The Search for an Intelligible Principle: Setting Air Quality Standards under the Clean Air Act

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Introduction

When the core environmental statutes we rely on today were crafted in the 1970s, the fundamental answer to the question "what should we do to protect human health and the environment?" was clear. It was "more." Now, after decades of effort, expenditure, and success in improving environmental quality, a new question has reached the forefront—"how do we know when we've done enough?" And to this we have no fundamental answer.

Most people agree that zero is too small a number to set as a target for pollution reduction. It is often physically unattainable given existing background levels, seldom medically necessary for good health, and potentially economically ruinous in terms of the clean-up costs required and productive activities foregone. But we have no generally agreed-upon basis for setting any other number.

Into this gap, in May 1999, stepped the U.S Court of Appeals for the District of Columbia (the Appeals Court). In a novel ruling, it found that that the U. S. Environmental Protection Agency's (EPA) setting of National Ambient Air Quality Standards for ozone and particulate matter under the Clean Air Act relied on a construction of that act "that effects an unconstitutional delegation of legislative power." The Appeals Court remanded the standard setting rules to EPA, saying that this non-delegation doctrine, which reserves crucial policy decisions to Congress, requires EPA in this case to articulate an "intelligible principle" to explain why it selected the particular non-zero levels that it chose for the two standards. EPA's petition for rehearing on this issue was denied by the Appeals Court in October 1999, whereupon EPA appealed to the Supreme Court, which agreed in May of this year to accept the case for review. Argument will be heard this November, with a decision expected in 2001.

Declaring unconstitutional EPA's approach to setting air quality standards could be compared to a lightning strike from a clear sky—very forceful and entirely unexpected. And light-

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ning was about to strike twice. The Supreme Court, shortly after accepting EPA's appeal, also agreed to review the Appeals Court's longstanding opinion, first issued in 1980 and reiterated in this case, that costs cannot be considered in setting air quality standards. When it comes to the Clean Air Act, cost-benefit analysis ranks right up there with unconstitutionality for shock value.

As the case proceeds, some people are saying that the Supreme Court is being asked to take an activist, policy-driven stance, rather than just interpret the law. But it might be that the Court is really being asked to overturn such a stance. That is the view that will be expressed here—that weighing costs and benefits is the only intelligible principle that comports with common sense, and that it is, consequently, the ranking interpretation of congressional intent in the absence of clear language outlawing it.

The Law

The Clean Air Act requires that EPA set air quality standards "requisite to protect the public health" with "an adequate margin of safety," which are based on criteria that "accurately reflect the latest scientific knowledge." Students of the statute say that when this language was originally written in 1970, the prevailing view of the relevant science was that thresholds existed below which concentrations of pollutants had no adverse effect on human populations. Scientists now say, and EPA concurs, that for many pollutants, including ozone and particulate matter, there is no identifiable non-zero threshold below which human health is unaffected.

EPA also says, and the Appeals Court concurs, that factors other than health may not be considered in setting air quality standards. But if health is improving all the way to zero concentration, it is hard to come up with an "intelligible principle" for setting an above-zero standard based on health factors alone. Were EPA to declare zero the only acceptable level "requisite to protect…with an adequate margin," it would be hard to say that it was acting outside its statutory authority.

Talk about a delegation of power! Operating within the prevailing interpretation of its delegated authority under the Clean Air Act, EPA has the discretion to virtually shut down the U.S. economy. While it has never come remotely close to doing so, EPA has long faced charges that it was going too far, or not far enough, down the lengthy road between unfettered economic activity on the one hand and pristine environmental quality on the other. As EPA has moved down that road, the question of how much is enough has become more important, but the social

consensus, political convergence, and legal underpinning for a suitable stopping point—neither too much nor too little—has made little headway.

