote references the EPA Staff Paper and Ozone Criteria Document, both of which the agency prepared during this rulemaking.

saved. As EPA states in the RIA, "Including premature mortality in our estimates had the largest impact on the overall magnitude of benefits: Premature mortality benefits account for more than 95 percent of the total benefits we can monetize."¹⁹

But how does EPA go about "monetizing" the value of human life? In the RIA, EPA applies something called the "value of statistical lives" method (VSL).²⁰ According to the RIA, VSL is "a summary measure for the value of small changes in mortality risk for a large number of people."²¹ That summary measure is expressed in monetary units: "The mean value of avoiding one statistical death is estimated to be roughly \$5.5 million at 1990 income levels, and \$6.6 million at 2020 income levels."²²

Technically, the VSL approach does not value a "human life" but rather a "statistical life." The benefit to society monetized in the approach represents a reduced risk of death for a population, not a certain avoidance of death for an individual. In their book *Priceless*, Frank Ackerman and Lisa Heinzerling argue that this reduction in the risk of death is its own benefit.²³ Subsequently, actual avoided deaths are a separate benefit, one that cost-benefit analyses do not account for.²⁴

Realistically, the VSL approach comes down to assigning a monetary value to a human life. In the case of the RIA for the ozone NAAQS, EPA estimates the lives that would be saved under each policy option and multiplies that estimate by the VSL. Ultimately, the benefits calculation in the RIA conveys the perverse message that every life saved in the year 2020 yields a \$6.6 million benefit to society.

The Vast Range of Monetized Benefits

E.O. 12866 and Circular A-4 require EPA to monetize lives saved when preparing the RIA. In order to determine how many lives reduced ozone exposure would save, EPA consulted several studies. The RIA includes estimates of lives saved from a recent study of the National Morbidity, Mortality, and Air Pollution Study (NMMAPS) and from three separate meta-analyses.

Predicting reductions in premature mortality as a result of future reductions in ozone exposure is an uncertain process. Each of these four studies provides a range of deaths avoided due to reduction in ozone exposure. The RIA also includes, at the behest of OIRA, the option that zero deaths would be avoided.

¹⁹ *Id.* at 6-74.

²⁰ The VSL approach draws upon numerous academic studies which have attempted to determine what price people are willing to pay for reduced risk of premature mortality. Essentially, these studies attempt to pinpoint the market value of a human life by asking people about hypothetical situations.

²¹ *Id.* at 6-25.

²² *Id.* at 6-25.

²³ Frank Ackerman and Lisa Heinzerling, *Priceless*, The New Press, New York: 2004. Frank Ackerman is the Director of the Research and Policy Program at the Global Development and Environment Institute at Tufts University. Lisa Heinzerling is a Professor of Law at the Georgetown University Law Center. Detailed discussion of valuing human life for the purposes of regulatory decision making can be found in Chapter 4.

²⁴ Because predicting certain avoided individual deaths is an impossible forecast for regulators to make, this benefit would need to be expressed qualitatively.

Because EPA must monetize total lives saved using the VSL method, the agency presents a corresponding range in the monetized value of those avoided deaths. As previously mentioned, the reduction in premature mortality accounts for a significant portion of monetized benefits. Therefore, the range in deaths avoided accounts for a significant portion of the disparity between the upper and lower ends of each range of monetized benefits.

For example, the NMMAPS study estimates, if a standard of 0.070 ppm were in effect in 2020, then reduced exposure would save between 670 and 4,300 lives in that year. Subsequently, EPA presents a net benefits range of -\$17 billion to \$16 billion.

When EPA presents the net benefits range including the NMMAPS study, the three meta-analyses, and OIRA's assumption of no causal relationship, the range is even larger. Proposed economic impacts ranging in the tens of billions present no relevance to policy makers or the general public.

With the NAAQS program, Congress appeared to recognize the primacy of public health and the potential good reductions in air pollutants can reap. For this reason, Congress instructed EPA to first and foremost consider factors like quality of life and reductions in mortality – things that resist monetization. Unfortunately, because of the White House's policies governing regulatory decision making, these factors are morphed into estimates and ranges that distort the *true* value of the standards – improved public health.

White House Review

Like proposed regulations, RIAs are subject to a review period by OIRA. In the case of the RIA for the proposed revision to the ozone NAAQS, OIRA made significant edits to many parts of the document. The edits appear to work toward a common goal: undermining the scientific consensus behind the need for a tighter standard.

Editing Language, Altering Meaning

OIRA consistently calls into question the scientifically based causal relationship between ground-level ozone exposure and premature mortality. As previously discussed, assuming this causal relationship accounts for a significant portion of the benefits of reducing ozone exposure. OIRA also argues ground-level ozone is significantly beneficial due to its ability to block one of the sun's harmful, burning ultraviolet (UVB) rays.

