

# The Political and Economic Aspect of Environmental Control in the U.S.A.

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## I. Introduction

In a very short time pollution seems to have become one of America's major political issues. The mass media devotes large amounts of time both in newspaper, stories and on television program to the problems created by air and water pollution and the harm being done the environment. The economist tends to view the problem as the result of the divergence of social and private benefits and costs, or what economist call external diseconomies<sup>(1)</sup>. The destruction of the environment occurs because no attempt has been made to impose the direct and indirect costs of this destruction on the polluters. To the student of Public Administration the problem can be studied in both its political and a bureaucratic aspects. Attempts to prevent pollution show how economics and politics along with science can be utilized in dealing with what the public and the scientists now believe to be a serious problem.

Other papers presented here have dealt with air and water pollution in a scientific sense. In this paper I will attempt to look at the problem from a political and economic point of view. We will look first at why pollution has become such a large issue in America; then at the costs of pollution to the public; go on to present programs and efforts, both governmental and private, to control pollution; and lastly we briefly look over a few possible courses of action for the future.

The concern over pollution now being expressed by Americans was caused by a number of developments. First, and generally conceded as most important, the population after world war II began to increase sharply. This population growth together with the development of a means of quick transportation spread the city outward, absorbing more and more countryside

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(1) See: Controlling Pollution, M.I. Goldman, ed., Prentis-Hall Inc. Englewood Cliffs, N.J., 1967, pp 3-39.

into the city.

Secondly, at the same time as this growth in population was occurring there was a massive growth in available income for the average citizen. With per capita income high, production rose to satisfy the growing demands. This increased consumption of natural resources for industrial purposes.

Each American child became many more times a burden on the environment than, for example, a Korean child. Although the U.S. contained only 5.7% of the world's population it consumed 40% of the world production of natural resources. In 70 years of life, the average American uses 26 million gallons of water, 21,000 gal of gasoline, 10,000 lb of meat and \$6,000 worth of clothing. The result of massive production was massive filth. Every year Americans junked 7 million cars, 20 million tons of paper, 28 billion bottles and 48 billion cans. Just to collect the garbage costs \$2.8 billion a year. The U.S. was soon producing almost 50% of the world's industrial pollution<sup>(2)</sup>.

A third factor influencing the serious pollution problem was the rapid advance in industrial technology. Every day new products were placed on sale. Some, like aluminum cans, were virtually indestructible. The old steel cans would at least rust away over time, the new ones won't.

Americans had escaped the city by means of the automobile but this in turn became a major polluter. In Los Angeles it produces about 80% of that city's air pollution. In New York it is responsible for about 40%<sup>(3)</sup>.

The American people slowly found themselves drowning in their own wastes. What during the 1950's had been the worry of a few scientists turned, by the late 1960's, into a general feeling of outrage and anger among the general public.

The environment was fast becoming a hot issue with the potential of unifying a polarized nation in the 1970's. The issue now attracts young and old, farmer and city dweller and suburban housewife, scientists and industrialists and blue-collar workers. Pollution is as close to them as the nearest water tap, the car filled streets, the junk filled landscape, or the sonic boom of a jet. Politicians have got the message. Senator Muskie one of America's foremost politicians, stated; "In the past, we had to fight apathy all kinds of political pressure, public apathy and ignorance. Now the wind is blowing at our back."

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(2) *Newsweek* Jan 26, 1970, pp.25.

(3) M.I. Coldnam, *op cit.*, p.6.

## 2. COST OF POLLUTION TO THE PUBLIC

The cost of water pollution to America runs into billions of dollars each year. Losses include the blighting of some of America's potentially finest and most accessible recreation areas; sulfuric acid from abandoned coal mines killing off plant and animal life; acid damaging boats, bridges, dams and other marine structures; loss of oyster beds and fisheries; depreciation of property values and increase in accidents and cleaning bills.

