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June 89

CLEAN AIR

**FACT SHEET:**

**PRESIDENT BUSH'S CLEAN AIR PLAN**

Fulfilling a major campaign commitment, President Bush today proposed a comprehensive program to provide clean air for all Americans.

The President's plan calls for the first sweeping revisions to the Clean Air Act since 1977, and represents the first time an Administration has put forward a proposal since that time.

The President's plan is designed to curb three major threats to the nation's environment and to the health of millions of Americans: acid rain, urban air pollution, and toxic air emissions.

"Americans have a right to clean air," the President said in a speech of the East Room of the White House, "and today we are going to work to make sure that they get it."

The President noted that while emissions of some pollutants -- such as sulfur dioxide, urban ozone, and carbon monoxide -- have been reduced since passage of the 1977 law, progress has not come quickly enough. The President's plan will dramatically accelerate the pace of pollution reduction and put America on the path toward markedly cleaner air by the end of the century.

The President's plan will:

- o Cut sulfur dioxide emissions virtually in half by the year 2000. The plan calls for a 10 million ton reduction in SO<sub>2</sub>, and a 2 million ton cut in nitrogen oxide (NO<sub>x</sub>) emissions, for a total reduction of 12 million tons in acid-rain causing emissions.
- o Bring all cities currently not meeting the health standards for ozone and carbon monoxide into attainment. Most cities will attain the standard by 1995, and the plan is designed to ensure attainment in all but the most severely impacted cities by the year 2000. *All cities will be in attainment by the year 2010.*
- o Require factories and plants emitting toxic compounds into the air to employ the best technology currently available in order to achieve in the near term a cut estimated at 75 to 90 percent in pollutants suspected of causing cancer. Taken together with efforts to reduce cancer-causing emissions from cars and trucks, it is estimated that the plan will eliminate in its first phase over three-fourths of the annual cancer deaths that air toxics are suspected of causing.



### Fundamental Principles

Five goals underlie the President's clean air proposals and the means for accomplishing them:

- o Protection of Public<sup>N</sup> Health<sup>IS</sup>. The goal of the legislation is to prevent public exposure to cancer-causing agents and to protect those citizens, especially vulnerable populations, such as the elderly, asthmatics and children, who live in cities with dirty air that does not conform to national health standards.
- o Improved<sup>IN</sup> Quality<sup>THE</sup> of Life. The proposal will improve the quality of life for all Americans by exercising responsible stewardship over the environment for future generations.
- o Early<sup>Achieving</sup> Reductions and Steady Progress. The proposal establishes realistic timetables to meet air quality standards, but contains provisions to cut substantial amounts of air pollution in the near term, while requiring steady progress toward reducing emissions that are harder to control.
- o Harnessing the Power of the Marketplace. The proposal calls for the use of marketable permits to achieve acid rain reductions and emissions trading to achieve reductions from automobile pollution, so as to clean the air to a certain standard while minimizing the burden on the American economy.
- o Employment<sup>ING</sup> of Innovative Technologies. The proposal encourages development of clean coal technology, alternative fuel systems for automobiles, and other cost-effective means of using new technology to cut pollution.

*considered* The President's plan thus allows for both environmental protection and economic growth, two long-standing concerns often seen to be at odds with each other. By incorporating both concerns in his proposal, the President seeks to break the gridlock which has characterized the debate on clean air for the past several years.

## ACID RAIN

### Highlights:

- o Sulfur dioxide reductions of 10 million tons and nitrogen oxide reductions of 2 million tons.
- o <sup>FIVE</sup> Four million tons of reductions in the first phase by 1995.
- o Marketable permits to allow maximum flexibility for utilities to achieve required reductions in the most efficient and least costly manner.

### Background:

"Acid rain" occurs when sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions undergo a chemical change in the atmosphere and return to the earth in rain, fog, or snow.

Approximately 20 million tons of SO<sub>2</sub> are emitted annually in the U.S., three-quarters from the burning of fossil fuels by electric utilities; 20 percent from other, more widely dispersed industrial sources; and 5 percent from transportation sources. The source of most SO<sub>2</sub> emissions causing acid rain are old (pre-1971) electric power plants, not subject to the existing Clean Air Act's strict emissions requirements on newer plants. Fifty power plants are responsible for about half of all SO<sub>2</sub> emissions. About 20 million tons of NO<sub>x</sub> are emitted per year, with transportation sources (cars, trucks, and buses) accounting for <sup>APPROXIMATE</sup> half.

Acid rain causes damage to lakes, forests, and buildings, contributes to reduced visibility, and is suspected of causing damage to human health. <sup>ed</sup>

Since 1970, the U.S. has spent \$225 billion to control air pollution. American industry spends about \$33 billion a year on air pollution controls (\$10 billion by the electric utility industry). Partially as a result, SO<sub>2</sub> emissions have been reduced by almost 20% since 1977, despite a substantial increase in coal consumption during the period since then.

Any acid rain control program will increase electricity rates for affected utilities. Generally speaking, however, proposals with greater flexibility will result in smaller rate increases. Thus, the President's proposal to allow trading among utility companies will ensure that protection from acid rain is achieved in a less costly fashion than many of the more traditional "command and control" proposals that have previously been made.