According to publicly available documents, early drafts of the RIA state, "There is considerable variability in the magnitude of the ozone-related mortality association reported in the scientific literature, which we reflect by summarizing the primary estimates from four different studies below."²⁵

²⁵ This quote can be found in drafts dated May 18, 2007, June 1, 2007 and June 15, 2007 available in the EPA rulemaking docket housed by Regulations.gov. (Docket ID EPA-HQ-OAR-2007-0225, document numbers 104.2, 12 and 15.1 respectively.)

OIRA altered the language to: "There is considerable *uncertainty* in the magnitude of the association between ozone and premature mortality. This analysis presents four alternative estimates for the association based upon different functions reported in the scientific literature."²⁶ [Emphasis added.] EPA's original language recognizes differences in the conclusions of scientific studies on the relationship between ozone and mortality, but it does not question the existence of a causal relationship. OIRA's edits clearly intend to question the relationship.

In its review and edits, OIRA also pushed for the inclusion of questionable negative benefits – OIRA's euphemism for the side effects of a regulation that may reduce the benefits estimates – by trumpeting the claim ground-level ozone is beneficial because it blocks harmful UVB rays. Ozone does protect against UVB exposure, but the majority of protection occurs in the stratosphere, not at ground level. The ground-level ozone which shields UVB rays is largely naturally occurring, as opposed to the anthropogenic sources ozone regulations reduce, according to EPA.²⁷

In initial drafts of the RIA, EPA addressed the negative benefits of increased UVB exposure but did so in only one paragraph. After OIRA's review, EPA included a more detailed discussion and pledged to "work to present peer-reviewed quantified estimates for the final rule."²⁸

Expanding the discussion of UVB rays may reflect the influence of OIRA Administrator Susan Dudley. According to a report by OMB Watch and Public Citizen,²⁹ Dudley has a record of attempting to undermine the benefits of reduced ozone exposure by cautioning against increased UVB exposure. Public interest groups and some senators opposed Dudley's nomination because of her belief that regulations are harmful to the economy. President George W. Bush named Dudley administrator by recess appointment in April 2007.

Means to an End?

As this paper discusses, the Clean Air Act prohibits EPA from considering costs in standard setting, and the product of cost-benefit analysis is meaningless, especially for rulemakings like EPA's ozone standard. Why then would OIRA go to such lengths to force the preparation of a detailed RIA and exert such efforts to manipulate its content?

Manipulating the science in the RIA for the proposed revision to the ozone NAAQS achieved an end for OIRA, namely raising uncertainty and reducing the net benefits calculation. In the RIA, EPA assesses a variety of factors and includes estimates. The resulting net benefits calculation for each regulatory alternative is presented as a range of benefits (e.g. -\$2.1 to \$8.5 billion). By forcing EPA to include figures assuming no causal relationship, OIRA extended the lower limit of the benefits range for each regulatory alternative.³⁰

²⁶ This quote appears in the final RIA. The edits were made in a draft dated June 26, 2007, available in the EPA rulemaking docket housed by regulations.gov. (Docket ID EPA-HQ-OAR-2007-0225, document number 22.)

²⁷ RIA, *supra* note 11, at 6-19.

²⁸ RIA, *supra* note 11, at 6-20.

²⁹ OMB Watch and Public Citizen, *The Cost is Too High: How Susan Dudley Threatens Public Protections*, Sept. 2006. Available at: www.ombwatch.org/regs/2006/dudleyreport.pdf.

³⁰ For example, for the 0.070 ppm regulatory alternative, the net benefits range is -\$17 billion to \$23 billion when assuming a causal relationship. When assuming no causal relationship, the net benefits range is -\$20 billion to \$14 billion. When both assumptions are considered, the net benefits range becomes -\$20 billion to \$23 billion.

In addition, forcing the inclusion of so-called negative benefits of reduced UVB protection works to alter the benefits end of the range. The inclusion of a more exhaustive assessment, as EPA promises, would likely reduce the overall benefits EPA identifies in the final RIA.

For critics of regulation, in this case the White House and industry representatives, the RIA provides ammunition for attacking a more stringent standard. Opponents of government regulation will inevitably herald government research which suggests a negative impact on the economy as proof that government regulation is harmful. In fact, within hours of the release of the RIA for the proposed revision to the ozone NAAQS, a spokesman for the National Association of Manufacturers said of the proposed rule, "If we're going to move forward with something so very expensive we think we need more certainty."³¹ This illustrates how flawed cost-benefit analyses allow years of scientific, technical, and economic research to be manipulated into anti-government ideology and sound bites.

