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# EPA JOURNAL

The Economy and the Environment



## The Economy and the Environment

As EPA Journal begins in 1979 its fifth year of publication, the magazine takes a look at a critical issue—the impact of the environmental cleanup on the economy.

Unquestionably one of the most difficult problems EPA must grapple with is how to press the cleanup efforts without crippling industry and contributing to unemployment.

To review this complex and controversial subject, the views of a wide range of authorities are presented.

Among those offering their insights are EPA's leadership including Administrator Douglas M. Costle, Deputy Administrator Barbara Blum, and William Drayton, Assistant Administrator for Planning and Management.

From outside the Agency perceptive comments are made by such distinguished observers as Dr. Paul Samuelson, the Nobel prize-winning economist, and Senator Gary Hart of Colorado, winner of a national award for his leadership in protecting air quality.

An engrossing account of the tragedy caused by chemicals dumped in Love Canal near Niagara Falls, N.Y., is provided by Eckardt Beck, EPA's Region 2 Administrator. The Journal plans to review the national problem of hazardous waste disposal in its next issue.

Another aspect of the impact of the environmental cleanup on the economy is reported by industrialist Richard Hoard, who notes that the business of selling pollution control equipment is booming.

Public support for environmental cleanup remains strong, even with today's economic concerns, suggests a poll re-

ported by Robert Mitchell and Kathryn Utrup of Resources for the Future.

In other stories, Federal aid available to help ease the impact of pollution cleanup is reported by Edwin Clark, II, a special assistant to the EPA Administrator. The Director of EPA's Office of Legislation,

Charles Warren, explains how Congress acts on EPA's budget.

Key facts on the economy and the environment are provided in a special one-page report. Also reported is the start-up of the new Regulatory Council, with streamlining and improvement of Government rules as one of its main concerns. □

"WELL, MAYBE THIS ONE WILL FLY"



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# EPA JOURNAL

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EPA is charged by Congress to protect the Nation's land, air and water systems. Under a mandate of national environmental laws focused on air and water quality, solid waste management and the control of toxic substances, pesticides, noise and radiation, the Agency strives to formulate and implement actions which lead to a compatible balance between human activities and the ability of natural systems to support and nurture life.

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Front cover: Construction workers are shown in this photo by Burt Glinn of Magnum.

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## The Benefits of a Cleaner Environment

By Douglas M. Costle,  
*EPA Administrator*

None of us can be unconcerned that prices continue to rise, that Americans are again jittery about having to pay more and more for the essentials—food, shelter, and clothing.

As the President leads the attack on inflation, we at EPA must be concerned about whether the environmental program contributes to the inflation rate.

Some say the root of inflation is in the government's monetary and fiscal policies. Others emphasize excessive wage settle-

ments and price increases that don't reflect increased product value. But there are other reasons as well, including possibly the effect of costs imposed by regulations. So we must continually evaluate our actions to be sure that they are not unduly inflationary.

As measured by standard yardsticks, such as the Consumer Price Index, EPA's programs do contribute modestly to inflation. Our most recent analysis, done by the respected firm of Data Resources, Inc., estimates that EPA's air and water pollution control programs will add an average of 0.3 percentage points annually to the Consumer Price Index from 1970 through 1986.

Thus, if the index were to increase by 6.0 percent in a particular year without pol-



lution controls, it might increase by 6.3 percent with them.

The results of the Data Resources analysis are in step with earlier studies done for EPA and the Council on Environmental Quality. All indicate that while the impact of pollution control on the Consumer Price Index is noticeable, any conceivable change in current regulations wouldn't substantially alter the Nation's underlying inflation rate.

The major causes of inflation are elsewhere. About 22 percent of the increase in consumer prices in 1977 was due to food price increases, with 39 percent due to housing, 7.8 percent to energy, and 8.8 percent to medical care. Only a small fraction of these increases is related to pollution control requirements.

Clearly the major attack on inflation must concentrate on the special causes of

increased prices for food, energy, housing, and medical care and on avoiding the wage-price spiral set off by these increases.

More importantly, the fact that environmental regulations do slightly increase the Price Index does not itself mean they are truly inflationary. Projections in the Index do not take into account the benefits of regulation, such as improved public health, *reduced property damage, and increased crop yields* that result from pollution control spending.

Such benefits lead to a lower cost of living. If the Price Index were adjusted to take them into account, pollution control spending would not appear inflationary, as long as the benefits exceed the costs—which I believe is generally the case.

The Federal environmental program, closely coordinated with State and local efforts, has already achieved significant results, which are paying off in more benefits to society. From 1970 to 1977, total smoke and dust were reduced by 12 percent. Nationally from 1970 to 1977 sulfur dioxide was reduced by 30 percent. Some rivers that were contaminated, even flammable, are now open to fishing and swimming.

These environmental improvements result in anti-inflationary effects such as fewer illnesses, fewer lost workdays, lower medical bills, less material damages, and more recreational opportunities. These must not be ignored when considering whether pollution or pollution control is more inflationary.

Another way of looking at this problem is to note that for many years polluters imposed additional costs of living on consumers, in many cases without their knowledge. Now, it seems irrational to me to automatically call inflationary the programs that are eliminating these costs by requiring that the pollution be abated.

Our concerns about the inadequacy of measures such as the Price Index parallel those of economists such as Paul Samuelson and James Tobin, who have criticized the Gross National Product as a measure of economic performance because it does not adequately consider the economic value of changes in the quality of life.

Unfortunately, the state of the art for putting a value on the benefits of pollution control is not nearly as advanced as our ability to measure the costs. We cannot put a dollar-and-cents figure on many benefits, and economists don't know how to "model" the quality of life.

However, most Americans have a good sense of how important a clean and healthy

environment is to them, and the polls have consistently shown that they are demanding such an environment. For instance, a recent poll for Resources for the Future found that those surveyed would choose by a 3 to 1 margin to pay higher prices to protect the environment.

I'm often asked by people, "Who are these environmentalists?" My answer is, *they're your children, your spouses, and in many cases, perhaps, yourselves.* Most people don't enjoy living or working in a polluted environment, and they are telling us that they think the benefits of environmental cleanup are worth the costs.

We can all think of cases where environmental protection is (or would have been) clearly worth the investment.

For example, the Kepone contamination of the James River in Virginia has shut down the fish and shellfish industry in the area—probably for decades—because it would cost billions of dollars to clean the river bottom of the contamination. Preventing the problem in the first place surely would have been less costly.

Similarly, the cost of disrupting fishing in and near the Hudson River by PCB contamination has been estimated at more than \$11 million a year by New York State.

These are graphic examples where the benefits of pollution control would have been obviously reflected in increased personal incomes. Far more common are cases where the benefits are measured in fewer cancer patients or fewer schooldays or workdays lost by asthmatics.

We would like to measure those benefits that have economic value more accurately than we're now able to. We're working on that.

In the meantime, the Agency must and will rely on judgment. In making those judgments, we will make a fair assessment of both costs and benefits to the maximum extent feasible.

In sum, I believe that pollution cleanup benefits, whether we can compute them or not, exceed the costs, and, most important, that the public wants those benefits and is willing to pay for them.

Nevertheless, we have to recognize that our programs are costly. There are no quick fixes or magic solutions, and we have to make sure that we are accomplishing our goals in the most efficient manner possible. If we do not, then we can truly be accused of causing inflation.

The Agency's developing Regulatory Reform Program is designed to achieve this efficiency. We will attempt to find the most cost-effective, legally permissible way of meeting environmental goals, and to regulate only when we are confident that the benefits exceed the costs. Our national economic problems make this approach more important than ever. □

# An Economist's View

An Interview With  
Dr. Paul Samuelson

**Do you think that environmental regulations are adding significantly to current U.S. inflation, unemployment, etc.?**

The current combination of inflation and unemployment in this country is what we economists call stagflation. It's related on one hand to fiscal policy and Federal Reserve money supply creation and on the other hand to the way wages and other costs respond in the system to different degrees of unemployed labor supplies and plant capacity. Environmental regulations are really one small and minor factor in that general picture. So the answer is environmental regulations contribute at most insignificantly to current U. S. inflation and unemployment problems.

**What do you see as major steps we could take to make environmental regulation more efficient?**

It is easy for legislators to put in fiats, to introduce regulations, to set quantitative restrictions on effluents and emissions. Then it's a matter for the police and courts to enforce them.

Economists believe that a better approach often is to make the process of environmental control self-regulating by means of some system of automatic money penalties and rewards. This means that a major needed step is to use more measures that motivate industry to clean up the environment, such as tax penalties, subsidies, and pecuniary enticements.

*Dr. Samuelson is Professor of Economics at the Massachusetts Institute of Technology. He is also an Institute Professor at the school, a rank reserved for distinguished scholars. In 1970, Dr. Samuelson won the Nobel Prize for Economics.*

**The steel industry among others has argued that environmental regulations put U.S. industry at a disadvantage with respect to foreign competitors. Do you think there is any truth to this charge? If so should the U.S. attempt to protect its business and how?**

At every international conference on environmental improvement, we observe that representatives from the developing countries where life is nasty, short, and brutish, and where the GNP per capita is very low and living standards are minimal, those regions are anxious to acquire some pollution and some deterioration of the environment if that is the price for getting jobs.

In the more affluent countries, such as Sweden, Switzerland, Western Europe generally, the U.S., and Japan, it's realized that the whole purpose of production, the whole purpose of jobs and real income, is the good life, in all of its dimensions.

One very important aspect of the good life is that it last, that we do not die prematurely from environmental blight, that while we're living we're living under skies that are reasonably clear and with water that's reasonably pure. So the affluent countries like the U.S. naturally want to put stiffer regulations on industry than do the developing countries.

Now there are certain industries, which by their nature are more frequently polluting than others. It follows from economic analysis that just where things should be done in the world, what the geographical division of labor should be, ought to be affected by this difference in tastes between the advanced and the undeveloped world. And so an extremely filthy industry, which cannot by any incentive scheme, or any zoning and fiat regulation be made clean, simply ought not be in the middle of a prosperous suburb or in the middle of a prosperous country.

If the steel industry turns out to be one which is irretrievably polluting, and I don't believe that to be the case, then it ought to follow that the jobs which

have taken place in this self-confessed dirty industry should take place in some other site where they will do less harm. So if it were the case that the steel industry simply could not compete in the United States on a decent, non-polluting basis, that would be a very powerful argument for letting that industry move abroad.

Now this has nothing to do with national defense. Obviously some crucial amount of steel capacity for national defense purposes, which is much much less than the U.S. ordinarily produces, you would want to keep here. That can be done on an electric furnace basis without the old Pittsburgh and Gary, Ind., approach. (I was born in Gary and I know the nature of the old-fashioned, polluting steel plant. Those plants should go abroad.)

A century from now, even in the poorer parts of the world they will not be allowed to continue the old 1919 methods of polluting the environment.

On the other hand, having said all that, let's just really look at the competitive situation in steel. The U.S. industry has not been losing out to imports primarily because of environmental concerns. The Japanese, who have been some of the most successful in capturing American business on a cost basis, are themselves beginning to put in environmental constraints. Some are not much different than now apply in East Chicago, Gary, Pittsburgh, and elsewhere.

So the steel industry, which will be made to pay its way on a non-polluting basis to the degree that it's able to stay here, will continue to be able to compete here, that is if its other problems, which are its rate of technological advance in comparison with what's been happening abroad, are put in order.

The only case for the U.S. Government to come in to protect an industry like this, which is losing ground because it will not or cannot shape up to environmental needs, is that workers in that industry who have staked their occupations and fortunes on it should, as with

other industries hurt by competition, receive a transitional subsidy to help them locate in another industry. Beyond that I don't think a strong case can be made for the steel industry to have walls built around it so that on a clean basis it can compete with industry abroad.

*Aren't our economic analysis inherently short range and how can they adequately include the value of a lower cancer rate or a cleaner river when data on damages to society are often inconclusive?*

It isn't the case that modern economic analysis is or must be only short-range. We realize that costs accrue even if they do not show in the form of a monthly bill to some corporations or to some households. So the correct formulation would be that our economic analysis must be short-run, must be intermediate-run, must be long-run, and we must attempt to quantify as best we can the costs in terms of environmentally-increased cancer rates and costs in terms of democratically-legislated standards for clean air and clean water.

*Do you think economists have developed adequate ways of measuring the benefits of pollution control regulations? Or are many of these benefits inherently unmeasurable?*

I think we are only at the beginning of making such measurements. But we are at the beginning, and there are many improvements which will come in the future in our ability to meaningfully calculate costs and benefits.

The fact that a thing is hard to measure does not mean that it is zero. And in the past we have been treating costs that were difficult to quantify as if they were zero costs. That is a logical error and we simply have to do the best we can in terms of new yardsticks.

How many hospital beds, how many doctor days, how many nurse years are going to be involved in running our cities

the way the Victorian 19th Century city was run? When you apply these new yardsticks, it will be found, and economic historians will corroborate the statement I am making, that far from our now spending too much on the environment, in the remaining decades of the century we will be spending an increasing fraction of our total resources upon this important area.

*It's often said that investment in pollution control equipment is "nonproductive." Is this true from an economist's viewpoint? Is such investment less productive than, say, investment in air-conditioning equipment? If you use the old-fashioned methods of measuring outputs then you may find that in a year when more of our society's resources go into keeping mercury out of our lakes, keeping sludge out of the ocean, the Federal Reserve index of production has not grown as rapidly in terms of mousetraps and conventional goods and services as would otherwise have been the case.*

However, economists have always known that what's measured by the Federal Reserve Board index of production or what's measured by the real Gross National Product is only an approximation of something more fundamental. And we are gradually changing our notions of what ought to be the measured Gross National Product.

I introduced into my elementary textbook in economics some few years ago along with the GNP, which is a conventional measure of ordinary goods and services, an auxiliary measure of Net Economic Welfare (NEW) which tries to take into account the improved amenities that are just as important to each living generation as the mousetraps and the other ordinary items.

When you have calculated these auxiliary measures of physical production and of corrected Gross National Product then it's not the case that investment in pollution control

equipment is non-productive and is a subtraction from what could otherwise have been produced.

On the contrary, it may be that in any one year's spending on these items in a society not at the bare margin of existence, these may be among the most important welfare-creating expenditures.

*Do you then advocate a different kind of yardstick?*

Yes. I would, for example, not dispense with our old GNP, but I would always supplement it with these auxiliary measures.

*Has environmental spending become a target for some because the GNP doesn't present a true picture of cleanup costs and benefits?*

If I were a political scientist and I tried to analyze the mobilized forces of opposition to environmental spending and

regulations, then I would not list as important the fact that the conventional GNP is measured wrong. Most voters, most lobbyists, most people in the street go whole hours without thinking of the conventional real GNP.

What a lobbyist does do regarding a particular regulation that he thinks is hard on his industry is when he comes into Congressional committee meetings or into court, he quotes from the GNP to buttress his case. It's important that the measures of environmental benefits be available in order to answer such debating tactics.

But I think that some of the opposition to environmental improvement is rationally based. A lot of people feel pinched in buying their ordinary mousetraps, in paying for their ordinary schooling, and they're looking for something to economize on and they may have blithely voted too high a standard for environmental purification.

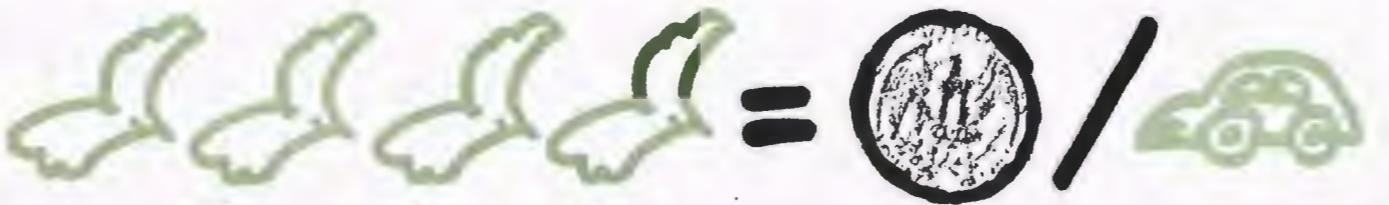
Looking at this problem, the economist doesn't say, "The more the merrier." If pure air is good, why isn't the purest air possible also good? Why shouldn't you be able to swim in the Hudson River off midtown Manhattan, someone may ask. An economist says you should really sacrifice that last little purity of the Hudson because that is the part which is the most expensive to achieve.

To get all the air out of the jar by vacuum pump is literally impossible. To get the first half of the air out, creating half the pressure of the ordinary atmosphere, is pretty cheap, and if it's worth doing most people would say it's a bargain. But they wouldn't say it would be worthwhile to get 99.9 percent out.

So an economist's viewpoint is always cost-benefit analysis. Cleanliness is good, but what do you want to pay for that last little bit? I think the auxiliary measures of economic progress



*"... environmental regulations contribute at most insignificantly to current U.S. inflation and unemployment problems."*



Barry

# A Lawmaker's View

By Senator Gary Hart

In the battle to protect the natural environment, a new counter-attack has surfaced. It asserts that inflation and complex Federal regulations are reasons for postponing or abandoning pollution abatement. This counter-attack can be repulsed with two lines of arguments.

First, benefit-cost analysis, not inflation, is the appropriate economic standard for judging the merits of environmental concerns. Second, regulatory complexity should be replaced with regulatory simplicity, not lower standards.

## Fallacious Inflation Argument

Industry groups argue pollution control is inflationary because it costs money and therefore raises prices. Inflation is a bad thing—by anyone's measure. If inflation is bad, and, if one agrees that pollution control causes inflation, then pollution control must be bad, too. This flaw in logic results from a glaring omission.

Inflation occurs when the price of a particular good increases with no change in the size or quality of that good. As a hypothetical example, assume a standard-sized 1978 car with a given set of options cost \$4,000 last year. If the identical car were \$400 more this year, we call that inflation and label it bad.

Consider a different situation, however. Suppose cars manufactured this year were required to have a more sophisticated pollution control system than cars manufactured last year. Say the cost of the new exhaust control was \$400. In this case, the price increase of that same car from \$4,000 to \$4,400 would not be inflation. The higher price is for a higher quality car. To claim the \$400 price increase is inflationary is wrong, therefore, because something of value (cleaner air) also accompanies the payment for the auto.