We cannot measure many of these economic and esthetic losses. One of the things that can be measured however is the increased cost of water supply. The treatment of polluted water is expensive and as water supplies become more and more contaminated the cost of purifying water for personal and industrial use rises. Over 30 billion gallons of water is treated daily for municipal use. If man-made pollution adds just five to ten cents to the treatment costs of 1,000 gallons of water, it drives America's water bill up by between 590 million and one billion dollars a year<sup>(4)</sup>.

Since industry and agriculture use nine times as much water as municipalities, we're obviously dealing with many billions of dollars a year in added costs. While we can only guess at the hidden costs of water contamination, there are numerous studies of the direct economic losses of air pollution to property, livestock and crops. The Department of Health, Education and Welfare (HEW) sets the total average cost per person from air pollution at \$65 annually. This estimate, although considered conservative by most observers, comes to over 11 billion per year.

The U.S. Weather Bureau indicates that American urban areas lose 15 to 20% of the available sunlight because of pollution. It is logical to assume that this is reflected in electric light bills. Such conditions also undoubtedly increase the hazards in auto traffic and cause delays in landings and departures of aircraft.

The harmful effects of air pollution on vegetation are evident. The orchid business in California has been wiped out. Auto pollutants ruin over \$10 million worth of crops every year in Southern California alone. In Florida citrus growers have abandoned well over 25,000 acres of orchards. Reports from across the U.S. indicate high losses to growers of apricots, grapes, blueberries, plums, apples, strawberries, cotton, wheat and barley. Nationwide, the damage to crops and livestock is estimated at \$500 million by HEW<sup>(5)</sup>.

(4) J.I. Bregman, *The Pollution Paradox*, Spartan Books, N.Y., 1966, p. 62.

(5) *The Pollution Paradox*, p. 68.

In urban areas the losses from cleaning and redecorating are even higher. Annual losses to department stores were found to be in the order of \$20,000 to 50,000 in a study of 15 large cities, while the loss to office buildings was placed at \$11,000 to \$35,000 and the loss to hotels at \$9,000 to 25,000<sup>(5)</sup>. The Environmental Health and Safety Research Association places the added cleaning costs to the average home owner at from \$30 to 60 a year.

Corrosion of metal is one of the most damaging air pollution actions. A research group in Springfield, Illinois found that steel corroded 30 times faster in that city than in nearby rural areas. Studies at Altoona State College indicate that corrosion takes place at between 3.2 and 25 times as fast on these metals.

Metal is not the only item injured. Sulfur oxides attack limestone, marble, roofing, slate and concrete. Rubber is destroyed by ozone which also causes textile colors to fade. Nitrogen dioxide and sulfur dioxide dissolve nylon.

What is the total cost? No one really knows. None of the estimates even considers the additions to health bills. Undoubtedly \$65 per person annually is low. America's air pollution bill is probably higher than \$11 billion a year, but no one can tell exactly how much higher.

### 3. PRESENT PROGRAMS AND EFFORTS AT POLLUTION CONTROL

In the following section we will examine present governmental and private efforts to control water and air pollution. As most of you know there are two levels of sovereign government in the United States—the federal level and the state level. It is from these two that both local and interstate (regional) governments derive their powers. Federal powers were granted in the constitution over all aspects of interstate commerce and over all navigable bodies of water. The states, of course, retain vast powers in the areas of pollution control that they are just now beginning to exercise.

Federal agencies have been concerned with water pollution since the passage of the Rivers and Harbors Act of 1899 prohibiting discharges that impeded navigation. However, this and succeeding similar legislation had little effect on dumping of municipal and industrial wastes<sup>(6)</sup>. Not until the Federal Water Pollution Control Act of 1948 provided the Department of the Interior with the authority to require the elimination of waste discharges into interstate waters were effective pollution control actions begun at the federal level. The 1957 and 1961 amen-

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(6) This legislation is still in effect. As recently, as Sept 1970, a case was brought in federal court based on it.

dments strengthened and broadened the enforcement powers to deal with pollution problems within one state, with, of course, the consent of the state involved. The process outlined in these bills begins with collecting of evidence that pollution endangers the health or welfare of specific persons. The second step are a series of conferences of control agencies to set up a program to deal with the problem. If necessary the process ends in public hearings and court action. This procedure is cumbersome and time consuming. Abatement has seldom taken place within three years of the public notice of federal surveys.