While EPA is prohibited from considering costs, OIRA, industry, and the public are not. For OIRA and industry, the manipulation of the RIA and the disingenuous focus on economic impact has already achieved success in altering the debate over whether EPA should tighten the ozone standard. Media accounts of the proposed revision frequently cite potential economic impact as a point of contention between supporters and opponents of the tighter standard, and EPA provided ample time for industry representatives to air their complaints during public hearings.³²

But the public health argument – the argument upon which Clean Air Act regulations are predicated – suffers as well. Elevating the legitimacy of OIRA's claim that there is no causal relationship between ozone exposure and premature mortality is at odds with scientific consensus. Strong evidence of a relationship between ozone exposure and premature death does exist. Nonetheless, EPA may now be on shakier ground when arguing the public needs a tighter standard for ozone exposure to protect it from premature mortality.

With respect to the Clean Air Act, the debate over EPA's revision of the ozone standard should focus on the extent to which the agency will promulgate a stricter regulation. But, because of the efforts of OIRA and industry, the issue is in danger of becoming a debate over whether to strengthen the standard at all.

EPA is under court order to publish the final standard by March 2008. The final rule will be accompanied by a final RIA, both of which will be subject to OIRA review.

³¹ Erica Werner, "White House Accused of Meddling with EPA," Aug. 2, 2007, Associated Press. Available at: www.foxnews.com/wires/2007Aug02/0,4670,EPA_Smog,00.html.

³² For example, an *Atlanta Journal-Constitution* article on an EPA hearing held in Atlanta included the following: "An EPA analysis of the proposed standards concluded that reducing smog nationally could cost as much as \$3.9 billion a year to pay for cleaner gasoline, cleaner vehicles and industrial pollution controls. Most of it would be spent in the eastern states, including Georgia. The analysis also concluded the pollution reductions could save as many as 5,400 lives a year nationally by 2020." The article only includes the costs end of the net benefits range, thus ignoring the disparity between potential costs and benefits and the range's inherent inability to provide meaning on any potential economic impact. More importantly, the article failed to mention the Clean Air Act prohibits economic considerations. The article also includes claims of an American Petroleum Institute spokesman who used the hearing to question EPA's science. The article does not include the views of EPA scientists or CASAC. All five of the public hearings included comments from industry representatives claiming the proposal will levy an economic burden and/or accusations the underlying science is suspect, according to media accounts. Ken Sugiura and Stacy Shelton, "EPA Hearing on Smog Plan Doesn't Clear Air," Sept. 6, 2007. Available at: www.ajc.com/search/content/metro/stories/2007/09/06/smog0906.html.

Conclusions

Federal regulators commonly use cost-benefit analysis as a means for assessing one or more regulatory policy options. However, cost-benefit analysis is an unreliable and often inappropriate tool. The results of cost-benefit analysis obscure uncertainty and mask the value of those benefits that agencies cannot translate into dollars and cents. For this reason, cost-benefit analysis should be only one of several analytical tools in regulatory decision making.

Cost-benefit analysis should be an especially minor tool in the consideration of public health rulemakings. Monetizing certain benefits of regulation, such as lives saved, is both economically flawed and morally suspect. In such cases, the results of a cost-benefit analysis are useless for policy makers.

As illustrated by the debate over the revision to the ozone standards, executive power in the regulatory process, especially when wielded by OIRA, may trump any congressional mandate or need for public protection. OIRA uses cost-benefit analysis to influence the regulatory process in two ways. First, E.O. 12866 and Circular A-4 mandate the preparation of a detailed cost-benefit analysis for all rules carrying the “economically significant” designation. Such a broad and unyielding policy forces agencies to prepare cost-benefit analyses even in situations when Congress prohibits economic considerations or for public health rulemakings.

Second, OIRA has granted itself final editorial authority over the content of RIAs and has become adept at using this authority to change the tenor of the debate over regulations. By elevating the RIA as the primary decision making tool for federal regulators, OIRA places the onus on agencies to establish the economic viability of a regulation, rather than the public need or the requirement to fill a congressional mandate.

These points highlight, in the view of OMB Watch, the need to reform the regulatory process to achieve a more equal balance between legal requirements and the political power exerted by executive branch offices, particularly OIRA. The manipulation of the regulatory process through the use of administrative tools like cost-benefit analysis distorts the balance of power between the two branches and usurps agency expertise and discretion.

It is the duty of Congress and the executive branch to choose the policies most responsive to public need and desire. Federal agencies and the White House should faithfully execute their congressional mandates as a means of achieving the constitutionally intended balance of powers. Without appropriate balance, the federal government will find increasing difficulty in its ability to protect the public through effective health, safety, and environmental regulations.