The \$4,400 car with pollution control equipment is actually a new commodity which produces more net benefits to society than the lower-priced \$4,000 car. The lower-priced car gave transportation to its owner and poisonous exhaust to everyone else in town. The total benefits to society of the car's operation equals the benefits of



*Senator Hart (D. Colo.) is a member of the Senate Environment and Public Works Committee and Co-chairman of the Commission on Environmental Study Conference. He won the National Wildlife Federation's 1977 Legislator of the Year Award for his work on air quality. He is chairman of the National Commission on Air Quality established to evaluate U. S. policies in this area.*

transportation to the owner, minus the "dis-benefits," or cost of pollution, to others. The terms total benefits or total costs to society mean the sum of all benefits and all costs to all individuals in the society.

Let's further assume the owner of the \$4,000 car gets \$4,500 worth of transportation benefits from the car. And, to continue the example, assume that the cost to society of pollution damage such as respiratory disease is \$1,000.

This analysis is extremely important. We have a car which costs \$4,000 to produce (steel, rubber, wages, paint, marketing, profits, etc.), but which costs society at large another \$1,000 due to air pollution. The total cost (including the cost to society) of the car is thus \$5,000. But the gross benefits of the car to society are only

the \$4,500 to the car buyer for transportation. Clearly it is not in society's best interest to continue to produce that car, since the costs exceed the benefits.

Through its elected representatives, society protects itself from this adverse situation by declaring such polluting cars illegal. Abatement devices are required so that cars do not pose health costs to society at large. Industry responds correctly by adding exhaust control devices to eliminate or reduce the health costs of pollution.

Continuing the example, let's assume the pollution abatement equipment is effective in eliminating \$800 of the \$1,000 in pollution damages. Then, the \$400 cost of the exhaust control equipment results in an \$800 reduction in the cost of pollution damage. Clearly, society as a whole is now better off.

But what about the automobile buyer? By reducing the pollution from his car, the car buyer benefits society \$800. The benefit to him individually, however, is very small, say \$1. The car buyer must pay \$400 more for the car with a given quality of personal transportation, and he personally receives only \$1 worth of benefits.

## Private vs. Public View

The problem of pollution control thus boils down to a conflict between a *private* assessment of the benefits and costs of abatement and a *public* assessment. In this example the public benefits to society are \$800, and the costs to society \$400, but the private benefits are \$1, and the costs \$400.

The argument that pollution control is inflationary has obvious superficial appeal to the individual car buyer. The buyer sees practically no benefit from the exhaust controls on his own car, giving the private buyer the impression he is simply contributing to inflation.

However, from the perspective of society as a whole, the pollution control is actually counter-inflationary in effect. The \$400 spent on exhaust equipment saves \$800 in health costs. This has the equivalent effect of increasing consumers' purchasing power for goods and services that they want.

The car manufacturer also has a private incentive not to install pollution control equipment. The manufacturer wants to sell as many cars as possible, each returning a fair profit, and has no economic interest in preventing pollution. However, the manufacturer cannot maintain a margin of profit on car sales unless the price is increased by the cost of adding abatement equipment. And at a higher price the manufacturer will sell fewer cars.

This is the dilemma. Goods which previously caused pollution obviously become more expensive as pollution is abated. Given that non-polluting goods and services suffer no such price increase, they become relatively inexpensive. The practical producer will produce more and the practical consumer will buy more of the original non-polluting goods—and less of the goods which now cost more due to new abatement equipment. For example, people may see more movies and drive less.

It is clear that when pollution results from economic activity, private decisions by producers and consumers do not result in the best decision for society at large. Because individual consumers and individual producers each have private economic incentives to avoid pollution control, the Federal Government must consider pollution abatement from the perspective of all of society. That requires a new and different approach.

Focusing only on the cost—by calling it inflation, for example—yields the wrong answer. Using the simplified example of automotive exhaust, society is better off if it can reduce the costs of damage from pollution by \$800 if that action costs only \$400 for abatement equipment.

The economically rational way to decide how much to spend on pollution control is to consider the net benefits of the expenditures on abatement. As long as the additional benefits to society as a whole will be larger than the additional costs to society as a whole, greater and greater amounts of abatement can be induced through legislation.

A 1976 study of the cost of pollution control by Chase Econometrics Assoc., Inc., exemplified the extreme short-sightedness of analysis based only on the costs. This study concluded that the Consumer Price Index increases about .4 percent faster due to pollution control expenditures. Nowhere in this report was there a discussion of the corresponding consumer savings derived from pollution control. The report was prepared for the Council on Environmental Quality and EPA.

It is possible—indeed I believe it probable—that consumers gain economic and non-quantifiable benefits from pollution control substantially greater than .4 percent of their annual income. It is irresponsible to discuss costs of pollution control without comparing them to the benefits.

## Measuring Cleanup Benefits

Of course, it is much easier to define the optimal level of pollution control than it is to calculate it in practice. Estimating the costs of pollution cleanup equipment is not much different than estimating the costs of any other investment. But it is difficult to put a dollar figure on the benefits from pollution abatement.

In the case of air pollution, it is generally known that specific chemicals in the air cause or aggravate many diseases. However, it is sometimes hard to measure the exact relation between the quantity of chemicals in the air and the quantity and severity of particular diseases. Even when this can be quantified, it is difficult to determine the costs of the adverse health effects. Calculations on spending for medical services underestimate the costs of pollution-related disease, and the costs of pain and suffering are not quantifiable in any dollar terms.

Furthermore, the medical costs associated with a disease are often related to the wealth of the ill person. Hence, just focusing on the actual costs underestimates the value of pollution control.

Lester Lave and Eugene Seskin have collected much information quantifying the benefits and costs of air pollution control. In their most recent book, "Air Pollution and Human Health," they conclude, for example, that presently mandated controls of sulfur oxide and particulate emissions from stationary sources are warranted on benefit-cost terms. The costs of abatement in 1979 are \$9.5 billion (in 1973 dollars), and the benefits, in terms of improved health alone, are estimated at \$16.1 billion.

Because it can't measure everything, benefit-cost analysis must be a supplement to subjective judgment by policymakers, not a general substitute for it. Pollution control benefits cannot be measured easily, as shown. They will usually be underestimated in any quantified analysis.

When the measure of benefits exceeds the estimate of pollution control costs, the environment will presumably be improved. However, when the measure of the costs appears greater than the benefits, the decision is unclear. Policymakers and administrators must be careful to weigh benefits subjectively against the costs when there are substantial benefits which can't be quantified.

Difficulty in quantifying benefits should not be used as a reason to discount them. An incomplete benefit-cost analysis should not be used to justify weak environmental standards.

## Costs of Regulations

We must admit that environmental regulation is costly by its very nature. Left to itself, any firm purposefully minimizes its costs of operation by neglecting certain environmental aspects of its production. One reason that governmental regulations, such as air and water quality permits, do cost money to comply with is that studies of environmental consequences have a significant price tag.

It is probably not possible to reduce the basic cost of obtaining information. However, it should be possible to cut the expenses of dealing with the many levels of government. Often, governments at local, State, and Federal levels, as well as overlapping special districts, require similar information—but want to receive it in different ways. The regulatory agencies should work together—to combine hearings, share information, and so forth—so that full information is received by regulators at minimum cost to those regulated.

## Effluent Charges Cut Costs

The goal of pollution regulations is to achieve a given quality of air or water. Currently, most pollution regulations require each firm to meet the same discharge quality, regardless of the costs to each firm. We could reduce the cost of pollution control by shifting from regulation to a system of pollution discharge fees which would, in effect, recognize that some firms can abate more cheaply than others. The costs of abatement may vary because of the type of equipment and the process used.

From society's perspective it is best to achieve any given level of air or stream quality at the minimum total cost to all the firms involved. Total costs can be reduced by having those firms that can abate cheapest do the most pollution control.

Under the regulatory approach, some firms must spend large sums due to very high costs of abatement peculiar to those companies, while other firms spend less. Under the pollution charge approach, the firms with higher clean-up costs will spend less on abatement, but pay a per-unit levy for the pollution they continue to discharge. The total amounts spent on abatement will be less under the pollution charge system for the same amount of pollution control. The pollution charges will substitute for government income which would otherwise have to be raised by taxes.

The potential economic effectiveness of this pollution charge approach is demonstrated with a study using the Delaware River Estuary as a model. The regulatory method would set effluent standards for all firms to meet. To reach a given stream quality, that approach would cost all firms a combined \$20 million per year.

*Continued to page 37*

# An Environmental Balance

By Barbara Blum  
EPA Deputy Administrator

Somehow, somewhere, there has developed the myth that it is inappropriate for us regulators to be interested in things like free enterprise, inflation and economic growth. That myth has been supported by another: That economic growth and environmental protection are fundamentally at odds. These myths deserve to be debunked.

It is pretty obvious, I think, that a healthy environment and a healthy economy are both necessities. You can't have sick people or a sick environment, and you can't have a weak economy, constantly racked by inflation or unemployment. What you can have, indeed what you must have, is an environment which is sound enough to support a productive economy and an economy that makes good use of, but doesn't use up the environment.

Frankly, I do find it tiresome to have our work constantly judged in terms of "selling out the environment to make life easy for industry" or "ignoring economic realities in pursuit of some super-idealistic concept of the environment." Sometimes we're attacked in both sets of terms for the very same decision.

We are here to protect the environment, under the terms of laws signed by both Republican and Democratic Presidents. And we are here to uphold our duties under those laws at a minimum level of interference with business, industry, local government, State government, and everyone else the law tells us to regulate.

Let me speak to those of you who fear that we are forgetting our duty to the environment in order to make life easier for business and industry—perhaps on orders from some faceless "they" in this Administration. You are wrong. That is not the kind of Administration that Jimmy Carter, the most dedicated environmentalist to ever occupy that office, wants. Nor is it the kind of Administration I would serve.

*Excerpts from a recent speech by Barbara Blum to the Environmental Law Institute. Blum is Deputy Administrator of the EPA.*

And let me speak to those of you who see us as equally narrow-minded from the other side, pursuing the environment at the expense of everything else, especially the interests of business and industry. You are equally wrong. You have to go back several generations to find a President with the real business experience of Jimmy Carter, and the consequent understanding of which complaints are real, and which are crocodile tears. And incidentally, I know what it is to meet a payroll from my own business career.

We think that it's possible to clean up the environment and do it in a way that avoids unnecessary costs, and in a way that takes account of the difficulties that the sudden changes or adjustments compelled by environmental laws impose.

We don't want to put companies out of business, and we don't want people to lose their jobs. But we don't want to be used as an excuse for second-rate management, either. We don't want to be blamed for some company's distress because we seem like an easier target than the Japanese, the unions, changing consumer tastes, or just a plain old-fashion failure to keep up with the industry.

We do not make the laws, the statutes that say how much polluting material can be tolerated in the air or the water. But we do make the regulations that implement those laws and we don't think those regulations have always been well-made.

Regulatory reform is one of our major interests at EPA. It ranges from shortening the time for various actions to making English the official language of the Agency.

For instance, there may be no alternative for the cost of a scrubber that removes emissions from a power plant smokestack, but there is plenty of alternative for seven forms when one will do. And perhaps if we make the forms and the way we read them clear enough, there will even be alternatives for the cost of lawsuits about them.

Beyond those changes in how we deal with those we regulate we're at work on a major effort to learn what we have gained from several years of pollution control effort. Specialists within the agency are at work on a series of environmental indices which should, when fully developed, tell the American people what they are getting in exchange for the time, trouble and money that have been expended on behalf of a clean environment. Publication of these reports has already begun in our northwest regional office; and we are pushing ahead with national measurements.

We also think that we can make some important changes in the way EPA does

business internally, changes that should make it easier to deal with us.

Another major emphasis in our work will be a much heavier investment in research to determine as precisely as possible the public health impact of various pollutants and levels of pollution. For some elements of our basic legal charters, such as automobile emissions, Congress set a specific standard. For many others, it left the job of deciding what was an "ambient" and "hazardous" standard up to us. We are going to be putting more money and more effort into health effects research on those issues.

The basic motivation of anti-pollution legislation has not, after all, been esthetic. EPA has been concerned with how pollution was effectively killing us, and we think that we will be in a better position to judge which general standards have proved too-severe and which too-lenient.

Any time we can deal with an issue or a problem before us in a way that will save time, money, and jobs for the American economy, but will not threaten the environment, we intend to do so. That is our position, because we do not want pollution control to be a burden that is resisted.

Money saved by reducing unnecessary regulation means more money available for more pollution control, for modernization of plant and equipment, for holding prices down, for dividends for stockholders. Each one of those uses is more desirable than spending on unnecessary regulation.

Our motivation is to be part of an Administration committed to balanced economic growth, reducing unemployment, and curbing inflation. We do think of ourselves as part of the Federal government in this respect, not as a pristine little regulatory island off on the horizon.

It is that same self-perception that led us to work on developing an urban policy for the Environmental Protection Agency, and to join enthusiastically in developing the Carter Administration's overall urban policy.

Some people think that is kind of quaint for us to shift any part of our attention from the Grand Canyon to the Urban Canyons. But if you think that way, try breathing in Harlem in August. Or contemplate the snow caps of the Rockies, if you can see them through Denver's February smog.

We are not the economic development administration. Our primary concerns are environmental, not economic. If there is no alternative between closing down a polluting factory and continuing an illegal level of pollution—a level prohibited by act of Congress—we will have that factory closed down.

But we do not believe that extreme case is typical or even frequent. We think that we can work with industry, and with environmental organizations, for a healthy environment, and a healthy economy. □



## The Economy and Regulatory Reform

An Interview with William Drayton, Assistant Administrator for Planning and Management

**Do you see regulatory reform as perhaps the chief cost-cutting, anti-inflationary effort now at EPA?**

Watch out for that inflation argument! Environmental regulation was created to correct a major market failure, a failure that made our economy inefficient, that denied our citizens the true mix of safety, goods, and services they want. To the extent that we succeed in getting them a mix closer to what they want, we are making the economy more efficient. I think environmental regulation is on balance highly anti-inflationary.

What is inflation after all? It's when you have to pay more real resources to get the same thing. It's not inflationary to pay more to get something new.

Unfortunately, the Consumer Price Index measures only the cost increases of the products our regulations affect. If pollut-

ant abatement costs push the price of TV's up, the market basket of goods used to define this index increases and therefore the index goes up. But the consumer is very probably getting a more valuable deal from our economy than before. His or her market basket has something new in it—better health, the ability to swim or fish in a nearby river, less property deterioration. The consumer's dollar is buying more, not less. However, the Consumer Price Index doesn't include these sorts of "purchases" in its market basket, chiefly because they are so hard to measure. The index is, as a result, dangerously misleading. It overstates the rate of inflation (which creates real inflation because so many people base their demands on what the index says). And it lends apparent substance to the ironic mistake of thinking of environmental regulation as inflationary.

Let me illustrate with an analogy: Statisticians discovered a decade or so ago that the housing component of the inflation index was going up too fast. Indeed, people were spending more for housing; but the average house had more rooms, more square feet, more brass doorknobs, and more air conditioners. So they had to redesign that portion of the index to hold quality constant so they could truly measure if the same goods were costing more.

We have exactly the same problem in the environmental area where, in effect, people are insisting on buying the benefits that EPA's programs provide, but the national accounts aren't measuring it. Almost all, perhaps all the inflation attributed to environmental regulation by this index, then, is an accounting delusion.

Further, even within the fallacious framework of the traditional index, cleanup's inflationary effect is very small—roughly three to four tenths of one percent of the inflation rate according to the Chase Manhattan Bank's economists.

However, because we're very visible, we seem to be an inviting target. Perhaps this has as much or more to do with the "hassle factor," to use one of Douglas Costle's phrases, as it does with real economic costs.

**What is the "hassle factor"?**

Taking people's time to fill out long forms is a familiar example, whether or not they're necessary.

We are trying to get people around the country to ration air and water as limited resources. Society uses property rights and zoning, a pretty complex mechanism, to manage our scarce land resources. The zoning process takes a lot of people's time. But it's not new. People are used to it.

In the environmental area, we're putting in the same sort of rationing devices and trying to get local governments and their citizens to use them. We're also still trying to define and design these processes. That's one of the reasons we're so very visible now.

Recently I toured a part of the Ohio River Valley with which I am familiar. Ten years ago the mayors and many of the citizens of these towns would not have been able to talk about the relationship between the lining of fly ash pits and the protection of underground aquifers, let alone rationing clean air. They had not focused on these issues before.

In the course of the last decade, such matters have become part of even a small-town mayor's job and part of the life of the business people of that community. They have also become a concern of a number of citizen groups.

This learning process takes a lot of people's time and energy. Then, it's going to take additional time after people adjust and carry on. It's like the introduction of zero-based budgeting in the Agency. It's a big hassle. You're putting people through a learning period. People resent this. It requires a change in how they think, which is probably more painful than the amount of time they have to spend on it. And it's extra work.

But one of the things that regulatory reform is all about is trying to get us through this transition, and into a steady state situation that imposes the least amount of hassle possible. The less hassle, the greater the acceptance.

Is regulatory reform a potential money saver in pollution control?

Yes. If we can increase the rate of technology development by providing positive incentives for finding new methods of control, we will reduce the cost of pollution cleanup. We can also get more pollution out with cheaper existing methods. If we reduce the cost of cleanup, we probably are going to get society buying more of a clean environment. That's basic economics: if the price goes down, people buy more.

In a five-year perspective, by far the most important impact is the development of new control technology and the reduced costs that will make it possible. There's also another type of lowered cost: We'll have less delay and less litigation, because we'll have everyone's attention on how to get the job done, how to find cheaper, more efficient ways of getting pollution out, rather than on political fights over local growth versus environmental protection.

If we were in the situation of saying that local communities simply could not have any growth, rather than saying that they have to ration and reduce pollution to offset new sources, everyone would be snarled in an enormous political battle, and everyone would lose. The costs of such a snarl in terms of continued pollution as well as EPA management time, business' management time, and local political leadership's time is not easily quantified but it is certainly very significant.

When you say regulatory reform, what do you mean?

Finding better ways to do our job. There are many different kinds of regulatory reform. Let me identify the most important and give an example of each from among the projects on which EPA is now working.