The Landscape

Think of the terrain of available policy choices as a topographic map. In place of the longitude scale, we have the allowable level of ozone in parts per million; in place of the latitude scale, the allowable level of particulates. For each combination of ozone and particulates on the map, we can generate a height above or below sea level, in this case defined as the net gain to society from choosing that combination of ozone and particulate levels as the allowable standard. The boundaries of the map are the limits to the allowable levels that EPA can choose under existing law.

Within those map boundaries, the variation in altitude is enormous. The question arises, "is there any way to steer the choice of coordinates toward a combination that puts us in the sunny uplands of big social gains as opposed to the darker valleys of limited benefit or even loss?" The topography of net gains to society necessarily encompasses the full range of things that people value, recognizing the gains in their wellbeing from lower ozone and particulate pollution but also the fact that those gains are not free. Achieving them requires a sacrifice of resources, in clean up costs and in activities foregone, that would otherwise have added to public wellbeing in other ways. But EPA, with its mission directed at health and environment and a statute that cites health exclusively in its standard-setting language, focuses on health-based sources of value. However, it does not give other sources of value a zero weight, because to do so—only by health alone—would generate outcomes so disruptive that other actors would have to step in to limit EPA's extraordinary decisionmaking latitude.

This intervention is a cliff that EPA does not want to go over, and while no one can say exactly where it lies, everyone knows it exists. Congress did not intend to impose a whatever-it-takes, black-hole mandate—a protection purchased at the cost of cratering the economy. In 1970, the postulated existence of a no-effect threshold may have appeared to hold out the prospect that public health protection could be achieved before society undertook any greatly disproportionate cost to eliminate the last remnants of pollution—that is, before it was forced to trade off macro economic losses for micro health gains. Science is now said to have invalidated the threshold hypothesis, but the "scientific taking" of this particular action bounding, cost-limiting consideration does not say that Congress meant there to be no such consideration.

EPA has long avoided this cliff, relieving Congress of the burden of stepping in and cleaning up its Act to deal with the threshold issue and to make clear that “no health effect, no matter what it takes” was never its intent. Then, nearly 30 years on, to the surprise of almost everyone, the Appeals Court conceived of another cliff further limiting agency discretion, and declared that EPA had gone over it. It asked the agency to produce a kind of policy compass—something that, presumably, would be helpful in orienting EPA action toward the higher peaks of social value located within the vast value topography available to it. Enter the search for an intelligible principle.

The Compass

"Although the factors EPA uses in determining the degree of public health concern associated with the different levels of ozone and PM are reasonable, EPA appears to have articulated no "intelligible principle" to channel its application of these factors; nor is one apparent from the statute. …(W)hat EPA lacks is any determinate criterion for drawing lines. It has failed to state intelligibly how much is too much." [1]

These are the words of Circuit Judge Williams in his May 1999 opinion in the ozone-particulate matter (PM) litigation. As an example of an intelligible principle, he cited Oregon's use of a quality-adjusted-life-years metric in structuring its health plan for the poor. He noted, however, that Oregon used cost of treatment in its approach, and added that "(h)ere, of course, EPA may not consider cost." This, of course, is the whole ballgame.

Current case law, established in 1980 by this Appeals Court, rules out cost as a factor in setting air quality standards. Knowing this, and wanting to put some meat on the bare bones of Judge Williams' intelligible principle, a number of commenters have suggested alternative approaches, including:

1. Significant improvement. Does the new standard appreciably benefit public health, as opposed to making only a marginal improvement because health harms have already been reduced close to a minimum?

[1] Circuit Judge Williams, U.S. Court of Appeals for the District of Columbia, American Trucking Associations Inc., et al. v. EPA, May 14, 1999.

2. Knee-of-the-curve. As emissions standards are tightened, is there a point where the health gains from going further, what economists call marginal benefits, drop markedly?

3. De minimis rules. Are there terms in the statute—for example, “requisite,” protect,” health,” adequate,” and safety”—which can be defined through regulation to convey society's judgment that some risks are too small to worry about?

4. Health-health tradeoffs. Are there harms from reducing emissions as well as gains—for example, increased risk of cancer from ozone reduction as well as better respiratory health—such that too much reduction results in poorer health overall rather than better health?