The Water Pollution Control Act and its amendments also provides for technical assistance, matching grants for the construction of waste treatment facilities, and assistance on comprehensive or area-wide planning of treatment facilities.

The following graph shows that since the mid 1950's, federal spending for water pollution control had slowly risen from \$1.2 million to about \$300 million. Last year Congress suddenly appropriated \$886 million for water pollution control but it is not yet obvious that the executive branch of government will actually spend that much.

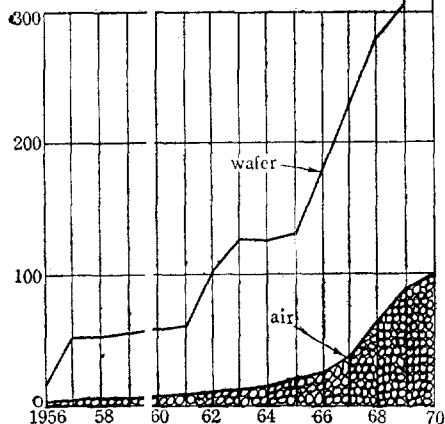
Even though federal intervention is limited to pollution that results from interstate commerce or pollution that crosses state lines, there are now 13 Congressional committees dealing with the environment. In addition there are 90 separate federal environmental programs plus 26 quasi-governmental bodies and 14 interagency committees already at work.

Within the Department of Agriculture there are at least three agencies working to protect water sources and to conserve the environment outside of urban areas as much as possible from the effects of pollution. The Agriculture Department also has a program to build up new, unpolluted recreation areas. Within the Department of Commerce there is the Business and Defense Service Administration which consults industry on ways of ending its air and water pollution. In the Department of Health, Education and Welfare, there is the single most powerful agency dealing with air pollution, the National Center for Air Pollution Control which offers grants, technical assistance and personnel training for air pollution control programs. Also in HEW is the office of Education which sets up courses on such matters as urban planning and conservation; and National Center for Urban and Industrial Health which conducts research on environmental sanitation and pollution control. The Department of Housing and Urban Development is also concerned with the problem and does basic studies on environmental control in urban areas.

The major cabinet level officer concerned with the environment has been the Secretary of

the Interior. Under the Department of the Interior is the Bureau of Land Management which manages federally owned land and conducts studies on urban open space planning and highway

FIGURE 1. FEDERAL POLLUTION CONTROL EXPENDITURES  
(millions of dollars)



Source: *News week* Jan 26, 1970, p. 25

planning; the Bureau of the Mines which has studied air and water pollution problems related to mineral use; the Bureau of Reclamation which runs America's water resource development programs; and the Federal Water Pollution Control Administration which is the most important agency concerned with water pollution. It reviews state water quality standards, carries out interstate enforcement activities, finances aid for municipal waste treatment projects, and provides money for river basin planning programs and interstate pollution control agencies.

Up to now there has been no single agency in the federal government organized to maintain an overall view of the problem. Agencies have tended to become special interest serving and bureaucratic and too often one agency is at odds with another. An example of this is that it is possible to get money from the Department of the Agriculture to fill in swamp land while the Department of the Interior will pay you to not fill the land.

A collective and coordinated approach by the federal government is finally emerging. President Nixon announced on May 29, 1970 the formation of an Environment Quality Council with himself as chairman and made up of six cabinet members. This group is meant to be a group of high administrators who can 'cut the red tape' when necessary. The council will be served by a staff of 15 professionals working under a \$300,000 budget in 1970, a \$700,000 budget in 1971 and \$1,000,000 each succeeding year.

President Nixon, by moving the federal government so quickly and efficiently into the battle to defend the environment, has almost completely stolen the issue away from the Democrats.