First, we're trying to find practical complements and alternatives to traditional "command and control" regulation. Most regulation now follows a common pattern: The regulatory agency writes a series of rules that define what the public must do, and then it seeks to enforce these rules through the courts. We are trying to complement this traditional legalistic approach with more flexible, more economically-oriented alternatives where possible.

One example is economically-determined penalties for firms that ignore their cleanup responsibilities. We are implementing this reform now. We will seek civil penalties equal to what violators save by not complying, including the rate of return they can earn while their money is not invested in abatement expenditures. Under this new approach, it pays to comply.

Second, we're trying to improve the internal process we use to develop regulations. This process was the model for the President's recent Executive Order on Improving Government Regulations. It ensures an open discussion and a review of issues such as environmental impact, economics, and public participation, as well as full peer collaboration across Agency organizational lines.

For instance, we will subject the most significant new regulations to a Regulatory Analysis, studying the environmental, economic, and energy effects of each proposal and of alternative options. Also, we have made English our official language: We will not approve regulations unless we have written them clearly and the public can understand them.

Third, we're trying to reduce regulatory burdens. Where we can reduce the burden of regulation without environmental loss, we must do so. Reducing the paperwork tasks we impose on

both business and State and local governments is one such opportunity we are pursuing vigorously. For example, all reporting requirements contained in new regulations will be subject to a "sunset" provision, i.e., we will review them routinely after five years to see if EPA can show a continuing need for the information and to combine overlapping requests.

Fourth is simpler, faster proceedings. We are trying to simplify and speed our hearings, grant reviews, permitting procedures and other actions. For example, we have changed our grant regulations so applicants need to file only one application when seeking funds under several different EPA programs.

Fifth is increased public participation in EPA decision-making. We are trying to remove obstacles to public participation. For instance, we have a pilot project to reimburse the expenses of participants in developing proposed regulations to control polychlorinated biphenyls (PCB's).



Is the Administration considering a lid on the additional costs that government could impose on industry in a given year because of environmental or safety precautions?

You're referring to the currently fashionable regulatory budget idea. It clearly has developed an intellectual following. The argument runs roughly as follows: One of the most important impacts the government has on the private sector is through regulation. What should count is not only direct expenditures and costs; it's also hidden costs and hidden benefits. This leads to the apparently logical conclusion that there should be a regulatory budget through which the government as a whole consciously controls the effect it's having.

That logic is very hard to disagree with. However, could the government implement such an approach? I'm afraid that many agencies are far from even knowing what the impacts of their particular actions are. Even EPA can only measure a part of the costs and benefits of its regulations.

Moreover, because no one can reasonably estimate costs or benefits before they know what will be asked of whom, we can't expect useful impact estimates until late in the regulation development process. That means that regulations in process are going to be a bit tricky to budget. I find it hard to believe that we're going to have a regulatory budget in the immediate future.

Even if it were technically possible to construct one, I doubt we would know how to use it. For example, it hardly would make good public policy to bar a regulation with benefits far exceeding all costs simply because the government's "budget" had been used up. Further, at least in the health and safety area, we can't realistically compare dollar costs with human lives and suffering with anything resembling budget-like rigor. It's hard to budget judgments.

**Does EPA have any safeguards to ensure that it knows the economic impact of new regulations?**

We do an economic analysis of all our new regulations. So yes. We can't always do it as precisely as we'd like but, by and large, we have a good feel for the economic costs of every major regulation. Especially when compared with most other agencies, we can be proud of our record in this regard. Our reputation for good economics and regulatory balance has brought us a lot of credibility and independence.

**Some critics say that EPA is using the right goals but the wrong methods to achieve pollution cleanup. Are they correct?**

That's a rather bald statement. A lot of the methodology we've developed over the last years is, in fact, very effective. We're generally trying to improve and refine, not replace.

For example, we've developed a quite innovative set of relationships with state and local governments, so much so that we haven't quite finished figuring out how we're going to operate it. We've dared to trust people, on the front lines—with the result that we've engaged the energies of thousands of good people and can respond knowledgeably, quickly, and flexibly to individual and local problems. Against that gain our residual management problems are minor.

**What is EPA's chief regulatory reform opportunity now?**

Giving those we regulate the flexibility and incentive to find new, more economic and effective ways of complying. Especially now that we've regulated most easy targets, increasing the rate of control technology innovation becomes extremely important to our hopes. I think we can do this through increased use of offsets and the bubble policy, reinforced by both the banking of reductions and the use of deal-making brokers. We're gradually building a process that will allow us and our regulatees to trade one cleanup commitment for more efficient, equal cost alternatives—and that will remain fully enforceable and administrable. Those last two criteria are obviously critical.

Let's take a very simple example to explain the bubble, which is like placing a theoretical canopy over a pollution source. Within any plant we may regulate anywhere from a handful to a hundred different, separate processes. The marginal cost of removing a pound of pollutant from one process, fuel storage, may be 50 cents whereas it may cost \$20.00 to remove a pound of the same pollutant from a paint spray booth. There can be very wide ranges.

It clearly makes sense from the company's point of view, and assuming that the change is as enforceable as the existing arrangement, it makes sense from ours, to get more pounds of pollution out of the fuel area and less out of the paint spray booth area. If we can remove a pound of pollution for 50 cents instead of a dollar, we should do it.

That's one advantage and that's the easiest to see in a way. But I think the most important objective from our point of view is different. This approach for the first time provides a positive incentive for industry to

find new ways of cleaning up. Especially as society gets denser, as growth continues, we're either going to have to squeeze smaller and smaller sources or we're going to have to find more efficient ways of controlling existing ones. Now, the only way we can stimulate new control technology is through the blunt, limited negative approach of putting a standard on which we think will really squeeze industry. (We're generally not allowed to impose standards that are so tight they can't be achieved.)

Once one company has used a positive, innovative tradeoff approach to clean up pollution, we can require it in other companies. Of course, some of our worst-polluting, most scofflaw-prone firms are typically the least innovative in terms of technology. But even when we are faced with that type of industry, this approach will work because many of its processes are the same as those used in other industries. If we find a better way of controlling hydrocarbons in an automobile plant spray booth, we can require the same sort of procedure for spray booths in other manufacturing plants.

If we can create incentives for people to develop new technologies more rapidly than is now the case from pollution control standards, our job is going to be a lot easier.

*This interview was conducted by Charles Pierce, Editor; Truman Temple, Associate Editor; and John Heritage, Assistant Editor; all of EPA Journal.*

## The Team Leaders

*Two Deputy Assistant Administrators and three Associate Assistant Administrators help William Drayton, Jr., run EPA's Office of Planning and Management. They are responsible for managing the Office's 1,163 people and its \$115 million annual budget.*

**Paul J. Elston**  
*Deputy Assistant Administrator for Resources Management.*



Elston leads the Agency's effort in zero-based budgeting. He is also responsible for financial management, program review and analysis, grants administration, the Agency's comptroller's function, and its accountability reporting.

Before joining EPA, Elston served in the New York State government as Deputy Director for the Division of the Budget and First Deputy Commissioner of the Department of Environmental Conservation. He was also Assistant Commissioner of Environmental Health Services (his rat control program is now a familiar textbook success) and for Employment in New York City. He began his career as Mayor Lindsay's environmental budget specialist.

Elston received his undergraduate degree in civil engineering from Merrimack College and his MBA from Harvard Business School.

**Roy N. Gamse**

*Deputy Assistant Administrator for Planning and Evaluation.*



Gamse is responsible for the Agency's standards and regulation development process, its statistics, its regulatory reform program, its analysis of economic impact, its energy policy analysis, its program evaluations and guidance, and its long-run planning.

Previously, Gamse was Director of the Economic Analysis Division. Before coming to EPA he was a systems analyst with the MITRE Corporation. He received his undergraduate training at the Massachusetts Institute of Technology and his MBA at Harvard Business School.

**Bill Carter**

*Associate Assistant Administrator for Planning and Management.*



Carter shares Bill Drayton's responsibility for the Agency's planning and management, including policy development, priority-setting, provision of common services, and overall management design.

For the last year, Carter, as a Senior Project Manager for the Agency's Management Task Force, helped develop and implement its ambitious agenda of management reforms—from revising how regulations are developed to strengthening EPA's executive corps, from strengthening headquarters/regions/State ties to reviewing the Agency's computer services.

Before joining EPA, Carter was a management consultant, working on projects in the United States, Jordan and Indonesia. He holds his Master's and Ph.D. in international economics from the Fletcher School of Law and Diplomacy at Tufts University and his B.A. in history from Wesleyan University.

**John Robinson**

*Associate Assistant Administrator for Program Management and Policy.*



Robinson is assuming responsibility for the internal management of the Office of Planning and Management, as well as a variety of special projects both within and outside the Agency.

In his year with EPA, Robinson has managed several inter-agency projects, among them EPA's role in the Administration's Urban and Regional Policy Group and the Resource Conservation Committee.

Before coming to EPA Robinson was a program analyst at the Department of the Interior, a certified mountaineering instructor, the general manager of a small corporation, and then the successful founder and president of his own company. He is a graduate of Washington University and Harvard Business School.

**Saul R. Rosoff**

*Associate Assistant Administrator for Management Reform.*



Rosoff is responsible both for leading Agency-wide management reform and for managing a number of major reforms in the Agency's central services. He will soon be joined by a new Deputy Assistant Administrator for Management and Agency Services.

He joined EPA after more than 20 years of service with the Federal Government, primarily with the Department of Health, Education, and Welfare. Most recently, Rosoff was Deputy Commissioner and Acting Director for the Administration for Children, Youth and Families, where, among other things, he made Head Start and the Children's Bureau succeed.

Previously, Rosoff was Deputy Assistant Administrator for Management at the Health Services and Mental Health Administration at HEW and Executive Officer of the Bureau of Health Services.

Rosoff did his undergraduate work in government at the University of Connecticut and graduate work at Syracuse University and at the Woodrow Wilson School, Princeton.

## William Drayton, Jr.

Assistant Administrator  
for Planning and  
Management

Before coming to EPA, Drayton worked for six years as a management consultant with McKinsey & Company serving both public and private clients, including state and local environmental agencies. He also taught regulatory and management reform at the Kennedy School of Government at Harvard and law as a Visiting Professor at Stanford. Immediately before joining EPA, he served on the Carter-Mondale transition team, where he was primarily responsible for regulatory and management reform. Drayton managed the staff of the Connecticut Enforcement Project, developed and put in place the first economic civil penalties and prepared "Economic Law Enforcement," a six-volume report published by EPA in 1975. He authored articles in the Yale Law Journal including "The Public Trust in Tidal Areas" and "The Tar and Nicotine Tax: Pursuing Health Through Tax Incentives." He received his A.B. with highest honors, Phi Beta Kappa, from Harvard; his M.A. with First Class Honors from Oxford University; and his J.D. from Yale Law School, where he was on the Board of Editors of the Yale Law Journal and founded Yale Legislative Services. He was active in the early civil rights movement, has a deep interest in India and the lesser developed countries, and is an ardent backpacker.

## The Economy and Regulatory Reform

*Continued from page 12*

### What is the difference between the emission offset approach and the bubble technique?

Logically, it's the same concept and ultimately I think the two will merge. But at the moment they are two different regulatory schemes. The emission offset involves tradeoffs with other plants and with other sources in the same area. A Volkswagen plant moved into Pennsylvania and we had the State changing its type of road asphalt to offset the new plant's emissions. As we're now thinking of the bubble, the tradeoffs are just within the particular plant.

**You're talking about some departures toward more effective regulation. Would you say that it's just the beginning or is it a new direction that's well underway?**

It's very much underway. We have some 40 significant regulatory reform projects underway in one or another part of the Agency. That in turn builds on the very innovative history of the Agency. For instance, the offsets were developed in 1976. That was really a major innovation. It got us out of the situation of demanding that local growth stop. It got us out of the false conflict between local growth and environmental cleanup.

We now have the emission offset as part of the Clean Air Act and EPA is implementing it as the first of the control trading devices. This experience is making it easier to move to the bubble concept for single plants and to develop marketable rights.

In fact, I think one of the most attractive aspects of working with EPA is that it has an enormous number of people who are willing to be innovative. They're problem solvers. And it doesn't come from just one part of the Agency. It comes from the regions, the States, and the labs as well as from headquarters. For instance, Region 9 was one of the earlier innovators in this whole area of developing offsets and marketable rights.\*

Regulatory reform is essentially a problem-solving process. The Agency's very good at that. We're pushing the frontiers of regulatory technique because the problems we're dealing with are very new and rather complex. We're also at a stage in the Agency's history where we have enough experience with the first approach we took in a lot of programs. Now it's logical to step back and ask some questions about whether the first way we tried to solve a particular regulatory problem is the best way and whether there may be a better way.

We've also had experience with a range of different approaches in different parts of our program. We can step back to consider how the permit approach for the water program worked and whether it could have application in the air.

*\* Editor's Note: Marketable rights is being studied as an alternative way of regulating fluorocarbon emissions from non-aerosol sources. Under this proposal, EPA would allocate (possibly by auction) the permits for production or use of fluorocarbons. Manufacturers or users with permits could then in turn trade or sell them. Thus the market would decide which fluorocarbon uses should continue and which should end.*

A lot of that depends on how skillful we are at designing the rules and incentives. The greatest risk associated with these new techniques is that of our carelessly allowing loopholes. We have to design our innovations against the worst case. We have to do that with any regulatory system. The greatest risk of shifting to a new system is our not working it through carefully enough to find in advance where all the possible loopholes are.

Such dangers are the reason we need the intensive internal discussions we've been having, and why we have to work carefully with a number of test cases so we make sure the reform does not allow new rounds of litigation to hold up the process. I think we've found ways to avoid such pitfalls. But that is clearly our biggest single design problem. Once we are confident we have solved all our potential administrative and enforcement weaknesses, I believe the incentive approach is likely to lead to quicker cleanup.

Under the framework we're thinking of, we would have to approve any alternative scheme that regulatees might propose. They would not realize any cost savings until we have approved their approach. That reverses the usual arrangement in which every delay works in the regulated person's favor, not the Agency's. They would have to continue under the old arrangements until we approve the new, more efficient method. So they would have an incentive to cooperate to gain the savings benefits the new approach makes possible.

The risks are there. Any time you change a complex system there will be some mistakes and you have to make a judgment of whether it's worthwhile.

*Continued on page 40*

# Fact Sheet

This information was supplied by EPA's Office of Planning and Management



From 1970 to 1977, total smoke and dust were reduced by 12 percent.

Nationally from 1970 to 1977 sulfur dioxide was reduced by 30 percent.

From coast to coast, some rivers that were contaminated, even flammable, are now open to fishing and swimming.

More than 80 percent of 31,000 major air and water pollution sources now comply with the Clean Air and Clean Water Acts.

At the same time that pollution cleanup has been progressing, the economy has continued to grow. The GNP increased 18 percent from 1970 to 1976.

There is a price for pollution reduction. But in terms of the entire economy it is small.

EPA regulations add about 0.3 to 0.4 percent annually to the inflation rate.

Pollution control investments amounted to \$6.9 billion in 1977 and accounted for 5.1 percent of industrial plant and equipment investment.

Gross National Product is approximately the same now as it would have been without pollution control.

The net effect on employment is close to zero. The environmental program causes some plant closings and reductions in demand. But it also creates employment in the construction, manufacture, and operation of pollution control facilities.

Total U.S. annual expenditures for pollution control were estimated at \$34.3 billion in 1976.

Air Pollution Control	\$12.1 billion
Water Pollution Control (Municipal)	\$10.3 billion
Water Pollution Control (Industrial)	\$ 4.8 billion
Solid Waste, Radiation, Noise and Toxic Substances	\$ 7.1 billion
	<u>\$34.3 billion</u>

Pollution control expenditures as a result of Federal legislation were \$15.0 billion in 1976.

Air Pollution Control	\$ 9.4 billion
Water Pollution Control (Municipal)	\$ 1.5 billion
Water Pollution Control (Industrial)	\$ 3.3 billion
Solid Waste, Radiation, Noise and Toxic Substances	\$ 0.8 billion
	<u>\$15.0 billion</u>

In comparison, the Nation spent \$16.2 billion in 1976 for tobacco.\*

The environmental cleanup program has significant economic benefits.

EPA's program to construct wastewater treatment facilities totals \$24.5 billion authorized by Congress for the next five years. Each billion dollars spent for construction produces 15,000 workyears on the construction site and 19,500 offsite. (A workyear is the equivalent of one person working one year.)

Firms making equipment used to clean up air and water pollution had sales of \$1.8 billion in 1977 and are growing about twice as fast as the rest of U.S. industry.\*\*

If an industry is having trouble meeting environmental requirements, aid is available. Nine Federal agencies have assistance ranging from loans to tax breaks. Many States also have similar programs.\*\*\*

Public support for the environmental program is strong. A 1978 survey for Resources for the Future showed that 62 percent of the public was willing to accept higher prices to protect the environment while 18 percent was opposed.

\*The figure on tobacco is from personal consumption spending estimates by the U.S. Department of Commerce.

\*\*These figures are from a new study done for EPA by Arthur D. Little, Inc.

\*\*\*See "Cleanup Impact Aid" on page 22.



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# The Love Canal Tragedy

Quite simply, Love Canal is one of the most appalling environmental tragedies in American history.

But that's not the most disturbing fact.

What is worse is that it cannot be regarded as an isolated event. It could happen again—anywhere in this country—unless we move expeditiously to prevent it.

It is a cruel irony that Love Canal was originally meant to be a dream community. That vision belonged to the man for whom the three-block tract of land on the eastern edge of Niagara Falls, New York, was named—William T. Love.

Love felt that by digging a short canal between the upper and lower Niagara Rivers, power could be generated cheaply to fuel the industry and homes of his would-be model city.

But despite considerable backing, Love's project was unable to endure the one-two punch of fluctuations in the economy and Louis Tesla's discovery of how to economically transmit electricity over great distances by means of an alternating current.

By 1910, the dream was shattered. All that was left to commemorate Love's hope was a partial ditch where construction of the canal had begun.

In the 1920's the seeds of a genuine nightmare were planted. The canal was turned into a municipal and industrial chemical dumpsite.

Landfills can of course be an environmentally acceptable method of hazardous waste disposal, assuming they are properly sited, managed, and regulated. Love Canal will always remain a perfect historical example of how not to run such an operation.

In 1953, the Hooker Chemical Company, then the owners and operators of the property, covered the canal with earth and sold it to the city for one dollar.