As they do not explicitly involve costs, all of these approaches are possible candidates for the intelligible principle that Judge Williams asked EPA to enunciate. But all of them rely implicitly on the concept of costs. If costs were zero, or were irrelevant, there would be no reason to stop at the stopping points suggested by these rules. No benefit would be too small to go after. These rules reflect the world we actually live in, where costs are not zero, and are not irrelevant. In whatever units we express those costs, in dollars or health units or something else, this is a world where we decide what to do by weighing costs and benefits.

Here we come to the great irony of environmental regulation. While people can, and do, make up complicated decision rationales all the time, there is actually only one intelligible principle for determining how much is enough, and everybody knows it. What's more, they can state it quite simply: "Is it worth it?"

To answer that question, people weigh the factors, both positive and negative, that they think bear on it. In 1970, Congress was thinking about the positive health-related benefits of establishing air quality standards, and it wrote those into law. In its estimation, the value of those benefits made it worthwhile to take steps to improve air quality from its then-prevailing level. However, as Judge Williams has said, how far Congress thought such clean up could go and still be beneficial is not "apparent from the statute." Answering the "how far" question is thus a matter of interpretation, but two things are clear. The first is that Congress did not intend to harm society by passing the Clean Air Act. The second is that, in the real world, all benefits are net benefits, that is, benefits minus costs. The only way to uphold the first truth is to recognize the second. Neither judicial deference to EPA's interpretation, nor satisfaction with EPA's implementation thus far, nor concern about overturning established law and policy can undermine the basic soundness of that logic.

Answering the "is it worth it" question can be challenging, especially at the margin where asking and answering the question is most useful. These challenges are not a reason to ask a different question or to narrow the factors considered in answering this one. In this context, the terms costs and benefits are meant to be all encompassing. They are not confined to some subset of relevant factors, such as those that are most amenable to market valuation or to some other quantification. Costs are anything negative that society will suffer and anything positive that it will give up; benefits are anything negative that society will avoid and anything positive that it will gain. Characterized this broadly, the “is it worth it” question and the “cost-benefit” answer are essentially tautological. That is the point.

EPA participates in this appropriate and unavoidable weighing of positives and negatives. However, it does not have to acknowledge that it does so or open up how it does so to legal or public scrutiny, which is greatly to the agency's advantage. It gets to clothe its judgments in volumes of human epidemiology statistics. Each new standard-setting decision has its own rationale, essentially unrestrained by previous rationales, and therefore largely unpredictable, unassessable, and unassailable based on precedent. This situation leaves EPA's adversaries in the equivalent of Plato’s cave, shadow boxing with ephemeral silhouettes on a wall. As in The Republic, the shadows offer the cave dwellers only an imperfect view of the real world, and as a consequence even those who recognize that they are dealing with shadows have a hard time affecting what goes on in that world.

While EPA has always argued strenuously that cost-benefit analysis cannot be done under the Clean Air Act, it is the judicial branch that has put the nail in the coffin by affirming this opinion. Now the same Appeals Court that wielded that hammer has, to mix three metaphors, stepped forward to propose a way out of the cave and up on to the surface—hopefully the higher elevations—of the clean air decision map. But will it work?

Judge Williams' novel approach is to invoke the non-delegation doctrine, meant to reserve crucial policy choices to Congress, to require EPA to constrain its discretion within narrower bounds than those Congress gave it. While sufficient to raise the "how much is enough" issue, the judge's approach is not enough to resolve it satisfactorily, since his reassertion that EPA may not consider cost ensures that only by accident, or subterfuge, would EPA's narrowing of its discretion home in on the value peaks. His non-delegation ruling is after something of great consequence, but the court must crack the cost conundrum before that value can be realized. Enter the Supreme Court with its own bolt from the blue.