In Nixon's 1970 State of the Union Message he said, "I shall propose to this congress a

10 billion dollar nationwide clean-waters program to put modern municipal waste treatment plants in every place where they are needed to make our waters clean again ... this program will get them built within five years." Mr. Nixon has backed up his words with both force and money. The U.S. government appears to be enforcing for the first time water quality standards. In October, 1969 it told Iowa to stop dumping raw sewage into the Mississippi and Missouri Rivers. It also told Illinois, Missouri and Kansas to install water cleaning facilities faster.

In the 1966 Clean Water Act, Congress had stated that it would help pay up to 814 million for new municipal water pollution control. However Congress later cut appropriations drastically and many states were never paid back for their outlays. \$322 million is now owed them by the federal government. Mr. Nixon has promised the governors of these states that they will be reimbursed within two years.

At the state level, the basic decision to carry out pollution control activities rests with the governors and the state legislatures. Both must be willing to allocate sufficient funds and impose restrictions required for effective control. The state agencies can then take step to define pollution controls. Thus, for example, a state control board can forbid open burning, it can set up emission and water quality standards, it can require licensing of all new equipment capable of generating pollution and, most important of all, it can enforce the control measures through an effective system of inspection and legal action against offenders.

State and local governments are waking up fast to the political aspects of pollution. Roughly one quarter of the bills now before the California Assembly deal with pollution control<sup>(7)</sup>. One of the laws passed by California in 1968 was a bill making ecology and conservation required subjects of instruction in the state school system.

The fight against air pollution began at the federal level somewhat later than that against water pollution. Although small amounts of money were spent on the air pollution problem before 1933, it was not until then that Congress gave the administration permission to begin real operations against this problem. The provisions of the Clean Air Act of 1963 followed the administrative pattern of the Water Pollution Acts mentioned before. The Clean Air Act also allocated money to help states and cities build up their own air pollution control staff.

In 1965 Congress amended the Clean Air Act of 1963 to establish controls over the emissions of automobiles and to require antipollution devices on all new cars. Although this program

(7) *Newsweek*, Jan 26, 1970.

has been in effect now for over two years it has not lead to a noticeable improvement in the situation. This has been caused by a number of factors. First it will take nearly a decade to replace all the unregulated older cars now on the road that were built before the law went into effect in 1967. Secondly, few states have done anything to assure the effectiveness of the devices after the car has left the factory by providing for regular inspection of the equipment. Last, it should be pointed out that the number of cars on the road increases each year so that any gains made in reducing emissions per car are wiped out by having so many more cars producing pollution.

The federal government is just beginning to admit the importance of the automobile in producing pollution. Although the automobile makes about 50% of the air pollution in most cities, only about 3% of the National Air Pollution Control Administrations budget was spent on motor vehicle research last year. The NAPCA has awarded the Thermo Electron Corporation a contract (\$174,173) to design a steam car and the Marquardt Corp. a contract (\$96,683) to study ways of minimizing steam engine pollutants. The Department of Transportation has also moved into the field with a contract for a prototype steam powered bus.

Even though the federal government has not strongly supported research into automobile air pollution it does remain about the only source of such information. The efforts in the field were really begun in 1965 with the allocation of money for the construction of a research laboratory devoted solely to the study of automobile air pollution. It was established to develop emission standards and to design new techniques for reducing auto pollution.

The Air Pollution Act of 1967 was passed to set up regional air quality control regions. This law permits the federal government to pay up to 75% of the cost of regional pollution control efforts. Since 1965 the federal government has paid out \$58 million in grants under this program. About 90 Air Quality Control Regions have so far been set up.

Under the Clean Air Act, the National Air Pollution Control Administration of the Department of Health, Education, and Welfare is required to publish air quality criteria for those pollutants harmful to health or welfare, and to publish reports on the technology which can be employed to control the sources of those pollutants.

The criteria describe what is known of the effects of exposures to various concentrations of pollutants for various lengths of time. They provide the States with the latest scientific information for use in developing standards of air quality for the protection of public health and welfare in the designated air quality control regions. These air quality standards will



become the goals of control efforts in the regions.