It was a bad buy.

In the late 50's, about 100 homes and a school were built at the site. Perhaps it wasn't William T. Love's model city, but it was a solid, working-class community. For a while.

*Beck is Administrator of EPA Region 2.*

By Eckardt C. Beck

If you get there before I do  
Tell em I m a comin too  
To see the things so wondrous true  
At Love s new Model City

*From a turn-of-the-century advertising jingle promoting the development of Love Canal.*

Give Me Liberty. I've Already Got Death.

*From a sign displayed by a Love Canal resident, 1978.*

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On the first day of August, 1978, the lead paragraph of a front-page story in the New York Times read:

*NIAGARA FALLS, N.Y.—Twenty-five years after the Hooker Chemical Company stopped using the Love Canal here as an industrial dump, 82 different compounds, 11 of them suspected carcinogens, have been percolating upward through the soil, their drum containers rotting and leaching their contents into the backyards and basements of 100 homes and a public school built on the banks of the canal.*

In an article prepared for the February, 1978, EPA Journal, I wrote, regarding chemical dumpsites in general, that "even though some of these landfills have been closed down, they may stand like ticking time bombs." Just months later, Love Canal exploded.

The explosion was triggered by a record amount of rainfall. Shortly thereafter, the leaching began.

I visited the canal area at that time. Corroding waste-disposal drums could be seen breaking up through the grounds of backyards. Trees and gardens were turning black and dying. One entire swimming pool had been popped up from its foundation, afloat now on a small sea of chemicals. Puddles of noxious substances were pointed out to me by the residents. Some of these puddles were in their yards, some were in their basements, others yet were on the school grounds. Everywhere the air had a faint, choking smell. Children returned

from play with burns on their hands and faces.

And then there were the birth defects. The New York State Health Department is continuing an investigation into a disturbingly high rate of miscarriages, along with five birth-defect cases detected thus far in the area.

I recall talking with the father of one of the children with birth defects. "I heard someone from the press saying that there were *only* five cases of birth defects discovered here," he told me. "When you go back to your people at EPA, please don't use the phrase '*only* five cases.' People must realize that this is a tiny community. Five birth defect cases here is terrifying."

A large percentage of people in Love Canal are also being closely observed because of detected high white-blood-cell counts, a possible precursor of leukemia.

When the citizens of Love Canal were finally evacuated from their homes and their neighborhood, pregnant women and infants were deliberately among the first to be taken out.

"We knew they put chemicals into the canal and filled it over," said one woman, a long-time resident of the Canal area, "but we had no idea the chemicals would invade our homes. We're worried sick about the grandchildren and their children."

Two of this woman's four grandchildren have birth defects. The children were born and raised in the Love Canal community. A granddaughter was born deaf with a cleft palate, an extra row of teeth, and slight retardation. A grandson was born with an eye defect.

Of the chemicals which comprise the brew seeping through the ground and into homes at Love Canal, one of the most prevalent is benzene—a known human carcinogen, and one detected in high concentrations. But the residents characterize things more simply.

"I've got this slop everywhere," said another man who lives at Love Canal. His daughter also suffers from a congenital defect.

On August 7, New York Governor Hugh Carey announced to the residents of the Canal that the State Government would purchase the homes affected by chemicals.

On that same day, President Carter approved emergency financial aid for the Love Canal area (the first emergency funds ever to be approved for something other than a "natural" disaster), and the U.S. Senate approved a "sense of Congress" amendment saying that Federal aid should be forthcoming to relieve the serious environmental disaster which had occurred.

By the month's end, 98 families had already been evacuated. Another 46 had found temporary housing. Soon after, all families would be gone from the most contaminated areas—a total of 221 families have moved or agreed to be moved.

State figures show more than 200 purchase offers for homes have been made, totalling nearly \$7 million.

A plan is being set in motion now to implement technical procedures designed to meet the seemingly impossible job of detoxifying the Canal area. The plan calls for a trench system to drain chemicals from the Canal. It is a difficult procedure, and we are keeping our fingers crossed that it will yield some degree of success.

I have been very pleased with the high degree of cooperation in this case among local, State, and Federal governments, and with the swiftness by which the Congress and the President have acted to make funds available.

But this is not really where the story ends.

Quite the contrary.

We suspect that there are hundreds of such chemical dumpsites across this Nation.

Unlike Love Canal, few are situated so close to human settlements. But without a doubt, many of these old dumpsites are time bombs with burning fuses—their contents slowly leaching out. And the next victim could be a water supply, or a sensitive wetland.

The presence of various types of toxic substances in our environment has become increasingly widespread—a fact that President Carter has called "one of the grimmest discoveries of the modern era."

Chemical sales in the United States now exceed a mind-boggling \$112 billion per year, with as many as 70,000 chemical substances in commerce.

Love Canal can now be added to a growing list of environmental disasters involving toxics, ranging from industrial workers stricken by nervous disorders and cancers to the discovery of toxic materials in the milk of nursing mothers.

Through the national environmental program it administers, the Environmental Protection Agency is attempting to draw a chain of Congressional acts around the toxics problem.



The Clean Air and Water Acts, the Safe Drinking Water Act, the Pesticide Act, the Resource Conservation and Recovery Act, the Toxic Substances Control Act—each is an essential link.

Under the Resource Conservation and Recovery Act, EPA is making grants available to States to help them establish programs to assure the safe handling and disposal of hazardous wastes. As guidance for such programs, we are working to make sure that State inventories of industrial waste disposal sites include full assessments of any potential dangers created by these sites.

Also, EPA recently proposed a system to ensure that the more than 35 million tons of hazardous wastes produced in the U.S. each year, including most chemical wastes, are disposed of safely. Hazardous wastes will be controlled from point of generation to their ultimate disposal, and dangerous practices now resulting in serious threats to health and environment will not be allowed.

Although we are taking these aggressive

strides to make sure that hazardous waste is safely managed, there remains the question of liability regarding accidents occurring from wastes disposed of previously. This is a missing link. But no doubt this question will be addressed effectively in the future.

Regarding the missing link of liability, if health-related dangers are detected, what are we as a people willing to spend to correct the situation? How much risk are we willing to accept? Who's going to pick up the tab?

One of the chief problems we are up against is that ownership of these sites frequently shifts over the years, making liability difficult to determine in case of an accident. And no secure mechanisms are now in effect for determining such liability.

It is within our power to exercise intelligent and effective controls designed to significantly cut such environmental risks. A tragedy, unfortunately, has now called upon us to decide on the overall level of commitment we desire for defusing future Love Canals. And it is not forgotten that no one has paid more dearly already than the residents of Love Canal. □



*(Clockwise from left.) Children who live near Love Canal are no less concerned than their parents about the situation.*

*Sign posted by residents of the Love Canal neighborhood.*

*A Love Canal resident looks at contaminated water dipped from a sump system in the basement of her home.*

*This aerial view shows the land-fill area surrounded by homes.*





# Cleanliness Pays

by Richard Hoard

**P**ollution cleanup—once seen by most of industry as a financial albatross—is looking more and more like a good investment for the dollar.

Until recently, it might have seemed impossible to persuade businessmen that pollution cleanup can actually be a cost reduction tool. But new developments in pollution control technology make the job easier each day.

For example:

- An \$8 million water treatment system installed by Great Lakes Paper Company reduced overall plant operating costs by \$4 million a year.

- A refuse plant on Boston's North Shore burns 438,000 tons of garbage a year to provide steam equal in energy value to 27 million gallons of fuel oil to local industry.

- Low excess air burners installed at a Florida Power Corporation generating plant to reduce particulate emissions not only comply with clean air standards but save the company 4,000 barrels of oil a year.

- Solid waste incinerators at the Dubuque, Iowa, works of Deere & Co. burn waste material to generate steam heat for the factory, saving about \$1,175 per day in waste disposal and fuel costs.

- The 3M Company in Minneapolis has developed a wide range of improvements that eliminate the production of pollutants during the manufacturing process. In the first year and a half, 3M cut out the equivalent of 73,000 tons of air pollutants and 500 million gallons of polluted wastewater annually and saved approximately \$11 million in actual or deferred costs.

Pollution control is growing into a big and profitable business. And as the above examples show, the profits go not only to the companies that manufacture and sell control technologies but also, in a growing number of cases, to those who use them.

*Richard Hoard is chairman of the Environmental Industry Council, an organization of companies making pollution cleanup equipment. He is also vice president of Ecodyne, one of these companies.*

*Refuse pit at Boston North Shore steam facility.*

## Profit From Recovered Waste

Recovery of materials formerly lost in the waste stream is one of the most promising and potentially most profitable side effects of pollution control. Such valuable industrial chemicals as sulfur, mercury, ammonia and aromatics extracted from waste streams in large amounts and sold as raw materials to companies in the petrochemical and fertilizer business could work major changes in the economics and geography of those industries.

Milton Godfrey, president of the Economic Scope Group, an economic modelling firm, emphasized this point at a recent meeting of the Synthetic Organic Chemical Manufacturers. He said, "new processes, better economics, and broad geographic distribution, all resulting directly from pollution abatement, should support the next major phase in the development of the chemical industry."

Such processes are already on line in the glass industry. In an effort to cut back particulate emissions by the 52 percent required by the EPA, for instance, Glass Containers Corporation, a Connecticut bottle manufacturer, discovered that the use of recycled glass in the bottle-making process significantly reduced air emissions. The glass, the company found, loses most of its pollution-causing impurities when originally refined from the raw materials.

Ignoring standard glass-making rules, the company increased the recycled glass, or cullet, content in its product from the supposed possible maximum of 15-20 percent to a daring 50 percent. Emissions fell to within EPA requirements with no loss in glass quality. The company also found cullet easier to melt than raw material, reducing energy use 10-15 percent and putting production and employment at an all-time high. Said plant manager Ed Sleasman, "If EPA hadn't put the squeeze on us, none of this would have happened."

## Greater Efficiency

While commercially salable products, whether chemicals, minerals, or energy, are the most obvious money-makers resulting from pollution control measures, a less noticeable but equally valuable commodity

is the increased efficiency and productivity that often results when a company has to adjust its production methods to meet mandated emission restrictions.

ALCOA, for example, developed several variations of a fluidized bed technology to reduce fluoride and tar emissions from refining and smelting operations and ended up cutting energy requirements in two processes by 30 percent. The new technology also reduced water consumption by millions of gallons daily and decreased the amount of fluoride used by 50 percent.

## Increasing Evidence

Other instances could be cited to illustrate the growing trend of turning what once were costly waste disposal burdens into profit, but there are at present few statistics available on the extent of the overall commercial and technological benefits of pollution controls.

The report of a recent literature search conducted by the National Science Foundation concluded that "almost no work has appeared . . . which has attempted to measure or even to model in a rigorous way the impacts of environmental regulation on technological innovation." But a related National Science Foundation study in five foreign countries found that environmental regulations in each nation had stimulated innovation among certain large industries previously slow to act.

Despite the lack of detailed statistics in the United States however, evidence is showing that anti-pollution regulations bring substantial positive effects here as well. In addition to the examples already listed, many companies who enter the National Environmental Award competition have demonstrated that their environmental protection efforts have led to more efficient processes, less waste, and ultimately lower operating costs. The competition is co-sponsored each winter by the Environmental Industry Council and the Council on Environmental Quality.

Furthermore, the overall productivity of whole industries "should actually improve as high-cost marginal producers modernize

*continued on inside back cover*



# Cleanup Impact Aid

By Edwin H. Clark, II

**A**s EPA analyses show, the total economic impact of pollution cleanup is not severe. But in a particular location, plant shutdowns can seriously affect the company, workers, and the community.

Most threatened plants are the older, marginal facilities in an industry. If these plants are clustered in certain communities, the local impact of closings can be particularly severe.

EPA tries to keep track of plant closings through its "Early Warning System." These surveys, as well as those done yearly by the Bureau of Economic Analysis in the U.S. Department of Commerce, indicate that there haven't been large numbers of shutdowns.

But pollution control agencies at both the Federal and State level have consistently been concerned about the impacts of plant closings. A series of assistance programs has been implemented to help avoid these impacts. Also, State and Federal agencies have often spent substantial effort in trying to reach an appropriate balance between pollution abatement and economic costs.

The assistance programs at the Federal level have been under review by an inter-agency task force established by the Council on Environmental Quality. The aim of the task force is to determine whether the effort could be made more effective and to identify any gaps in aid.

In an interim report, the task force concluded that the existing programs appear reasonably adequate regarding the type of assistance they offer. It found that relatively minor changes could substantially improve the delivery of this aid.

Many of the recommendations of the task force are being implemented, and the

*Dr. Clark is a special assistant to the EPA Administrator and in his previous position at the Council on Environmental Quality was Chairman of the Interagency Task Force on Improving Assistance Programs to Mitigate Economic Impacts of Environmental Programs.*

group is continuing its efforts to identify possible additional improvements.

Here is a status report on the Federal assistance programs.

## Where the Help Is

The various assistance programs are in several different agencies. Some of the programs focus on impacts resulting from pollution control efforts; some were established to deal with impacts related to a much broader range of government programs; and some have been created to provide general assistance to needy firms, communities, or workers. The most important of these programs are described in a new manual entitled "Federal Financial Assistance for Pollution Prevention and Control" (see box).

## Help for Private Businesses

Several programs provide financial help for private businesses that could not otherwise afford to pay for pollution abatement equipment. In dollar terms the biggest program is the industrial revenue bond program which allows firms to sell tax-free bonds to finance pollution control investments through a municipality or other public body. Because there is no income tax on the interest paid on these bonds, they can be sold at lower interest rates than normal commercial bonds.

However, most of the over \$3 billion in tax-exempt pollution control financing goes to the Nation's largest and most credit-worthy companies. Smaller firms have difficulty selling bonds in the municipal bond market. In an attempt to correct this problem, Congress gave the Small Business Administration (SBA) authority to guarantee industrial revenue bonds issued by small businesses. The SBA expects to have established such guarantee programs in half the States soon.

Several other efforts have been set up specifically to help small businesses. The Small Business Administration has special programs which will provide loans or loan guarantees for meeting pollution control equipment requirements. EPA has to verify that the equipment is necessary in order to comply with Federal law

The Farmers Home Administration in the U.S. Department of Agriculture has similar programs directed at farm industries and rural industries in general. The Economic Development Administration in the Commerce Department also has a loan program which is available to firms in economically depressed areas that are too large to benefit from small business aid programs.

EPA's grant program for publicly owned wastewater treatment works also helps businesses in that, although private firms have to repay their portion of facility construction costs, the repayment terms are equivalent to the firm's receiving a 30-year, interest-free loan.

Finally, the U.S. Tax Code and many State tax codes provide tax breaks to firms investing in pollution control equipment. These tax breaks take the form of accelerated depreciation, tax credits, and exemption from property taxes. These tax breaks can be claimed by any firm, but are only helpful, of course, to those making enough profit to be able to benefit.

## Help for Farmers

The Agriculture Department also has several programs to help farmers control pollution. The most widely used are the programs administered by the Agricultural Stabilization and Conservation Service. These provide cost-sharing to help support the construction of erosion control investments, settlement ponds, waste disposal pits, and structures to prevent pollution runoff from animal feed lots.

These programs have assisted in the construction of tens of thousands of such projects. Meanwhile, in their pollution clean-up aid programs, the Farmers Home Administration, and more recently the Small Business Administration, are also authorized to provide loans to farmers.

## Help for Communities

Communities can receive planning assistance from a number of different agencies. For instance, there are several programs available to support general community

development planning. Also, EPA, the Department of Transportation, the Department of Housing and Urban Development, and the Economic Development Administration have signed interagency agreements to support coordinated environmental planning.

Once a plan is finished, several different agencies can help support the construction of roads, sewers, and other public facilities included in the plan. The Economic Development Administration and the Farmers Home Administration also have programs which more generally support the implementation of such plans.

The Economic Development Administration's Title IX program is especially flexible. It can provide grants to communities to carry out almost any project in an approved plan, including loans to private firms to help them abate pollution or improve their production capacity.

### Help for Workers

Usually, the best help for workers is to keep their employer from having to close. Ultimately, all the programs listed above are programs to help workers. The only specific legislative provisions which directly refer to workers affected by pollution control laws are those in the Clean Water Act and the Clean Air Act which protect employees from being dismissed because they assist in the enforcement of these laws. The 1977 Amendments to the Clean Air Act require the Department of Labor to study possible worker assistance programs, but this study has not yet been completed. At present, workers whose job loss is related to pollution control requirements have no more access to unemployment, retraining, and other such benefits than any other unemployed worker.

### Other Types of Help

Most States have assistance programs that are similar to or complement the efforts described above. There are also some non-economic forms of assistance which can be important. One of these is technical aid. Especially for smaller firms that cannot afford to pay for initial consulting studies,

the correct information on what sort of equipment they need can be very useful. EPA provides technical assistance through the Technology Transfer Office in the Office of Research and Development.

Another major source of such assistance for business can be trade associations. The Department of Agriculture, of course, has a very active program to provide technical assistance to farmers and farm businesses.

### Steps Toward Improvement

The programs described above seem generally adequate to deal with the problems of economic impacts caused by pollution control programs. However, they have not been widely used. One apparent reason for this is that their existence is not widely known. Therefore, EPA and the Council on Environmental Quality prepared a pamphlet describing these programs and informing people where to go to get help. Copies of this brochure are being sent to every EPA waste discharge permit holder.

There also seems to be insufficient knowledge about these programs within the concerned agencies. As a first step to correct this, EPA has designated one person in each regional office as the Financial Assistance Coordinator who is responsible for having detailed information on all these programs and for assisting applicants to get the help they need. The Economic Analysis Division in EPA headquarters coordinates the Agency's involvement with these programs and can assist the regional offices. EPA, with the strong support of the interagency task force, hopes to be able to expand these efforts.

These changes should improve the effectiveness of the programs significantly, but two caveats should be kept in mind:

- The first is that most of the assistance programs, particularly those which apply to private firms, are designed to provide aid in limited types of situations. Their purpose is not to provide a general subsidy for environmental improvements. They are not designed to help the firm that is secure and is able to finance its investment out of its own retained earnings or to obtain a commercial loan. Neither are they designed to prop up a firm that is likely to fail regardless of the

environmental requirements. Their purpose is to assist those firms that cannot finance the required expenditures by normal means, but that have a good prospect for making it if they are given a little help.