The Crossroads

As expected, EPA filed an appeal of the Appeals Court opinion, including the non-delegation ruling, in January of this year. The Supreme Court granted its petition in May and then, in another electric shock, accepted a few days later a cross-filing by the successful plaintiffs at the Appeals Court level. The plaintiffs asked whether the Appeals Court was correct in holding "that EPA must ignore all non-health factors, including costs, in setting the National Ambient Air Quality Standards." In July, 42 prominent economists entered the proceeding, filing an amicus brief arguing that the Supreme Court "should allow the Environmental Protection Agency to consider costs in setting nationwide air quality standards, so that this information can be considered along with benefits and any other relevant factors in setting a standard."

And so the stage is set for EPA to receive the ultimate guidance on what it can and cannot do under existing law—an historic reinforcing or an historic undoing of its historical stance (discounting the possibility of an historic muddle). What outcome might the public-spirited citizen hope for? It seems reasonable to assume that consideration of non-health factors, including costs, will not result in more stringent standards than EPA has put in place without explicitly considering such factors. It also seems reasonable to assume that explicit inclusion of such factors will complicate the standard-setting process compared to the agency's current process, and it could stack the deck against less-tangible, quality-of-life factors as compared to more-tangible, cost-of-business factors. The combination of weaker-tending standards arrived at in a more difficult process is not, per se, an attractive prospect for most people. There will have to be a lot of offsetting value to make this the better way to go. Here we have a meta-application of the intelligible principle, "is it worth it?" and here too, characteristically, different people will have different answers.

Conclusion

One answer is to let EPA carry on. Federal law and jurisprudence have put it in an unprecedented position of regulatory power over American life, judged, as it should be, by the open-ended enormity of its leverage, not the fine-tuned specificity of its levers. While acting aggressively, EPA has not run amok. In particular, it has not forced Congress to materially restrict its mandate and it has gotten the Appeals Court, until now, to agree basically with its interpretation of that mandate. In making tradeoffs while convincing the court that the Clean Air Act forbids them, EPA has shown a much better grasp of congressional intent than the court has. The agency has also managed, thus far, to handle the serious litigation threat posed by plaintiffs armed with the "no cost" rule without being sucked into the black hole of unlimited loss. EPA

has not been stopped by overstated cost estimates for existing technology from setting standards that turned out to be achievable with new technology at considerably lower cost. Its “no cost” interpretation of standard setting has been settled law for twenty years.

The other answer is to escape from the unreality of Plato’s cave and tackle the “how much is enough” question in the light of day while it is still a challenging orienteering problem, not a costly rescue mission. Of course it will be difficult for society to put values on a whole range of intangibles like magnificent views, or to reconcile a whole range of deeply held personal beliefs like the value of a human life. But we act out those judgments as a society every time EPA issues a clean air standard—we just don't do it openly. The fact that it is difficult—values are subjective, hard to get at, highly variable across the population, and not easily calibrated—means that having the right framework to address the problem is our only hope. If we don't ask the right question, it is virtually impossible that we will get the right answer.

Trying to do the right thing is a key step toward actually doing the right thing. For example, recognizing environmental assets in our accounting of national wealth is key to sharpening our awareness of those values and improving our behavior in conserving them. We need progress, and we need practice in giving definition and weight to the values that make up our quality of life and reaching political compromises and policy tools that translate those values into a common way forward in our public life. As we reach the outer edge of beneficial regulatory action, it is more important than ever that we ask and answer the right question to avoid doing serious regulatory harm.

One of the clearest threats of such harm is the Appeals Court’s black hole, which exists solely as a matter of legal interpretation. It is the Appeals Court, not the Congress, that said costs could not be considered in setting air quality standards. Congress has never said yea or nay to this interpretation, and the Supreme Court has declined to do so on several occasions. This time the Supreme Court has accepted the matter for review. Reason says that the Supreme Court will not uphold an interpretation that, taken to its logical conclusion, Congress could not have meant and would have to correct. That correction would be to remedy a by-then dangerous interpretation of the law, not to rectify a problem in the law that required that interpretation. The Supreme Court can provide that remedy now.