The control technology reports identify the best methods available for controlling the sources of the pollutants for which criteria are issued...whether these methods involve the application of control equipment, changes in fuel use or industrial process, or any other practical approach.

Under the Act as soon as the Department has designated a region, has published criteria on a pollutant or a combination of pollutants, and has published the related control technology information, the state or states responsible for the designated region are on notice to develop standards for the region for those pollutants and to develop plans for implementing the standards. The governor or governors of the affected states have 90 days to signify their intent to set air quality standards, 180 additional days to hold public hearings and adopt standards, and a further 180 days to adopt plans for implementation and enforcement of the standards. The standards and plans for implementation are then submitted to the Department of Health, Education and Welfare for review and approval. As with water pollution control, the process is long and time consuming<sup>(8)</sup>.

As shown in Figure 1, the outlays for all phases of air pollution control by all agencies of the federal government rose from \$2.7 million in 1955 to \$33.2 million in 1969.

Aside from these 90 Air Quality Control Regions set up under the Air Pollution Act of 1967, it is up to the states and local governments to initiate smog control. The total amount budgeted by state, regional and local air pollution control agencies last year was \$47 million of which \$20.5 million came from the federal government and is included in the \$88.2 million mentioned above. This means that a total of only \$114.7 million was spent by all levels of government in 1969 on air pollution control.

States and local governments also generally set low penalties for air pollution. In one state the polluter is fined only \$10 for a violation of the air pollution code. Under these circumstances it is probably cheaper for the individual to keep on polluting and pay the fines than to clean up the source of the pollution. Enforcement is also generally weak and administration in many places is muddled. For instance both Chicago and Cook County, which cover almost the same geographic area, both have air pollution agencies charged with doing the same job.

A quick examination of the various state laws also reveals that few states have bothered to banned open burning or backyard incinerators which are a major source of pollution.

City air pollution control agencies range in effectiveness from that of Los Angeles with

(8) The process listed above is as outlined in the HEW Newsletter for Aug. 12, 1970.

a staff of 30 and a budget of \$4.6 million who have a record of bringing to court over 40,000 offenders in the last 20 years, to Boston with a three man staff and a \$60,000 budget. The whole state of Massachusetts, in which Boston is located, has brought only 22 court cases in the last 5 years.

There is some evidence of improvement at the local level. To mention only a couple of examples, Kentucky's staff has grown from 4 to 33 men in the last 4 years. Texas has grown from 3 part time employees with an \$11,000 budget to 40 full time employees with a \$450,000 budget in 3 years<sup>(9)</sup>. Such examples are, however, more the exception than the rule. Slow progress can be attributed in part to complexities of air pollution, which challenge both administration and public understanding, and in part to the inertia of the governmental bureaucracy, and in part to outright obstruction on the part of the polluters.

On pollution control boards across the country, it is common practice to give several seats to industry even though industry is the most likely party to be prosecuted. Colorado's nine man board, for instance, contains 2 doctors, an engineer, 3 public representatives and 3 industrial representatives. In Chicago 13 of the 27 positions are occupied by representatives of big polluters.<sup>(10)</sup> Is it really any wonder that they move so slowly to solve the problem?

Be that as it may, there are now about 200 state, regional and local agencies dealing with air pollution control alone where only 10 years ago there were almost none. Also, as shown in Figure 2, expenditures have gone up from virtually zero to almost \$50 million while much data has been gathered and many personnel trained. Air pollution experts all agree that the pace of progress will be dependent on the amount of pressure the public provides.

FIGURE 2  
MONEY SPENT AT THE LOCAL, REGIONAL AND STATE GOVERNMENTAL  
LEVEL ON AIR POLLUTION CONTROL (millions of dollars)

Year	Federal	Non-federal	Total
1961	0	9.3	9.3
1965	4.1	9.6	13.7
1969	20.5	26.8	47.3

Source: *Business Week*, Jan., 3, 1970, p.63-64.

Conservation groups historically have been a leading force in water pollution control efforts.

(9) *Business Week*, Ja. 3, '70. p.63.