- The second is that the funds available through these economic assistance programs are limited. Some qualified applicants may not be able to get immediate assistance because the available funds are exhausted. The government is committed to providing assistance to the extent it is needed, but the programs like all others face budget limitations. □

## Federal Assistance Manual

A manual describing the various forms of Federal assistance available to small businesses, non-profit organizations, public groups, communities, and organizations for acquiring pollution control equipment is scheduled for publication this spring.

The manual is being co-sponsored by EPA and the Council on Environmental Quality's Interagency Task Force on Improving Assistance Programs to Mitigate the Economic Impacts of Environmental Programs. Entitled "Federal Financial Assistance for Pollution Prevention and Control," the publication describes loans and grants, interest subsidies and tax breaks the government will provide qualified businesses, organizations and public bodies required by law to install anti-pollution equipment.

Included in the manual are programs operated by EPA, the Small Business, Economic Development, Farmers Home, and National Oceanic and Atmospheric Administrations and the U.S. Departments of Agriculture and Housing and Urban Development.

EPA will issue an announcement when this publication is available for public distribution and copies may be obtained by contacting EPA's Washington headquarters or Regional Offices. Advance copies can be obtained by writing Sheldon Sacks (WH586), Environmental Protection Agency, Washington, D.C. 20460.



## The Nature Outlook

Even though Nature is an aging producer it is expected to provide an impressive and essential array of goods again for the world in 1979.

It is a puzzling fact that the generally good quality of the air and water most of us will receive during the new year will be perhaps the most precious assets we have but rarely do we consciously appreciate them.

Yet obviously all cash, stocks, bonds and other property would be worthless without the free gifts of Nature.

It was because Nature's treasures were held cheaply far too long that we allowed them to become so soiled with pollution. Fortunately, there is a growing appreciation that every individual should count among

his assets the quality of his environment.

An EPA-funded study found that smog hurt real estate values in some areas of Los Angeles. And in relatively undeveloped areas of the American West, a recent study discovered, residents were willing to pay substantial sums to avoid pollution interference with mountain views.

But many of Nature's gifts go unappreciated.

What's the value of seeing a flaming red cardinal perched on a snow-dusted spruce tree?

What would you pay to see a flight of ducks flying low under a glowering purple sky on their way south?

What would it cost to get a fragrance as sweet as that proffered by the blossoms of a milkweed plant?

What's the worth of a tulip poplar bud with its leaves for the new year folded inside with the precision of jeweled clockwork?

Would you bid on a sparkling puddle reflecting a rain-drenched forest around it?

How much for the tremulous sound of an owl calling on a winter night? For the deep silence after a snow fall?

The value of rivers alone is incalculable. Most cities have a river or lake free for the looking, but how many people eat lunch beside these waters?

Even though a river is within walking distance of many downtown workers, most even on a sunny day will eat inside their building or take a taxi to a stuffy and crowded restaurant with no view.

Although the Potomac is still polluted, it offers spectacular vistas as it sweeps through the Capital. Even in winter on many days in Washington it is possible to sit on a park bench and enjoy a river which still retains some of the splendor of its stretches above the city limits.

Sea gulls provide free entertainment almost daily. They perform aerial acrobatics as they skim over the water. When one catches a fish a noisy quarrel begins over which bird should really have the right to devour it.

As breezes roil the water, boats dip up and down at their slips like aquatic rocking horses. You can hear the soft slap of waves hitting a bulkhead.

What does the waterfront in your city have to offer? Is it being properly protected? It's

your river. No one has a right to foul it any more than they would to throw their garbage in your backyard.

What can you do about abuses? Begin by asking your local officials. The one axiom that will always be true is that "This too shall change." Running a close second in the eternal truth sweepstakes is the saying that "the squeaking wheel gets the oil." It will be even more true if you have the wisdom to lodge your initial complaints in a reasonable and courteous manner.

After all it's your river and your air. Isn't this the year to make sure your share of this public property is properly protected? How long are you going to put up with the pollution by people who know the price of everything and the value of nothing?—C. D. P.

# The Public's View

By Robert Mitchell  
and Kathryn Utrup

The dragons of taxes, inflation and unnecessary government spending must be slain, but not at the expense of environmental quality. This is a major finding of a comprehensive national telephone poll on environmental protection conducted for Resources for the Future, a non-profit Washington research institution.

The survey interviewed more than one thousand randomly-selected persons by telephone during July, 1978, while inflation rates scored double-digit figures and shortly after the overwhelming passage of California's tax initiative, Proposition 13.

Several of the survey questions addressed environmental protection versus cost tradeoffs. Others tapped the individuals' concern about inflation, taxes, unemployment, and the quality of life. Many questions were repeated from previous national polls in order to analyze trends in environmental support.

The results of the survey refute the widespread assumption that public support for environmental programs will automatically weaken in the face of competing pocket-book issues. True, some 64 percent of those polled feel that inflation is a "very serious" problem, and an additional 30 percent proclaim it to be "serious." Furthermore, 7 out of 10 declare that taxes in this country are "unreasonable"—a result which concurs with the findings of a contemporary Harris poll.

Nevertheless, responses to a variety of tradeoff questions as well as a look at the trends reveal that allegiance to environmental quality holds firm in 1978 despite these pressing economic concerns.

Asked whether they think that "now it is more important to pay higher prices to protect the environment, or to pay lower prices but have more air and water pollution," the public chose to pay higher prices by a 3 to 1 margin in the Resources for the Future poll.

*Mitchell is a Senior Research Associate and Utrup is a Research Associate at Resources for the Future, a group studying resources and environmental quality.*

As shown in Table 1, this level of support is virtually unchanged from the answers to the same question when it was asked by the Opinion Research Corporation in 1975 and 1977. In all three years, 60 percent or more of a national sample chose the "higher prices" option.

The depth of the public's commitment to continued environmental protection is further illustrated by their responses to a lengthy tradeoff question. Those being polled for Resources for the Future were asked which of the following three options came closest to their opinion:

- 1) Protecting the environment is *so important* that requirements cannot be too high and continuing improvements must be made *regardless* of cost.
- 2) We have made enough progress on cleaning up the environment that we should now concentrate on *holding down costs* rather than requiring stricter controls.
- 3) Pollution control requirements and standards have gone *too far*: it already costs more than it is worth.

The majority (53 percent) chose the very strongly worded pro-environmental option favoring environmental progress "regardless of cost." Roughly a third (31 percent) felt that we should concentrate on "holding down costs." Only a small minority (10 percent) agreed that "it already costs more than it is worth."

When the same question was used by the Opinion Research Corporation in January, 1977, it yielded the very similar results of 55-20-19 percent in the three categories respectively. Rather than revealing any environmental backlash, the direction of change from 1977 to 1978 is from the "costs more than it is worth" category towards the more moderate position of "holding down costs."

Further analysis of the 1978 Resources for the Future poll found that 52 percent of those who felt that taxes are "very unreasonable" still believed that environmental improvements must be made regardless of cost. This public view suggests that the tax revolt has not undermined support for environmental quality.

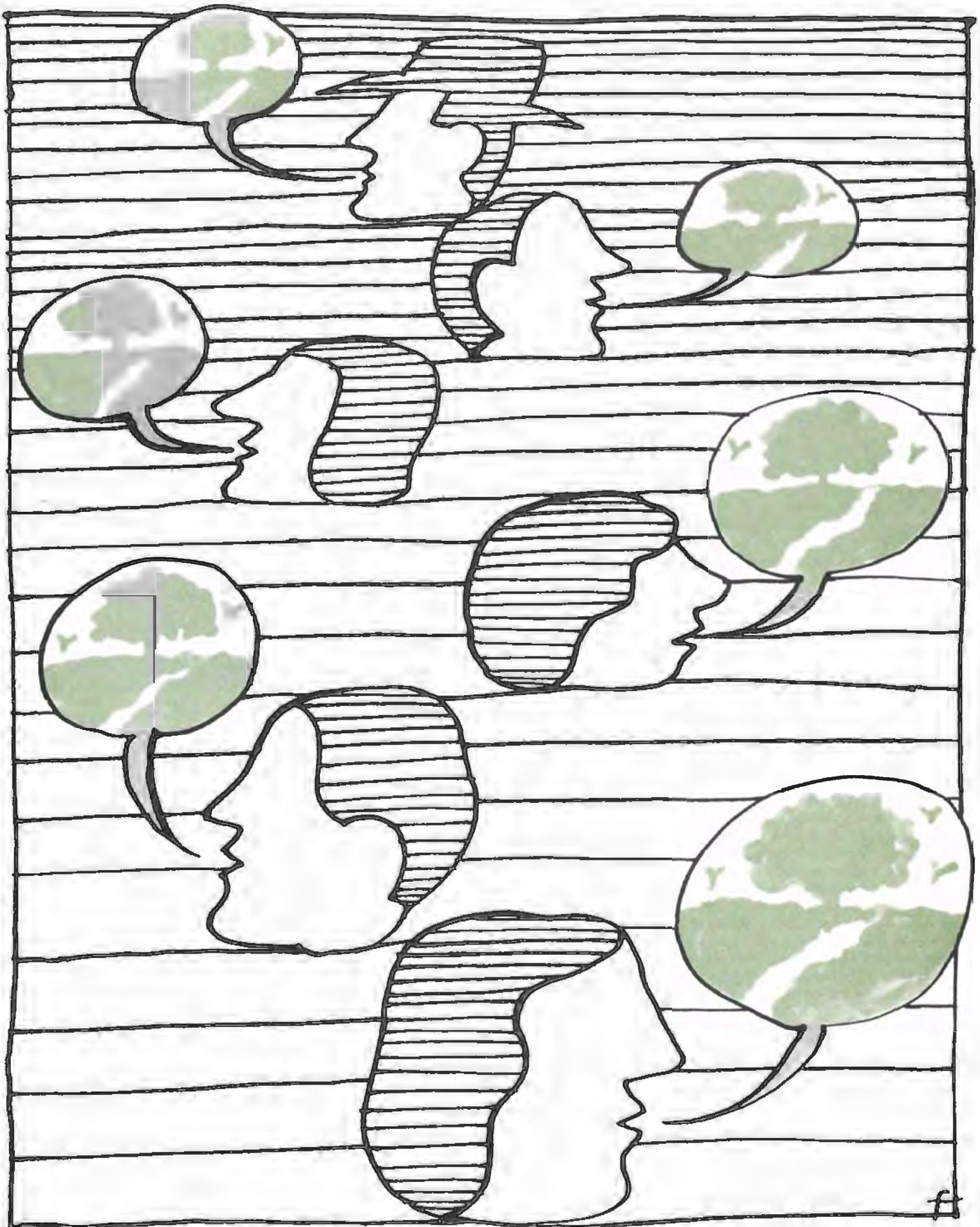
Another sign of the public's long-held economic commitment to achieving environmental goals is the environment's firm position as one of the top five domestic programs that the public is willing to *increase* spending on. Each year since 1973, the University of Chicago's National Opinion Research Center has asked a large national sample whether they think "we're spending too much money, too little money, or about the right amount" on a set of eleven national programs, including programs for "improving and protecting the environment."

The trend traced by the answers from 1973 to 1977 shows a gradual decline in the percent who feel we're spending "too little" money on environmental protection—from a high of 61 percent in 1973 to the lower but still substantial level of 47 percent in 1977. Concurrently, there has been a gradual increase in the number who consider the spending level to be "about right"—26 percent rising to 34 percent. At no point during this five year period did the percent who said that we are spending "too much" rise above 11 percent.

The most recent National Opinion Research Center poll, taken in the spring of 1978, actually shows a 5 percent increase in support of more environmental spending, the largest increase of any of the eleven programs reviewed. In this latest survey, fifty-two percent said we are spending "too little," 33 percent said "about right," and 10 percent said "too much" to improve and protect the environment.

Not only has the public's support for environmental protection held firm, it is far more broad based than many people realize. The recent Resources for the Future study confirms the findings of other studies which show that environmental concern is not unique to the white middle class. The analysis of the answers to the tradeoff questions shows that blacks and members of union families are as high or higher in their support of the environment than are whites and members of non-union families.

Also, in almost every case, support for the environmental side of the tradeoff did



*Another cost vs. pollution trade-off question from a national Cambridge Reports Inc., survey conducted in July 1978, at the same time as the survey for RFF, found the public clearly favored paying the price for pollution free electric power plants by a margin of 57 percent to 25 percent*



not vary to any significant degree when the person's sex, level of family income, concern about inflation, or feelings about taxes were taken into account. Only age shows large differences, with those over 65 years of age indicating far less support for increasing environmental spending from its present levels than those who are younger than 35.

The finding that Americans strongly favor environmental protection despite its costs is not unique to the Resources for the Future poll. According to Lou Harris, the results of his polling on environmental-energy tradeoffs can be summarized by this message from the public to policy makers: "Don't you dare relax your all-out efforts to make certain that environmental hazards are kept to an absolute minimum." Likewise, the Opinion Research Corporation wrote in its Report to Management (February, 1977), "It would be foolish for anyone to conclude that the public is less than adamant about environmental quality."

Why does the public feel so strongly about this issue? Analysis of the Resources for the Future poll shows that it is not because the public is unaware of the advances that have been made in pollution control in recent years. When asked about the progress that "we as a Nation have made in reducing air and water pollution throughout the country," 72 percent of the sample said "some" or "a great deal."

The cause of the concern lies in the fact that despite clean-up progress, most people still regard environmental problems as serious. Moreover, only a small percentage of the public believes that environmental quality is likely to improve in the future.

In the Resources for the Future poll, approximately one person out of three rated air and water pollution as "very serious" problems, placing pollution at the same level as the energy shortage, and slightly above unemployment in the perceived seriousness of five major social problems evaluated (see Table 2).

Furthermore, two out of three persons interviewed disagreed with the statement that "environmental problems are not as serious as some people would have us believe." Looking ahead, only 30 percent believe that there will be an improvement in the quality of the environment 10 years from now as compared with today while the remainder think things will be the same (39 percent) or will get worse (31 percent).

Certainly, when asked by the pollsters to name "the most important problem" facing America today, environmental problems no longer leap to people's lips as they did around Earth Day in 1970. Today, inflation, unemployment and taxes dominate this list. As the data show, however, the public continues to be very concerned about environmental problems.

Instead of support fading away, as many had predicted, interest in environmental quality has matured to become an enduring public concern, much like education and health. Despite the citizenry's concern about the various economic problems facing the Nation, the poll data suggest that they will continue to resist tradeoffs which shortchange the environment, just as they have in the past.

Table 1

### Attitudes Towards Higher Prices vs. Pollution

	1975 (June)	1977 (Jan)	1978 (July)
Pay higher prices to protect the environment	60%	68%	62%
Pay lower prices and accept more pollution	21	16	18
Other	4	9	12
Don't know	15	7	9

Table 2

### Perceived Seriousness of Some Social Problems

	Very Serious	Serious	Not Serious	Don't Know
Inflation	64%	30%	3%	3%
Air pollution	32	46	18	4
Energy Shortage	29	48	19	5
Water pollution	29	46	20	6
Unemployment	26	41	27	6

*\*Total is they would total the n 100 survey due to rounding off.*

# Regulatory Savings

Inevitably, the Regulatory Council is going to find substantial cost savings in Federal regulations that could amount to billions of dollars over time, Douglas Costle has predicted.

The President appointed Costle as Chairman of the new Council that will monitor the economic effects of government regulation. Costle will continue as EPA Administrator.

At the first meeting of the Council, Costle said regulatory issues "are long term and require for their solution the best brain trust in this Administration. The Council represents that brain trust."

Costle said a draft of a calendar of governmental regulations should be available for review at a Council meeting in January this year. The first calendar is scheduled to be published in February. The calendar was requested by the President as a key information tool in measuring regulation's impact.

Costle proposed five subject areas for concentration by Council work groups. They are health and safety, finance and banking, economics, social justice, and resource development. The Chairman will form teams from various agencies to review staff work by subject area.

Council priorities for the near future, Costle said, would be finding a staff, holding a meeting with the President, and developing an agenda of cross-cutting issues.

At the first council meeting, all of the Cabinet agencies except State and Defense—which don't have regulatory programs—were represented.

Thirteen independent regulatory agencies also sent representatives.

The Council idea began to firm up when White House staff members asked regulatory department and agency heads to a meeting in October and invited them to develop a mechanism for improving Presidential relations to the regulation development process.

The department and agency heads recommended formation of the Regulatory Council. The President announced his creation of the Council in an October 24 speech and Administrator Costle was appointed Chairman on October 31.

Costle explained the Council's approach in recent remarks to an executive briefing sponsored by the Opinion Research Corporation.

"We are not in this just for the quicky changes, although there undoubtedly will be some," Costle said. "We are organizing to make improvements that will rationalize and streamline the entire body of Federal regulation for years to come."

In explaining such action, Costle first pointed out that "the need for regulation may have dwindled in some areas, but not in most. The social injustices of the workplace, the environment, the consumer market, and other areas still cry out for rectification. . . ."

"In the field of social regulation," he continued, "the last ten years have produced a sometimes inconsistent array of regulatory laws, agencies and rules. But I believe they were created in good faith, with sound judgment, and with popular support. . . ."

"The difference is that today the margin for error is smaller in conducting regulatory programs, and the explosion of scientific and cultural knowledge has often outpaced our ability to find solutions," Costle said.

"We now realize that the air and water we used for free in past decades actually had a cost, and quite a high one," he said. "We are now trying to pay in a few short years for damages incurred over centuries."

"Regulators are also trying to catch up with a medical science that may be only months or years old—especially in the area of cancer," Costle explained. "Just our ability to measure chemicals in the parts per million or billion range has produced a flurry of new regulatory concerns."

"My point is that whether we are trying to catch up with decades or days of social abuse, it is the right thing to do and we must continue," Costle said.

"But we must also realize," he emphasized, "that in the race to catch up there have been quick fixes, duplication, overlap, and unnecessary public costs that now must be eliminated. . . ."

"The President's Regulatory Council is committed to reducing these costs—whether they be in dollars, time, effort, or the strangling of opportunity," the Council Chairman said.

In a recent speech to the National Association of Manufacturers, Costle saw prevention as another key to cost-effective regulation.

"Most government regulation has its roots in private failure to act in the public interest," he told the manufacturers. "With a greater mutuality of effort towards prevention, we can not only be more cost effective in environmental protection, but we can avoid the necessity of proliferating regulation."