(10) *Business Week*, Ja. 3, '70. pp.63-64.

(11) Ecotatics: *The Sierra Club Handbook for Environment Activists*, Ed. bp J.E. Mitchell, Pocket Books, N.Y., 1970.

Such groups include the National Wildlife Federation, the Wilderness Society, the Wildlife Management Institute, the Sport Fishing Institute, the National Audubon Society and the Sierra Club. The Sierra Club has recently published a book on the politics of conservation titled *Ecotactics*<sup>(11)</sup> which describes itself as a how-to-do-it book on "teach-ins, attacks on giant industry pollution practices, community concern, (and) boycotts."

The Sierra Club has also obtained five injunctions against the government, the most interesting of which was an order to restrain any further action to develop a Disney sponsored 'Alpine Village' at Mineral King National Forest.

Conservation organizations have, however, been staffed largely by volunteers working part time on a small budget in an area where they are usually pitted against industries employing full time publicists and lobbyists, with their salaries being tax deductible as a business expense.

For these reasons the old conservationists have welcomed the new interest in ecology. As Michael McCloskey stated in the preface to *Ecotactics*, "We have tried, and sometimes succeeded, but we have often been outnumbered and shouted down. So now we are cheering, we are cheering at the sight of fresh reinforcements from the nation's campuses.....If the Sierra Club can ever be of any help to you on the battle lines, just let us know"

This recent upsurge in interest in pollution control has made itself felt in almost all states of the union. Pressure from voters has:<sup>(12)</sup>

1. Stopped construction of a 56 million dollar coal burning electric plant in L. A.
2. Stopped planning of a 300 million dollar coal burning plant in San Bernadino, California.
3. Forced new, sharply revised standards of water quality in Los Angeles Harbor.
4. produced new statewide air quality standards in Arizona with such conservatives as Barry Goldwater leading the way.
5. produced stringent controls on the development of the San Francisco Bay Shoreline.
6. produced moves to block any increase in public utility rates unless they eliminate their pollutants in Chicago and other cities.
7. Officials in Minnesota are moving to shut down one of the largest employers in the state (annual payroll of 25 million dollars) unless they add \$8 million worth of pollution control equipment to their plant.
8. Stopped development of a huge jetport in the Florida Everglades west of Miami.

These are only a few examples of what is happening. In state after state, pollution has

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(12) *U. S. News and World Report*, Feb. 9, 1970, p.22.

been made a key political issue as voters have voiced strong objection of the environment.

Public pressure is also forcing industry to begin cleaning up its own pollutants, The Ford Motor Company is going to build a \$7.5 million research center devoted entirely to studying further ways of cutting pollution from auto exhausts. American Cyanamid has developed methods of reclaiming thousands of acres of land scarred by its phosphate mining operations. Bethlehem Steel spent an extra \$37 million to stop its pollution of Lake Michigan. Dow Chemical plans to spend \$20 million to treat wastes at its main plant alone<sup>(13)</sup>.

U.S. airlines have also agreed to eliminate most of the smoke produced by jet engines by late 1972. The installation of new burners is now going on at a rate of 200 a month. The total cost will be between 13 and 15 million dollars.

However, as we will examine later, industry now has few real incentives to end pollution. For example if a company like Ford produces a new, more efficient afterburner for its automobiles then the government would probably require all new cars to have such a device. This would raise costs and reduce sales for all the auto companies. The Ford Company would therefore be foolish to make a serious attempt at solving the problem under present conditions.

At the same time as the above are going on, pressure from students has led to the creation of 106 centers for the study of environmental sciences at colleges and universities in the U.S. according to a report of the Subcommittee on Science, Research and Development of the U.S. House of Representatives<sup>(14)</sup>. Most of the centers are interdisciplinary efforts involving the departments of engineering, public health medicine, the physical and biological sciences and the political and social sciences. Environmental Law is a rapidly growing field, spurred by citizen's efforts to bring legal action against industry and government.

#### 4. COSTS OF CLEANING UP

Estimates on the total cost of cleaning up the American environment range from \$50 to 100 billion to be spent over the next five years. One of the better studies done in this field is presented in Figure 3 which gives the annual capital and operating costs of the clean up as calculated by the Harvard Center for Population Studies.

For air pollution control, well over half the money is needed to control automobile created pollution, \$2.5 billion out of \$4.1 billion total. For water pollution control most of the money

(13) *Newsweek*, Jan. 26, 1970, p.45.

(14) *IPS Bulletin*, 8/25/70, p.425.

must go into initial capital costs (\$3 billion) vs. operating costs (\$1.7 billion). The two major categories under water pollution control are of course municipal sewage treatment (\$1.5 billion) and industrial effluent treatment (1.6 billion).

The last section of the table lists costs for solid waste disposal. The Harvard Center obviously believes that about the same amount of money should be spent in each of these fields annually (between \$4.1 and 4.7 billion).

If the costs of clean up listed here are correct and as well as some of the approximations of the cost of air pollution as detailed earlier, then it is probably cheaper to clean up the environment than to go on polluting.

FIGURE 3 THE ANNUAL COST OF POLLUTION CONTROL (billions of dollars)

<u>Type of Pollution</u>	<u>Capital</u>	<u>Operating</u>	<u>Total</u>
<b>Air Pollution</b>			
Automobile afterburners	1.5	1.0	2.5
Sulphur dioxide removal from stack gases	0.3	1.0	1.3
Industrial control equipment	<u>0.3</u>	—	<u>0.3</u>
Total	2.1	2.0	4.1
<b>Water Pollution</b>			
Reservoirs for waste oxidation in rivers	0.4	—	0.4
Municipal sewage	0.9	0.6	1.5
Industrial effluent treatment	1.1	0.5	1.6
Separation of combined sewers	0.5	—	0.5
Electric utility cooling towers	<u>0.1</u>	0.6	<u>0.7</u>
Total	3.0	1.7	4.7
<b>Solid Waste Disposal</b>			
Collection of municipal wastes	—	2.6	2.6
Incineration of municipal wastes	—	0.7	0.7
Landfill operations	—	0.3	0.3
Junk auto disposal	—	0.2	0.2
Domestic waste disposal	—	<u>0.9</u>	<u>0.9</u>
Total	—	<u>4.7</u>	<u>4.7</u>
<b>Total</b>	<b>5.1</b>	<b>8.4</b>	<b>13.5</b>

Source: Harvard Center for Population Studies

## 5. POSSIBLE COURSES OF ACTION FOR THE FUTURE

If America decides that it is time to clean up the environment, the next obvious question is who is going to pay the bill, the taxpayer or the consumer? Although these are to some

extent the same individuals, it is of extreme importance to recognize some of the problems involved in deciding which pocket they will pay the price out of.

It has been pointed out by a number of observers<sup>(15)</sup> that the most direct and most widely used method, regulation, is probably the least efficient. The government can decide what each polluter must do to reduce pollution and if they do not do this, take them to court. The first problem in applying this method is that unless constant inspection is made, the polluter has little real reason to install the devices or operate them correctly. This means that a large staff of inspectors must be maintained. Also the polluter has no incentive to find better ways of reducing pollution. This sort of direct regulation has a long and not so glorious history of inadequacy in American public administration. The bureaucracies only rarely show much energy, imagination or even identification with the public interest.

A slightly improved version of the above is to set an acceptable level of pollution for each source and let the polluters then find the cheapest way to reach this level. But the setting of acceptable levels creates problems with the necessity for long negotiations all too often influenced by the political power of the polluters, and, in some cases, the honesty of the government negotiators may be tested.

A second method of controlling pollution is to subsidize the reduction of pollution through direct governmental financial incentives, such as Congress' recent action in setting tax incentives for air pollution control devices. In this way the government picks up part of the bill for new pollution control equipment through the forgiving of taxes. This method of pollution reduction probably will not help greatly. The first problem with it is that it seems basically unfair to subsidize the activities that contribute most to pollution. This method also does not cover all the costs of abatement efforts and so leaves companies with the difficult decision of how much profit to sacrifice for the public good. It also offers no inducement to managers to find more efficient ways to eliminate pollution.