In previous remarks, Costle has pointed out that EPA is more and more trying to prevent environmental and health damages rather than deal with them after the fact. □

# How EPA Gets Its Money

By Charles S. Warren



For the current fiscal year, which started October 1, EPA's budget will be more than \$5.4 billion. The process by which the Agency received this sum is extraordinarily complex, involving interaction between Congress and the Executive Branch over a long period of time.

The Constitution gives Congress the power to approve money for the running of the government. All Agency funds must come from Congress in one way or another. However, prior to Congressional action, a long process of Agency and Executive Branch budgeting has taken place to determine how much the Agency will receive in the Presidential budget sent to Congress each January. In actual fact, over the years Congress did not change the President's budget to any significant extent.

But in the early 1970's Congress woke up to the fact that it had very little practical control over the national budget. Not only were its own Members undermining what should ordinarily have been an orderly budgetary process, but the Office of the President through the powerful Bureau of the Budget (now called the Office of Management and Budget) was dominating the process.

One heard bitter complaints from Members of Congress of both parties that appropriations were being considered in a piecemeal fashion. They decried the failure to consider future consequences or the broader national picture. Most of all they resented what they saw as the President usurping traditional Congressional prerogatives.

For Congress the low point came when the practice of executive impoundment of funds appropriated by Congress reached epidemic proportions under the Nixon Administration. Out of this atmosphere the Congressional Budget and Impoundment Control Act of 1974 was born and had its first dry run in 1975.

The Budget Reform Act, as it is commonly called, was designed to set *Congressional* spending levels for a fiscal year against which Congress could then measure its progress in meeting realistic budgetary goals. If the Executive Branch decides that funds the Congress appropriates should be withheld for one reason or another, the Budget Reform Act forces the President to return to the Congress for approval. In addition, the Act changed the fiscal year from a July-June to an October-September time frame and established a Congressional Budget Office, as a counterpart to the President's Office of Management and Budget.

The Act sets a specific and tight timetable for moving through the budget process. March 15 is the first deadline. By then all the standing or legislative committees of the Congress must report to the House or the Senate Budget Committees their expected spending levels for the various activities within their jurisdiction. By April 1, the Congressional Budget Office must submit its report to the Budget Committees. It includes alternative levels of budget authority and spending, total income, a discussion of national budget priorities,

and the allocation of resources among major programs.

By April 15, the Budget Committees must report on what action the Congress expects to take on the President's budget for that fiscal year. This is the First Concurrent Resolution on the budget, entirely for the purpose of setting spending goals, expected revenue, and any related surplus or deficit. Both Houses of Congress must pass the Resolution by May 15.

The same process for a Second Concurrent Resolution ends in mid-September, after a review of what the Congressional appropriations and authorizing committees are doing. This is a tool to encourage the committees to adhere to the spending levels in the First Resolution. If the totals contained in the First and Second Resolutions do not match, Congress must take other action to cut back specific spending bills or vote explicitly to raise the general spending total and the projected deficit. Such actions to reconcile money differences are to be taken by September 25. With the fiscal year starting October 1, it is also expected that all bills appropriating money will be passed by then. This was often not the case under the old system, and there are still delays that occur as a result of controversies associated with particular appropriations bills.

How well has this process worked? To a great extent, it has brought order out of chaos. Some Congressional critics claim, however, that it has raised an army of bureaucrats on Capitol Hill and created much more work for the Members of Congress, many of whom are already heavily overworked. But for the Members of the

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House and Senate Budget Committees, it has been a labor of love and has created many unusual and unexpected political bedfellows.

At the same time that the Congressional budget targets are being set by the lawmakers, a complementary process for actual appropriations is being set up. Members of the Senate and House Appropriations Committees' hierarchy meet to make decisions on levies and timetables for each appropriations bill with an eye toward what the Budget Committees are doing.

Within a few weeks after the President submits his budget request to the Congress in late January, appropriations hearings get underway. Each Congressional appropriations committee has a number of subcommittees, which are divided into relatively logical categories. Top officials of each agency appear with their deputies to justify their requests. These requests have already been cleared by the President through extensive internal review. In addition, Members of Congress and the public also appear before the subcommittees, usually to ask for more money for an agency than is contained in the President's budget.

The appropriations subcommittee hearings are generally open, except where such matters as national security are involved. In most cases, sessions are held in cramped quarters, and the debates are sometimes intense. The questioning is almost always energetic, as both national and regional concerns vie for attention. Agencies supply volumes of material "for the record," so that the staff and members of the subcommittees will have all of the information at hand needed to make their decisions.

The subcommittees which handle EPA appropriations also have jurisdiction over funds for the Department of Housing and Urban Development, National Aeronautics and Space Administration, National Science Foundation, Veterans Administration, Council on Environmental Quality, and a number of other independent boards and commissions.

Thus it is not for some time after the subcommittee hearing that the membership and staff feel comfortable enough to schedule a "mark-up." The mark-up consists of taking an agency's budget justification book, going over it page-by-page, and item-by-item, and making comparisons with the interests of the various members of the subcommittee. Sometimes these interests are parochial in nature, as well as deriving from a careful scanning of the agency's needs.

The subcommittee then reports a "committee print" of its mark-up to the full Appropriations Committee, which then meets, makes its decisions, and reports a bill to the full House for consideration.

Generally the full committee goes along with the subcommittee's decisions.

Under the rules of the House, an appropriations bill and report must wait on the House Calendar for a period of three days in order to give the membership full opportunity to study them. It would probably be helpful to point out that, historically, appropriations bills have originated in the House. Some years ago, the Senate Appropriations Committee took umbrage at this so-called prerogative of the House and decided to initiate the process on its own. The result was utter chaos for executive agencies which were caught in the middle. This "High Noon" scenario has not been repeated since and, hopefully, will not be.

During action by the full House of Representatives, an appropriations bill is often amended to reflect interests other than those of the originating committee. Traditionally most of the amendments have been made in the Senate, however, which has a longer time to consider the bill.

When the House completes action on the bill, it is sent to the Senate, where it is referred to the counterpart Senate Appropriations Subcommittee, and the process is repeated. Usually the Senate has held hearings and gathered information at the same time as the House proceedings were going on.

After the Senate has worked its will upon the measure, there are inevitably differences between the versions approved by the House and by the Senate. A conference committee is named by both Houses to resolve the differences.

An appropriations conference committee generally consists of members of both the House and Senate Appropriations subcommittees which originally considered the agency's budget requests, along with four additional members: the chairmen and highest ranking Republicans of the full House and Senate Appropriations Committees. After several hours of give and take, sometimes light-hearted and often trying, the conferees finally decide on one version to take to their respective Houses.

The House of Representatives acts first on the conference bill, with the Senate following and clearing the bill for the President's signature. As with all bills, the President must sign the measure within ten days (exclusive of holidays and Sundays) after he receives it or the bill becomes law without his signature. If the Congress adjourns during the signature period, however, the President may "pocket veto" the bill. That is, he simply lets the bill die by not signing it at all. (In an actual veto, the President sends the bill back to the Congress with a message containing his reasons for refusing to approve the measure.)

If an agency is unhappy with the way its appropriations are shaping up, it has several chances during the Congressional

process to send letters of appeal, to acquaint the lawmakers with the Administration's thinking on items contained in the bill. Letters of appeal are drafted with the aid of the Office of Management and Budget and generally reflect the position contained in the President's budget.

In addition to the regular appropriations, there are other special appropriations bills which work their way through the Congress. For example, there are often supplemental appropriations measures, and continuing appropriations resolutions. Supplementals are bills passed during the fiscal year to take account of new circumstances not provided for in the regular bills that were enacted. The continuing appropriations, which provide money at the same rate as in the prior fiscal year, become necessary when some unfortunate agencies do not receive their regular funding by the due date of October 1 for the current fiscal year.

While the budget and appropriations processes are going on, the authorizing process proceeds on a parallel track. The standing or legislative committees of the Congress, which are charged with oversight and legislative responsibility for various governmental programs, act to extend authorizations or provide for new programs. Generally money will not be appropriated if not first authorized. The authorization usually sets the upper limit on the appropriation.

Often there is a creative tension between authorization committees and appropriation committees. Many times, legislative committees authorize programs or sums for particular agency programs which the Appropriations Committees may deem either undesirable or too costly. If so, it is the appropriations process which wins out. Agencies can only spend what is appropriated, rather than what is authorized.

In some instances, an authorization bill will direct an agency down a path contrary to that ordered by the appropriations bill. When this situation arises, the hapless agency is caught in crossfire between its parent authorizing committees, its appropriations committees, and the Office of Management and Budget. Generally such disagreements can be defused through mediation, but if not, the problem continues into the next fiscal year. Often, specific direction to the agency will be contained in the authorizing legislation and in the reports of the appropriations committees.

EPA's task, like that of other agencies, is to work its way through the maze of the budget and appropriations process with its basic needs provided for and with enough flexibility in the use of its money to effectively carry out its mandate. This is usually much more difficult than it appears. □



**Environmental Quality Assessed**

EPA's Boston office recently released the Annual Report on Environmental Quality for New England. According to the report, smog continues to be one of the most serious pollution problems in New England. Rhode Island and Connecticut have passed automotive inspection and maintenance programs to help control hydrocarbons that contribute to smog, and Massachusetts is working on a program for the next legislative session. The report projects that 85 percent of the Region's major river mileage will meet the fishable/swimmable standard by 1983; 53 percent of the waters are safe now. Lead contamination of drinking water is dropping in response to treatment with caustic soda in Cambridge and Boston, Mass., and in Bennington, Vt. The report notes significant progress in implementing programs to control solid waste. New England has some 300 community recycling programs, with 43 programs having separate curbside collection of recyclable materials. Maine, Vermont, and Connecticut now have container legislation to deal with the litter and throw-away bottle problem. According to the report, one of the most serious environmental issues facing EPA in the future is the management of hazardous wastes.

**Bronze Medals Awarded**

Region 1 has conferred its highest award, the Bronze Medal for work excellence, on the Systems Analysis Branch.

The recipients are Branch Chief and Acting Management Division Director Lou Gitto, and Al Ika-lainen, Marv Rosenstein, Mike MacDougall, Bill Serovy, Doug Little, and Lynne Bleakney.



**Oil Company Fined**

Caribbean Gulf recently paid some of the largest penalties ever assessed in Region 2 for violations of air and water laws at its refinery in Bayamon, Puerto Rico. The facility was fouling the waters of the Malaria Control Canal in violation of the discharge permit issued by EPA. In addition, the company failed to take pollution abatement measures in a time period agreed to in its compliance schedule. The Region 2 Enforcement Division asked Judge Juan R. Torruella for \$206,250 in civil penalties against the company for not meeting the requirements of the Clean Water Act. The judge granted EPA's request, the money was collected, and turned over to the Treasury Department.

In a separate action, Puerto Rico's Environmental Quality Board recently filed for an administrative order asking that Caribbean Gulf pay \$150,000 for violations of the Commonwealth's air quality standards by particulate emissions. This violation and another involving the venting of untreated hydrogen sulfide, a very poisonous gas, at the rate of 520 pounds per hour was brought to the attention

of the Board by Region 2. Part of the settlement, which the Environmental Quality Board has already collected, includes a stipulation that the facility's existing sulfur recovery plant be either operating properly by the end of the year or be replaced with a new plant by July, 1979.



**Polluters Convicted**

A Federal jury in Philadelphia has convicted James and Guido Frezzo on six counts of discharging wastes without a permit under the Federal Clean Water Act. The two are corporate officers of Frezzo Brothers, Inc., a mushroom growing and compost manufacturer. The case is one of four involving Chester County, Pa., mushroom growers charged with discharging wastes without a Federal permit. The growers have been under investigation by Region 3's Surveillance and Analysis Division and Enforcement Division, the U.S. Attorney's Office in Philadelphia, and the Chester County Health Department. The Pennsylvania Department of Natural Resources provided witnesses for the trial. In other cases, Grocery Store Products Co. was fined \$15,000 and Penn Green Farms, Inc., \$7,500 for discharging without a permit, in cases resolved through plea bargaining. Hudson Farms, Inc., pleaded guilty to four counts of discharging without a permit and agreed to pay \$50,000 in fines. Clinton Ruble, Vice President of Hudson Farms, Inc. pleaded guilty to one count and has agreed to pay a \$5,000 fine.



**Advisory Council Formed**

Region 4 has initiated a special public participation project for air and hazardous materials. Two outstanding environmentalists from each State in the Region have been chosen to serve as leaders. They will organize public participation activities relating to clean air, hazardous waste disposal, and toxic substances. In addition, the sixteen environmentalists are members of the Regional Advisory Council, which will meet regularly with Regional Administrator John C. White and key staff members to be briefed on EPA issues. The Council members will also bring concerns and problems from their States to the attention of EPA officials. The first meeting of the Council was held last month in Atlanta at the Regional Office.



**Most Dischargers Comply**

A recent series of unannounced inspections in Wisconsin by the Region 5 Enforcement Division revealed that all but a few industrial dischargers are in compliance with the water pollution self-monitoring procedures that are required by their Federal water discharge permits. A similar survey one year ago found many violations. James O. McDonald, Director of the En-

forcement Division, expressed satisfaction with the improvement, as did the U.S. Attorneys for the Western and Eastern Districts of Wisconsin. McDonald said that appropriate action will be taken against the few remaining violators. The District Attorneys promised follow-up inspections in the future.

**Hazardous Wastes Discussed**

Staff members from the Region 5 Waste Management Branch met recently with the Michigan Department of Natural Resources and representatives of Hooker Chemicals and Plastics Corporation. They met to discuss the Hooker waste disposal site in Montague, Mich. The company presented plans to the State for use of soil and synthetic liners to cover the wastes. The State rejected that proposal and said that wastes shall be placed in vaults that are insulated on all sides by 10 feet of clay. The Department of Natural Resources agreed to review the company's draft report, and EPA pledged its continuing support for an environmentally sound corrective action for the site.



**Tribal Concerns Heard**

Regional Administrator Adlene Harrison and ten program staffers met with the Indian tribes of New Mexico recently. The Regional Office presentation outlined EPA activities and programs, particu-

larly in areas where assistance might be given to the tribes. The meeting was coordinated by La Donna Harris, president of Americans for Indian Opportunity, and was well attended by tribal members including several tribal governors. The regional staff is following up on problems outlined by the Indians at the meeting.

**Public Seminar Set**  
The Dallas Regional Office has arranged a public participation seminar on construction grants under Section 201 of the Clean Water Act. It will be held March 21-24. A citizen advisory group is helping with the seminar, which will include a cross-section of citizens who are directly affected by environmental regulations and activities. They will learn active involvement in environmental decision-making through role-playing and community problem solving.

**Standards Clarified**  
Earl N. Kari, Dallas Deputy Regional Administrator, met recently with officials from the Louisiana Stream Control Commission in Baton Rouge. The purpose of the meeting was to help the State agency clarify the language in Louisiana's water quality standards, providing consistency in determining waste treatment requirements for intermittent streams and man-made ditches without jeopardizing or damaging downstream uses. Water quality criteria are not being affected by these changes.



### **Discharge Investigated**

Region 7 Administrator Dr. Kathleen Q. Camin has requested a water quality survey of the Cedar River watershed at Charles City, Iowa, by EPA's National Enforcement Investigation Center. Salsbury Laboratories, a manufacturer of veterinary pharmaceuticals, was discharging waste products containing organic chemicals and heavy metals into the Cedar River through the Charles City municipal waste treatment plant and the solid waste dump that the company has used for over 20 years. Dr. Camin describes this as one of the most severe environmental problems in Region 7. Orthonitroaniline (ONA), a chemical product associated with the Salsbury process, was found in water supply wells in Waterloo, Iowa, 65 miles downstream. In the six wells sampled there, ONA occurred in concentrations ranging from 0.012 parts per billion to .26 parts per billion. Eight other water supplies were sampled for traces of the chemical. Wells in Plainfield contained .20 to .73 parts per billion; those in Janesville contained .05 parts per billion. With EPA's assistance, the Iowa Department of Environmental Quality will issue discharge permits to limit the nature and quantity of materials discharged into the Cedar River under the authority of the National Pollutant Discharge Elimination System. EPA and the Iowa State Hygienic Laboratory will continue to monitor water sources along the Cedar River.



### **Fuel Switching**

The use of leaded gasoline in vehicles requiring unleaded fuel is a problem of increasing concern to EPA. This practice, commonly known as fuel switching, is a violation of EPA's unleaded gasoline regulations. It is of special concern in Region 8 where the major metropolitan areas do not meet EPA air quality standards for pollutants associated with automotive emissions. The increasing emphasis that Region 8 has placed on its Mobile Source Enforcement Program resulted in the assessment of a \$7,800 civil penalty against the Board of County Commissioners of El Paso County for the introduction of leaded gasoline into vehicles operated by the El Paso County Sheriff's Department. In addition, the Sheriff's Department has agreed to check the compliance of their vehicles with applicable emission standards.



### **Older Workers Successful**

Fifteen Mexican-Americans who are former migrant workers have been working in the Senior Environmental Employee development program to train farmworkers in the safe use of pesticides. They work from the Federal Rural de Salud, Inc., a non-profit health clinic.

A \$100,000 grant for next year's program will allow the older workers, who are located in numerous State agencies, to survey the health of migrant workers, report pesticide-related illnesses, and work with county agricultural commissioners investigating pesticide misuses. President Carter recently commended representatives of the Senior Environmental Employee development pilot program for making it a nationwide success.

### **Chemical Survey Set**

Region 9 is working in cooperation with researchers who will survey 1,000 students who attended Saugus Elementary School, north of Los Angeles, Calif. The survey will investigate how their health has been affected by vinyl chloride emissions from the nearby Keysor-Century Corporation facility. The pilot group was exposed to high concentrations of the chemical, a known carcinogen, fifteen to twenty years ago. Most of the students attended the school for up to six years. Researchers will also determine average and peak concentrations to which the group was exposed, and establish an individual tracking system to continue evaluations of long-term health effects.

### **Likes Regulations**

George Caraker, a San Franciscan, wrote the following to the Region 9 Office in support of EPA's New Source Performance Standards: "The stronger the regulations, the better. I believe a one or two dollar increase in electric bills is a small price to pay for cleaner air."



### **Noise Agreement Set**

Region 10 late last fall reached agreement with the Bonneville Power Administration and the Oregon Department of Environmental Quality to have Bonneville Power replace by 1982 a noisy transformer at one of its substations near Portland. The transformer had been emitting a steady "buzz" 20 decibels higher than State noise codes allow, and has been the object of complaints from nearby residents. The consent agreement is in keeping with President Carter's recently signed Executive Order that requires Federal facilities like Bonneville Power to comply with all applicable pollution control requirements.

### **Grazing and Clean Water**

Region 10 personnel are finishing a report that will show how grazing practices used by western woolgrowers and cattle ranchers influence water quality. The report, being prepared by EPA and the Bureau of Land Management, demonstrates that livestock managers already have available to them techniques that not only minimize water pollution but can also produce less soil erosion. The result is more forage for the herds. The report "Livestock Grazing and Water Quality" will be available in early 1979. To get on the mailing list to receive a copy, contact Publications Clerk, EPA, 1200 6th Avenue, Seattle, Washington 98101. □

**Russell W. Fitch**

He has been named Acting Director of the Office of Public Awareness and Intergovernmental Relations in Region 8. Fitch spent the last three years at the Federal Energy Administration, where he was FEA representative to the Federal Regional Council, and headed several interagency committees on energy affairs. From 1972-75 he directed EPA's Research and Development grants program in Region 8. His previous Federal services includes directing the Office of Retailing in the Customer Services Group, U.S. Postal Service and acting as a consultant to the Office of Science and Technology at the White House. Prior to joining the government Fitch worked for General Electric Company, the American Chemical Society, Atlantic Research Corporation, and Melpar, Inc. He received a bachelor's degree in chemistry from Asbury College and a master's degree in chemistry from American University.



**Dr. Lester D. Grant**

He has been appointed Director of the recently established Environmental Criteria and Assessment Office in EPA's Research and Development Program at Research Triangle Park, N.C. To accept the position he has taken a two-year leave of absence from the University of North Carolina, where he has been associated with the Departments of Psychiatry and Anatomy since 1970. He is associated with the Biological Sciences Center of the Child Development Institute at the University and Co-Director of the Neurobiology of Environmental Pollutants Program there. The Environmental Criteria and Assessment Office provides the Agency with scientific documents that are the basis for a wide variety of environmental regulations. The Office also prepares special reports, some of which are mandated by Congress. Dr. Grant received a bachelor's degree in psychology from the University of Pittsburgh, and a master's degree and doctorate in that subject from Carnegie-Mellon University. In 1969-70 he worked in an interdisciplinary research and training program in biomedical science at the University of Chicago, where he held a postdoctoral fellowship from the National Institute of Mental Health.



**Thomas W. Devine**

He is the new Director of the Air and Hazardous Materials Division in Region 4, following four years as Chief of the Air Program Branch in the Agency's Boston office. His Federal service began with the Federal Water Pollution Control Administration, an EPA predecessor agency, in 1966 as a sanitary engineer at the Northeast Water Quality Management Center in Region 1. After becoming part of EPA he served as Chief of the Industrial Waste Section and Chief of the Technical Operation Section of the Enforcement Branch. Prior to his Federal service Devine worked in the air and water programs of the Commonwealth of Massachusetts and for a private consulting firm. Devine received a B.S. in civil engineering from Northeastern University in 1964 and did a combination of work at Harvard, Tufts, and Northeastern Universities to earn a Master's Degree in civil engineering with environmental specialization in 1972.



**Joseph T. Piotrowski**

He has been appointed New Source Coordinator in Region 3, responsible for integrating and expediting EPA environmental reviews required for the issuance of permits needed by proposed new industrial sources of pollution. The position was created in response to a pledge by Deputy Administrator Barbara Blum to save time and money for industries undergoing environmental reviews. Piotrowski has worked for EPA since 1973, most recently as Special Assistant to the Region 3 Deputy Administrator. Before that for two years he prepared Environmental Impact Statements for new industrial sources and municipal sewage treatment plants. He has also held positions in the Air and Water Divisions in Region 3. Before joining the Federal Government he worked for the Commonwealth of Pennsylvania as an air pollution engineer. Piotrowski holds degrees in physics and environmental science.

## **Eighth Annual Awards Ceremony**

Four individuals and four group efforts were awarded gold medals for exceptional service last month at the EPA annual awards ceremony. The individuals honored were:

Valdas V. Adamkus, for his distinguished leadership in Region 5 and outstanding contributions to international environmental control; Dr. Elizabeth L. Anderson, for her outstanding leadership and personal contribution to the development and application of EPA policy on carcinogens; Martha Prothro, for her commendable contribution to enactment and implementation of enforcement authorities for stationary sources of air pollution, and Gordon G. Robeck, for his outstanding service and leadership in the establishment of national drinking water standards, and major contribution to the Nation's health and welfare.



*Valdas V. Adamkus*

Andrew D. Mank and Judith A. Nelson, the Pretreatment Task Force, received a gold medal for their work in the development and promulgation of regulations to control the discharge of industrial wastes into publicly-owned sewage plants.

The Federal Insecticide, Fungicide, and Rodenticide Amendments Task Force was honored for their work toward the enactment of the 1978 Amendments. Members of the Task Force are: Arnold L. Aspelin, Edward C. Gray, John J. Neylan III, Susan Sherman, John C. Ulfelder, and Robert H. Wayland III. The Flue Gas Desulfurization Program was honored for their achievements fostering the national acceptance of that concept. The program members are Robert Borgwardt, Michael Maxwell, Everett Plyler, Frank Princiotta, and Richard Stern. A gold medal went to the Title II Construction Grants Regulations Team for their commitment to developing responsive regulations for the municipal construction grants program. The team consists of Michael B. Cook, Belle N. Davis, Ronald DeCesare, Joseph H. Easley and Larry D. McBennett.



*Dr. Elizabeth Anderson*

Ten individuals and three groups received silver medals for superior service. The silver medals went to Terry L. Anderson, Region 8; Anne L. Asbell, Region 4; Michael P. Bonchonsky, Region 2; Lisa K. Friedman, Headquarters; Jack Griffith, Headquarters; Myron O. Knudson, Region 6; Dr. James P. Law, Jr., Ada, Okla.; Delores J. Platt, Cincinnati, Ohio; Cheryl Wasserman, Headquarters, and Dr. William E. Wilson, Jr., Research Triangle Park, N.C.

Medals also went to the Foot-hills Project Review Team in Region 8; Gary R. Johnson, W. Steven Jones, and Dale J. Vodehnal; the Small and Minority Business Programs Group at Research Triangle Park, Cincinnati, and Headquarters; Paul Quitter, Frank J. Rzasa, Glenwood D. Sites, Alfred R. Smith, Jr., Byron S. Vranas, and Margie A. Wilson; and the Toxic Substances Control Act Inventory Work Group at Headquarters; Stephen M. Caldwell, Edward H. Cohen, Paul E. DesRossiers,



*Grace Prothro*

Norman E. Dyer, Irving Gruntest, Steven Leifer, Susan G. Lepow, Carl Mazza, James C. Nelson, Sammy K. Ng, Patricia Ott, George M. Semeniuk, and Steven R. Weil.

The Administrator's Award for Excellence was conferred upon Evelyn Lewis-Alston, Headquarters; Olivia H. Edwards, Headquarters; Kenneth L. Kropp, Cincinnati, Ohio; Paula R. McElroy, Las Vegas, Nev.; Vivian A. Skinner, Region 6; and Donna Sowinski, Region 5.

Winners of the Public Health Service Meritorious Service Medal were, David R. Dunbar, Research Triangle Park, N.C.; Stephen K. Goranson, Region 5; Jack W. Hoffbuhr, Region 8, and Charles D. Larson, Region 1. Distinguished Career Awards went to Douglas C. Hansen, Region 10, and Margaret R. Weil, Headquarters.



*Gordon G. Robeck*

## An Economist's View

Continued from page 5

will not only serve as refutation in debates but will also enable us to sharpen up our rational opposition to too much environmental spending. Everything up to a margin is justified and anything carried to excess economists would have to say, as any wise person would, is an aberration of judgment.

### Considering some of the intangibles in pollution cleanup, what is the best way to decide environmental policy? By economic analysis or Congressional vote?

There is no substitute for democratic control of the policies of the society. So in the last analysis it is the electorate deciding.

Now under representative government that means that most of the decisions will have to be deliberated on by legislative representatives. Any legislature must acquire informed, expert knowledge and use it in making judgments.

But as every representative legislature in the world knows and has always known, the Congress, the State House of Representatives, and the committee of aldermen cannot make the day-to-day decisions. What you have to do is set down good guidelines in the form of tax rates on effluents, in the form of zoning regulations. But these must be in forms that are enforceable, understandable, and are optimally designed in terms of the degree of environmental control the democracy ultimately desires.

So voting is important, but we economists believe it's very crucial for the voters and their representatives to set things up in such a way that many policies are self-enforcing. This way,

the private pocketbook interests of the steel company are made to coincide with the interests of the community.

Make no mistake about it, under a competitive process no one firm out of the goodness of its heart, out of altruism, can take on the job of a higher level of environmental protection than its competitors. And no industry can ever spontaneously and through its trade associations be counted upon to do the job.

This doesn't mean that the people in an industry are any worse than the people in any other industry, including my own, college teaching. It just means that it's against their money interests to impose a higher standard than we the community insist upon there being imposed.

Therefore, there is no escape, in the last analysis, for democratic control involving the fair-handed coercion through the due process of law.

### Polls show that the public is willing to pay for environmental cleanup. What kind of factor is that in economic policy toward the environment? Is it being taken into account adequately?

Yes, although if you're a perfectionist you might despair at the slowness of the process. I've just come back from southern California and I was a little bit appalled by the smog. On the other hand, I recall earlier times when it was worse. It would have been much worse if we had not already imposed what many people in that part of the world regarded as a painful constraint—the need for a higher and more expensive level of pollution control on automobiles.

The job is never finished, but I think the American people are getting on with the job. These

problems are not going to go away. On the contrary, they are going to get bigger even as we are more effectively solving them. There is only so much land, and only so much atmosphere and rivers and lakes and underground water. Because of past demography we're putting a very, very heavy load in our modern industrial society on these limited resources of nature.

### We've talked about internalizing costs, making environmental protection part of our daily affairs. Are we beginning to do this in our economy? In wastes and pollution?

We have made a beginning. I know plants here in New England which have been in business for 250 years, and the owners tell me they just didn't know until ten years ago what it was their own plants were doing. They were simply doing what their uncles and grandfathers had done before them. It was unthinking.

It reminds me that not until we had a corporate income tax and personal income tax did accounting get developed in this country. Businessmen so often didn't know their own ordinary money costs and revenue.

Similarly, the force of law is bringing home the need to internalize more of these environmental costs. The costs were there. They just weren't perceived until it was too late and they weren't brought home to those people who were causing damages.

Now I'm not pointing my finger at businesses and corporations only. In the last analysis the consumers who want steel, who want products which require certain chemicals for production, must be prepared to pay the bill for making these acceptably safe. And certain products, certain asbestos products for example, will not be able to meet those stringent requirements in the future and they will have to be replaced by substitutes that can.

So it is not just a matter of internalizing costs into some industry or business. It means internalizing them to us, the public, the ultimate consumer,

the ultimate electorate whose dollar votes are swinging the patterns within which our economic resources are devoted.

### Basically, looking at it over the long run, can we have a clean environment and a strong economy at the same time?

Yes. The productivity of the American system—the technological and managerial know-how, the skill of our labor force, the education and human capital—is such that although we are not growing as fast as in earlier post-WWII decades, we still have a considerable margin of growth. Part of that margin can prudently go into an expansion of the ordinary conventional private goods and services. But part of it can and, if the electorate wanted, should go into the improved good life with respect to a more healthful and more pleasant environment. When we look at the sources of American growth and consider our best future projections, it becomes apparent that there is room for both environmental cleanup and ordinary goods and services.

### Is there any special message you would like to give?

Sometimes the enthusiasms of certain proponents of environmental control may appear to ordinary, more conventional citizens as hysteria. But one man's complacency is another man's hysteria, and in order to sell, sometimes you have to oversell.

So on the whole, it seems to me that we have been well served by the more altruistic among us, often the more youthful members of the population, who have raised the consciousness of the rest of us. I think most of us, as we look to what would otherwise be the case, the hell that you could have here in North America in the wake of the post WWII baby boom and industrial affluence boom, realize that things are much better than they otherwise would be, and I for one am grateful. □

*This interview was conducted by John Heritage, Assistant Editor of EPA Journal.*

## News Briefs

### Cleanup Agreement

The Tennessee Valley Authority, in a "landmark" step for public health, has agreed to a major pollution cleanup involving 10 of its power plants in the southeastern U.S. The settlement was described by EPA as "the largest ever made with a major source of air pollution." The agreement heralds "a new era of concern for public health by the Nation's largest public utility," according to Marvin Durning, EPA's Assistant Administrator for Enforcement. He said the pollution controls under the agreement would remove more than 970,000 tons of sulfur dioxide and 85,000 tons of dust material a year from the Tennessee Valley air.

### Gasohol Allowed

EPA recently announced that the marketing of Gasohol may continue. It would be premature to stop the use of Gasohol now before a national policy regarding alcohol fuels is recommended by the National Alcohol Fuels Commission, EPA officials said. EPA retains the authority to regulate or ban Gasohol if it is ultimately determined that the fuel poses unsolvable problems. Gasohol has 10 percent ethanol and 90 percent unleaded gasoline.

#### States Served by EPA Regions

**Region 1 (Boston)**  
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont  
617-223-7210

**Region 2 (New York City)**  
New Jersey, New York, Puerto Rico, Virgin Islands  
212-264-2525

**Region 3 (Philadelphia)**  
Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia  
215-597-9814

**Region 4 (Atlanta)**  
Alabama, Georgia, Florida, Mississippi, North Carolina, South Carolina, Tennessee, Kentucky  
404-881-4727

**Region 5 (Chicago)**  
Illinois, Indiana, Ohio, Michigan, Wisconsin, Minnesota  
312-353-2000

**Region 6 (Dallas)**  
Arkansas, Louisiana, Oklahoma, Texas, New Mexico  
214-767-2600

**Region 7 (Kansas City)**  
Iowa, Kansas, Missouri, Nebraska  
816-374-5493

**Region 8 (Denver)**  
Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota  
303-837-3895

**Region 9 (San Francisco)**  
Arizona, California, Nevada, Hawaii  
415-556-2320

**Region 10 (Seattle)**  
Alaska, Idaho, Oregon, Washington  
206-442-1220

### A Lawmaker's View

*Continued from page 8*

In contrast, an alternative mechanism would charge each firm a fee in proportion to the pollution it discharges. A firm which could control pollution cheaply would do more abatement to avoid the pollution charge. Using this effluent charge system, the same stream quality could be achieved if all the firms spent a combined \$12 million per year on pollution control. This would be \$8 million a year cheaper than under the regulatory system. Under a third, more complex system, which based effluent charges on the damage pollution would do to a particular part of the river, the cost would be only \$9 million per year to

achieve the same level of stream quality.

Not only would a pollution charge system reduce the costs of abatement, but it would also speed cleanup. Today a polluting firm has strong incentives to postpone installation of abatement equipment. By claiming that pollution cleanup is difficult or uncertain, a firm can often obtain repeated "temporary" exemptions from standards. Thus, delay is now rewarded with lower costs to the firm.

An effluent charge system would replace the incentive to delay with a new incentive to abate quickly. A firm would seek ways to abate to avoid the pollution charge as soon as possible.

#### Summary

In sum, the economic problem of pollution control is twofold. First, from the perspective of the individual consumer, pollution control costs appear to be inflationary be-

cause the consumer pays for the pollution control but receives very little apparent benefit as a result. Actually, from the perspective of society, pollution control is not inflationary because the abatement costs produce benefits that are worth more.

It is proper to challenge environmental legislation to be sure that Congress, which represents the people, believes that the benefits of abatement exceed its costs. However, it is improper to quantify the costs of pollution cleanup, and label these expenditures as bad, without first considering the benefits of abatement.

Second, the costs of pollution cleanup can be reduced if a system of pollution charges is used, instead of the current regulatory standards approach. By focusing clean up efforts on firms where abatement is less costly, a cleaner environment can be achieved at lower costs to all consumers combined. □

## ENFORCEMENT

**Chrysler Recall**

EPA Administrator Douglas M. Costle has upheld the decision of the Agency's administrative law judge that certain 1975 Chrysler cars are exceeding the Federal emission standard for carbon monoxide. He ordered Chrysler Corp. to recall 208,000 automobiles.

Costle affirmed the February 10, 1978, decision by Judge Edward B. Finch that a substantial number of cars with 360 and 400 cubic inch displacement engines and two-barrel carburetors do not meet the carbon monoxide standard of 15 grams per mile. The Administrator told Chrysler to submit a plan to correct the problem within 30 days.

Models affected by the recall order are Chrysler Cordoba and Newport, Plymouth Fury and Grand Fury, and Dodge Monaco, Charger SE and Coronet.

**Agencies Weigh New Rules For Chemical**

Spokesmen for the EPA and the Occupational Safety and Health Administration said recently the agencies have been concerned about ethylene dibromide (EDB) and are looking at possible new rules for the chemical.

But exposure to the chemical, widely used as a pesticide and as an additive in leading gasoline, is declining rapidly because of Federal programs to reduce use of leaded fuels, said Benjamin Jackson, EPA's Acting Deputy Assistant Administrator for Mobile Source and Noise Enforcement.

"It remains to be seen whether we could do anything quicker than these programs already are

doing it, such as an outright ban on the use of EDB," Jackson said. The Agency is expected to decide in January whether the chemical's use in agriculture should be banned.

**Voluntary Recall**

British Leyland Motors, Inc., is voluntarily recalling about 50,000 of its MGB vehicles to correct defective emission control parts, EPA announced. The recall involves 1975 model year MGB's built for sale in California, all 1976 and 1977 MGB's built for nationwide sale, and some 1978 model year vehicles.

Due to a resonant vibration in the exhaust system during normal engine operation, one or more of the following could happen: a cracked exhaust manifold or catalytic converter, destruction of the interior matrix of the catalyst, breakage of the main fuel metering needle in the carburetor, or loosening of the carburetor fuel bowl retaining screws.