The last method we will consider is the simplest of all. If the problem is the great difference between the private costs of economic decision making, as reflected in the price structure for various products, and their 'social costs', which include the impact of pollution on the environment, and if we accept the view that the operation of the free market will allocate resources to their most efficient uses, then we must somehow add the social costs into the private cost

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(15) One of these is Edwin S. Mills in *Economic Incentives in Air-Pollution control*, *Economics of Air Pollution*, ed. by Harold Wolozin, 1966, W.W. Norton and company, N.Y., a second is Larry Ruff in *The Public Interest*, Spring 1970, pp.69-85.

structure. The pollution crisis will not be solved until the cost of the pollutions harm to the environment is included directly in the cost of the various products. The easiest way to do this to charge polluters for the damage they do the environment.

Under this anyone could produce as much air or water pollution as he wishes so long as he is willing to pay the set price. This price would, hopefully, approximate the social cost of pollution. In theory, the price should vary from area to situation to situation. For example, the tax on water pollution should vary with the amount and the strength of the pollutant and also with the size of the stream and it's ability to naturally treat the wastes. In practice the cost involved in setting up and running such a complex operation, both in terms of money and time, will probably exclude the making of too many such 'fine' distinctions.

A pricing system like this seems to allocate costs in a fair manner. Those who produce and consume goods which cause pollution pay the costs of that pollution. Another advantage is that great amounts of information are really not needed initially. You simply pick a price, almost any reasonable price will do, and then the fun begins. Of course, as mentioned before, the initial price should be chosen with some idea of it's probable effects, but it certainly does not need to be the optimal one. If the resulting reduction in pollution is not enough, then the price can be raised until there is enough reduction. A comparatively uniform price is also easy for the public to understand. If there is too much pollution the public does not have to get in any technical arguments and claims made for various types of control equipment, all it has to do is demand that the price be raised.

The pricing system not only doesn't cost the government anything, it actually pays for it's own administration with a healthy surplus left over. This is also one of the dangers of this proposal. The pollution price may be considered at some future time as a means of raising general revenue rather than simply a way to reduce pollution. This, as Larry Fuff pointed out, would lead to an overly pollution free, inefficient situation. This danger can be minimized by demanding that any additional revenue generated be used to fight public pollution.

Another problem is that the price would result in a significantly lower rate of growth in the national GNP. This would show up especially in a significant loss of export trade. Hopefully the public would understand this before the voted the tax in.

If stiff anti-pollution standards or prices are set, it will force polluters to 'internalize' costs now borne by the public at large. Managers would try to find the most efficient means of reducing the pollution and, to the extent that they were unsuccessful, the cost of pollution

control would be passed on to the consumer, thus discouraging the use of products that contribute most to environmental damage.

A bill to start this process has been introduced by Senator Proxmire (D-Wis) which would levy a federal effluency fee of 10 cents a pound for industrial water pollution. This would produce between 1.5 and 2 billion a year, half of which would be used to subsidize municipal waste treatment operations.

## 6. Summary

In this paper we have considered some of the political and economic aspects of pollution control. We have looked at the costs of pollution to the general public and found them to be surprisingly high. We have also considered what the government of the United States is now doing to control pollution. We have looked at some of the reasons why pollution control has not been more successful in the past. Lastly we considered the cost of controlling pollution and some of the possible programs to reduce the damage being done to the environment.

In closing a couple of things should be stated. First, the decision is not one between clean air and dirty air or between clean water and dirty water. The choice in a rational sense must be to set and achieve an acceptable level of pollution. As long as people choose to live in an urbanized, industrial society, some pollution will be created.

The next point should be the most obvious of all. The American people as a whole will set that 'acceptable level of pollution' that we were talking about in the last paragraph. They will set it by the amount of public pressure they bring to bear on the government, on industry and on themselves, the consumer.