These could result in the affected vehicle emitting pollutants above exhaust standards. They may also cause a loss of engine power, and in extreme cases there is a potential risk of fire caused by fuel leaking from the carburetor.

EPA is accepting a voluntary recall of these cars because of British Leyland's expeditious identification, investigation, and solving of the problem.

## GENERAL COUNSEL

**Court Upholds EPA**

No direct showing that a chemical may cause cancer in humans needs to be established before the EPA can prohibit discharge of the chemical into the Nation's waterways, the U.S. Court of Appeals ruled recently.

In two cases involving manufacturers' protests against EPA rules, the Court upheld the Agency's power to bar the discharge of toxic chemicals into waterways even if there is no conclusive evidence that the chemicals may be harmful to humans.

One case involved electrical manufacturers protesting a ban on PCB's (polychlorinated biphenyls) which are used in liquid electrical installation.

The other opinion resulted from two similar cases consolidated by the Court in which two manufacturers protested rule-making procedures at EPA and the Agency's methods in setting toxic standards for the pesticides endrin and toxaphene.

## PESTICIDES

**Risk, Benefit Review**

EPA is reviewing both the possible health risks and the economic benefits of several major pesticides used mostly to preserve wood products such as railroad ties, marine pilings, and fence posts.

Those being reviewed are creosote—the largest volume U.S. pesticide—and coal tar, neutral oil, inorganic arsenic, and pentachlorophenol.

Wood preservatives are considered pesticides under the 1972 Federal pesticides law because they control insects, fungi, and bacteria that damage wood.

EPA's review is likely to last about 18 months, and in the meantime the pesticides in question may continue to be sold and used. The technical name for the review is "rebuttable presumption against registration."

**EPA Proposal on Pesticides**

EPA has proposed that uses of the pesticide endrin be allowed to continue on wheat and apple orchards, and on cotton in some areas. The Agency would require precautions to reduce potential risks from endrin's use to human health, fish, and wildlife. However, most uses of endrin on cotton would be stopped because of potentially serious health and environmental risks.

"In general, EPA has concluded that for some uses the risks of endrin outweigh most of its social and economic benefits," said EPA Administrator Douglas M. Costle. Endrin has caused birth defects in laboratory animals and may pose the same danger to humans, he pointed out. Endrin also is a threat to wildlife, and is acutely toxic to fish, Costle added.

## SOLID WASTE

**Hazardous Waste Survey**

EPA recently released a preliminary survey listing 103 sites nationwide where hazardous wastes have been put.

The sites "are the ones on which we have the most information," said Administrator Douglas M. Costle. "They aren't necessarily the most dangerous sites. Indeed, some have been cleaned up and others are under litigation. We are continuing to work with States and localities in monitoring these sites."

In the survey, EPA's Regional Offices also provided a rough estimate of the landfill, storage, and other sites which may contain some hazardous waste which now or potentially could cause adverse impact on public health or the environment. The number was 32,254.

The Regional Offices also provided a rough estimate of the sites that may contain significant quantities of hazardous wastes which could cause significant imminent hazards to public health. The number was 638.

Under the new Resource Conservation and Recovery Act, EPA is developing a hazardous waste disposal system that will track these wastes throughout their life and insure they are finally disposed of in approved facilities providing long-term public safety, Costle said.

But EPA's authority to clean up inactive sites is quite limited, Costle said. "... Many States have more authority than the Federal government to deal with these problems. We will work closely with all States to provide technical assistance or any other help that we can."

## Resource Recovery Funds

EPA announced recently a program of \$15 million in grants to local governments to develop ways to convert their trash and garbage into energy and to recover valuable materials, such as metals, glass, and paper.

"It's time we recognized the full potential of waste—putting as much of it as possible back in the marketplace," said EPA Deputy Administrator Barbara Blum.

The grant funds are some of the first to become available under President Carter's urban policy, which offers financial aid to cities to help relieve social, economic, and environmental problems.

## TOXICS

### Cooperation On Toxics

Four Federal agencies, including EPA, have outlined cooperative steps to curb the health and environmental threats posed by a group of toxic substances.

In a new report, titled "Hazardous Substances," the agencies describe their actions to protect workers and the public from disease and illness caused by the unsafe manufacture and handling of 24 compounds, from coke oven emissions to asbestos.

Under a cooperative agreement, which created the Interagency Regulatory Liaison Group, the agencies are pooling their knowledge and resources to gain the most efficient health protection programs at least cost to the regulated industries. The agencies are EPA,

Occupational Safety and Health Administration, the Food and Drug Administration, and the Consumer Product Safety Commission.

### Citizen Role In Toxics

EPA is funding a pilot program in New Jersey and New York to test and develop ways to involve citizens in controlling toxic substances. Thirty-six public interest organizations and nearly 500 people will participate.

The purpose of the program is to determine if a model for citizen involvement in toxic substance control can be created and then used elsewhere.

"We are all affected by chemicals in the environment," said Administrator Douglas M. Costle. "So citizens have a major role to play in determining safe, cost-effective methods for the manufacture and use of these compounds."

## WATER

### New Agreement For Great Lakes

A new agreement was signed recently between Canada and the United States calling for programs and measures to further abate pollution in the Great Lakes.

Secretary of State Cyrus Vance and Canada's Secretary of State for External Affairs Don Jamieson signed the pact in Ottawa. The agreement reaffirms and updates the two countries' commitments to enhance water quality in the Great Lakes which contain 97 percent of America's fresh water storage.

EPA Deputy Administrator Barbara Blum, a co-signer, praised the cooperative efforts of the International Joint Commission in bringing about the new agreement. "This

cooperative effort reaffirms our determination to restore and enhance the quality of Great Lakes water," Blum said.

### Remaining Problems In Water Pollution

Despite significant progress in cleaning up the Nation's waters, many pollution problems remain due to discharges from industry and from municipal sewage treatment plants, the EPA recently reported to Congress.

The problems include "traditional" ones such as bacteria, excessive levels of suspended solids, organic materials causing depletion of oxygen in the water, and excess discharge of nutrients such as phosphorus and nitrogen leading to nuisance growths of algae and other aquatic plants.

However, the States are also voicing increasing concern over the effects of toxic pollutants such as heavy metals, and pesticides and other chemical compounds. Among them are phenols, cyanide, and PCBs (polychlorinated biphenyls).

While generally emphasizing these remaining problems, the report also points out that overall trends are good for most pollutants monitored over the past several years.

### Procedure Reforms For Sewer, Water

President Carter recently announced streamlined Federal procedures designed to save rural areas hundreds of millions of dollars in construction of sewer and water facilities.

The refined procedures for such projects also are expected to save as

much as a year's time in the processing of applications for loans and grants.

The five main agencies involved in the new system are EPA, the Economic Development Administration, Farmers Home Administration, Housing and Urban Development Department, and Community Services Administration.

## AGENCYWIDE

### Cooperative Steps On Spills, Health

Acting under a year-old agreement to pool effort and information in controlling toxic substances, four major Federal regulatory agencies have achieved successes ranging from unified responses to chemical emergencies to setting up a joint EPA-FDA laboratory in Research Triangle Park, N.C.

The four agencies are the Consumer Product Safety Commission, the Food and Drug Administration, the EPA, and the Occupational Safety and Health Administration. Their cooperative effort stems from creation of an Interagency Regulatory Liaison Group.

Successes include joint action to clean up a spill of toxic chemicals at a Philadelphia trucking firm. EPA's Region 3 was involved in the effort.

Cooperation also included checking the health of workers and safety of food in the vicinity of a pesticide explosion at the Stauffer Chemical Co. in Chicago. EPA's Region 5 was involved.

Region 4 was involved in another joint effort, where the four agencies provided technical assistance to North Carolina to clean up roadways contaminated by PCB's (polychlorinated biphenyls).

## RADIATION

### EPA Proposes Criteria For Radioactive Waste

Administrator Douglas M. Costle recently proposed environmental protection criteria to be used by all Federal agencies with responsibilities for managing or regulating all forms of radioactive wastes.

The proposed criteria are designed to guide the agencies in making radioactive waste management decisions. In the criteria, EPA outlines the proposed principles to be applied for protection of public health from the various forms of radioactive materials.

After public comment, the proposed criteria will be forwarded to the President for approval. □

## Environmental Ethics

A new book, *Footprints on the Planet*, reports on attitudes toward the environment in business, industry and government. The author Robert Cahn, talked with leaders of some of the Nation's largest corporations as well as their environmental critics. The Pulitzer Prize winning journalist found that some companies seek a maximum return on investment by any means necessary, as their primary social responsibility, while others are building environmental concerns into their overall planning. An original member of the Council on Environmental Quality, Cahn also provides a survey of the environmental programs of Presidents from Theodore Roosevelt to Jimmy Carter. The book is \$10.95, published by Universe Books, New York.

## The Economy and Regulatory Reform

Continued from page 14

I believe that it is. Over a five-year time period we will start getting the benefits of the new technologies, the new approaches to pollution cleanup that private engineers are going to come up with because for the first time it's profitable for them to find new ways of control. We'll be well ahead of where we are now. That's strictly in terms of reduced pollution.

**On the surface some of EPA's regulatory reforms might appear to make it easier on industry. Could there conceivably be any kind of slowdown of the Agency's cleanup efforts?**

A number of the reforms we're looking at will reduce the compliance burden on industry or the states. None would reduce our overall cleanup effort. If we cut back a reporting requirement that we're not using, that's a reduction in the amount of effort we have to expend to collect, receive, process and store it. Doing so will not weaken actual pollution control.

If we make our hearing process simpler and less legalistic, relying more on discussions between our professional, technical, and engineering staffs and the regulatees, as we've been trying to do, that helps us as well as the regulatees.

If we decide that we're not going to regulate a large number of very small sources that contribute only a few percent of overall pollution loadings, which we did recently in the PSD regulations, that's less of a burden on industry. It's also less of a burden on our own limited resources. We may calculate that it makes better sense to loosen up a little bit on one industry but tighten up on some others because the new mix is easier to enforce and a fairer distribution of the burden. But that sort of tradeoff is hardly a softening of our bottom line ambient requirements.

We simply do not have the people to regulate everyone in the world. One purpose of regulatory reform is to find the ways of doing our work that impose the least avoidable costs while meeting our statutory requirements and advancing towards our cleanup objectives in as efficient and quick a manner as possible.

**Does EPA hope to persuade other regulatory agencies to adopt some of the same reforms this Agency is now making? Is there a cooperative effort?**

Absolutely. We are the largest regulatory agency, and also the agency with the broadest regulatory agenda. We regulate everything in the country in effect, from very small pollution sources to very big ones, involving all sorts of technology under different conditions.

As a result, the White House is looking to us to provide practical leadership for the entire Administration in developing, testing, and implementing new, better ways of regulating. The fact that the President looked to us to take the lead in establishing his Regulatory Council is another reflection of the Agency's leadership.

Let me cite a few examples of how our work serves as a model.

Our new economic penalties policy could easily apply widely. When society decides to regulate, it's usually because it's trying to get someone to do something that costs them money that they would not otherwise spend. The logic of charging them what they have

saved to put them in the same position as people who have complied and to take away the incentive to delay applies in virtually all regulatory settings.

Our contribution is to take such very simple ideas and work out a practical, administrable, enforceable way of making them happen, and working it through with the states so they can do it. Once that's been done, other agencies and the states can pick up the device easily.

The President's regulatory reform executive order was modeled chiefly on our regulation development process. Marketable rights and emission offsets have very broad applicability beyond EPA. So do our new hearing procedures—and a host of other innovations.

Doug Costle and I hope that one of the things this period of EPA's history will be remembered for is the large number of practical innovations the Agency has put in place. Many of these changes will affect the development of regulation well beyond EPA. □

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## Cleanliness Pays

*Continued from page 21*

or disappear and new plants incorporate environmental needs in their initial designs," according to Professor James Brian Quinn of Dartmouth University's Tuck School of Business Administration.

Quinn also stated that the costs of pollution controls will "undoubtedly be further reduced by lower process costs from innovation or by-products use. . . ."

## Economic Growth

Investment in pollution controls also has a stimulating economic effect in developing new areas in science, management, and industry that will result in the creation of thousands of additional jobs. An estimated 300,000 persons now work directly for companies in the pollution control business. Twice that many jobs are found in other enterprises such as construction, which directly support the industry.

But beyond the direct economic benefits to firms that either use or produce emission controls, society as a whole benefits even more from the reduction of pollution's harmful effects on almost every aspect of our national life.

Air pollution alone, for example, may be causing as much as \$2.8 billion a year in soiling damage to walls, windows, and venetian blinds in households. This nation-

wide projection is based on a sampling of the effect of particulates in the Philadelphia metropolitan area. The preliminary estimate is from a recent joint study by the EPA and Resources for the Future.

In addition, air pollution causes major damages to other materials including rubber products, textile fabrics and dyes, and electrical components.

Although complete and current data are not available, the EPA estimated that air pollution damage to crops and ornamental vegetation such as commercial flowers and shrubs was about \$200 million in 1970. EPA's estimate was based largely on a study by the Stanford Research Institute.

Any reduction in these damages by cutting back on the amount of pollution in the air can translate into almost immediate financial benefits. Savings also result from curbing water pollution or managing solid wastes.

Also, while pollution's damage to the natural and manmade environment is serious, it is far outweighed by the injury, illness, and death caused to humans.

Environmentalists feel that such losses more than justify the cost of pollution abatement for the Nation as a whole, but convincing a board of directors that emission controls make fiscal sense is another matter.

To date the only incentive employed has been the negative one of Federal and State emission limitations backed up by fines for failure to comply. While this approach has produced significant gains in cleaning up the environment, it has met with considerable foot dragging from businesses whose

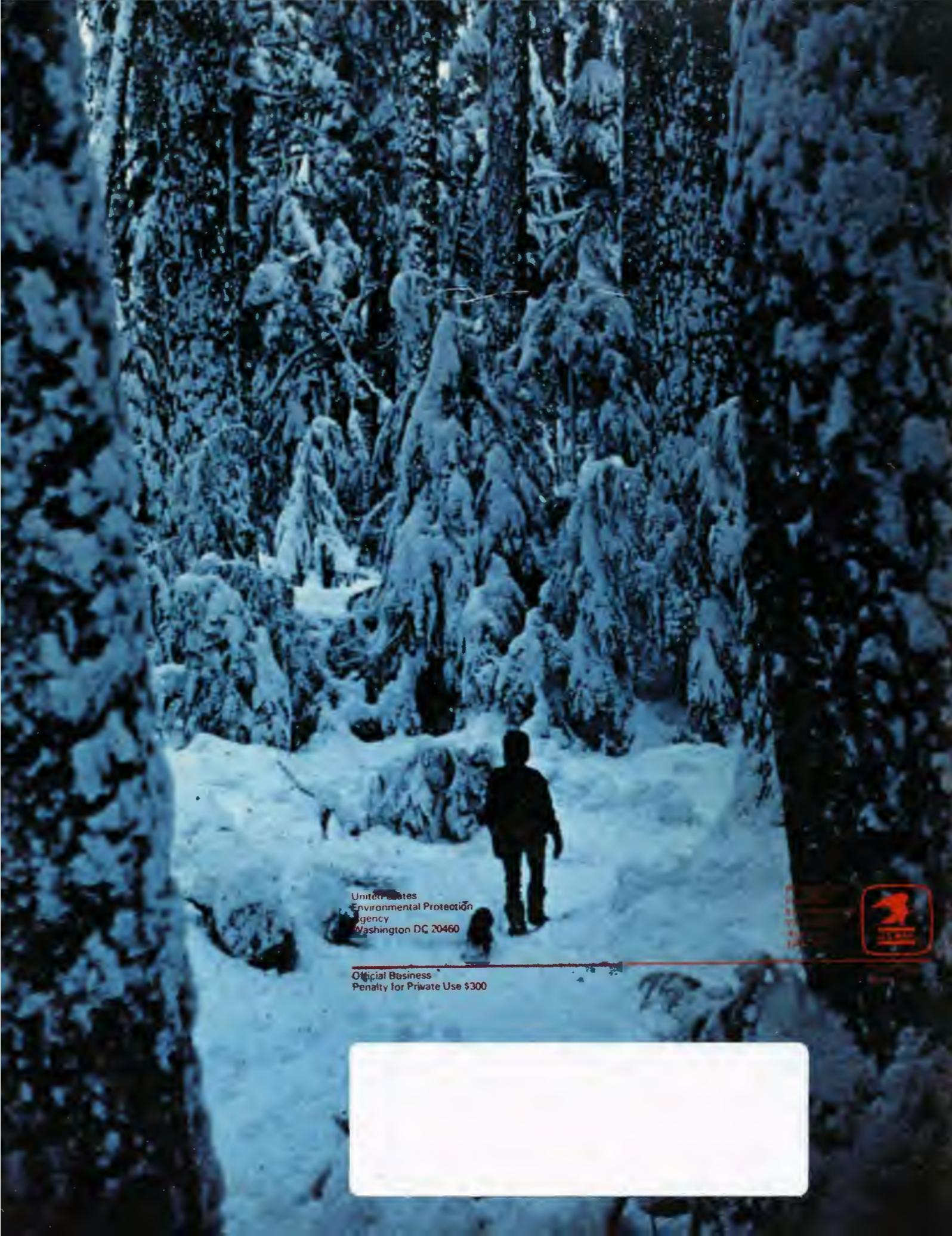
instinctive reaction is to resist additional costs unless they can be shown to have a positive effect on profits.

For this reason, the Environmental Industry Council, in cooperation with several other private organizations and government agencies, will devote its fourth annual conference to examining more closely the costs and benefits of pollution control. The conference will be in Washington, D.C., February 28-March 1, 1979. It plans to feature the researchers of the major cost/benefits studies, key government and Congressional decision makers, and industry leaders.

Rather than expending all of their effort fighting industry's instinct to reduce costs, environmentalists might do better to harness it by selling business the idea that emission controls can make money. By combining the stick of statutory pollution limits with the carrots of improved efficiency and new sources of energy and raw materials that modern control technologies offer, industry may yet be convinced that a clean environment can also be good business. □

*Above. A paper plant located on the banks of the St. Croix River near Bangor, Me.*

*Back cover: Old growth sitka spruce forest in the North Cascade Mountains near Lake Chelan, Wash.*



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