The President's plan represents a major new innovation in harnessing the power of the marketplace to protect the environment.

The President's proposal calls for:

- o A reduction of 10 million tons of sulfur dioxide by the year 2000, using a baseline year of 1980 for tons of SO<sub>2</sub> emitted, primarily from coal-fired power plants.
- o A two-phase program in order to <sup>five</sup> ensure early reductions. A reduction of ~~four~~ million tons by <sup>the end of</sup> 1995 is required in the first phase. <sup>All states are required to meet this standard by the end of 1995.</sup>
- o A 2 million ton reduction of NO<sub>x</sub>. The plan would, however, allow utilities to trade reductions of NO<sub>x</sub> for reductions of SO<sub>2</sub>, and thus represents a call for a total of 12 million tons in acid rain-causing pollutants. <sup>of this standard by the end of Phase II.</sup>
- o <sup>At the end of</sup> An extension of the Phase II deadline ~~to the year 2003~~ for plants adopting clean coal technologies, combined with regulatory incentives designed to smooth their transition into the marketplace. This will ~~not~~ only allow the United States to make good on the major investment the President has called for in clean coal <sup>AND</sup> ~~it~~ will also ensure that coal continues to play an important role in America's energy future.
- o Freedom of choice in cutting pollution. The plan requires all plants above a certain size in affected states to meet the same emissions standard, but does not dictate to plant managers how the standard should be met. The plan, which affects the 31 states east of the Rocky Mountains, ~~also~~ requires the dirtiest plants to make the greatest cuts in pollution. The emissions standard would be set at the rate necessary to achieve <sup>five</sup> four million tons in the first phase, and then would be tightened so as to achieve a ten million ton reduction in Phase II. <sup>Largest plants</sup>
- o Maximum flexibility in obtaining reductions. The plan would allow utilities to trade required reductions so that they will be achieved in the least costly fashion. In the first phase, trading would be allowed among electric plants within a state or within a utility system. Full interstate trading would be allowed in phase II. <sup>in Phase II.</sup>
- o The estimated cost of the President's proposal would be \$3.8 billion annually in the second phase, and approximately \$800 million per year in the first phase. While this represents an increase of over two percent by the year 2000 in the nation's \$160 billion a year electricity bill, the flexibility built into the President's plan reduces, by up to half, the cost of various competing proposals mandating the use of specific technology.

## URBAN AIR QUALITY

### Highlights:

- o Employs a mix of Federal measures and state initiatives to cut sharply air pollution in our Nation's cities. The Federal measures alone will cut urban ozone -- the primary contributor to urban air pollution -- nearly in half, and help bring all cities into compliance with air quality standards.
- o Sets realistic timetables for attaining the standards but is designed to ensure steady progress toward meeting that goal.
- o Contains new initiatives to promote alternative fuels to reduce pollution from cars, buses, trucks and motor fuels, and to harness the power of the marketplace to ensure cost-effective reductions.

### OZONE:

#### Background:

Based on data measured during the summers of 1985 to 1987, over 100 million people live in 81 urban areas across the country that exceed the health standard for ozone. In some cities, such as Los Angeles, the situation is persistent and severe (176 days in violation of the health standard in 1988); in other cities the problem is marginal (Lancaster, PA, is listed as non-attainment, but, in fact, has exceeded the Federal standard for only 4 hours in the last 3 years).

The President's plan is designed to ensure that over two-thirds of the cities now out of attainment -- all but about 25 cities -- come into attainment by 1995. All but the three most seriously polluted areas (Los Angeles, Houston, and New York) will come into attainment by the year 2000; and these special cases will be given until 2010 -- contingent upon a requirement in the President's plan that they show significant annual progress toward cleaning the air and meeting the health standard.

Ozone is formed when volatile organic compounds (VOCs) are mixed with nitrogen oxides (NOx) in the presence of sunlight. Heat speeds up the reaction, and therefore concentrations are usually higher in the summer months. Exceedances of the ozone standard (.12 parts per million) grew sharply during the especially hot summer of 1988. If a city exceeds the standard for at least one hour on four or more days during a three year period, it is judged to be "out of attainment" with the standard.

Exposure to ozone causes short term effects, such as shortness of breath, coughing, and chest pains, that are particularly acute for asthmatics, children, and senior citizens. Moreover, ozone is suspected of playing a role in the long-term development of chronic lung diseases and permanent lung structure damage. In addition to health effects, ozone has effects on vegetation, including crops such as soybeans, wheat and corn; is damaging forests in California; and is suspected as a contributing agent in damage to forests in the Southeastern U.S.

The major sources of VOCs, the most important ozone pre-cursor, are motor vehicles (40%); small "area sources," e.g., bakeries, dry cleaners, and consumer solvents (40%); large point sources, e.g., petroleum refineries (15%); and gasoline refueling (5%).

Many large point sources have already been required to reduce emissions by roughly 90 percent from uncontrolled levels under the Clean Air Act, and tailpipe emissions from new vehicles have been reduced by 96 percent. The smaller "area" sources are largely uncontrolled.

VOC and NOx emissions have decreased nationally since 1978 -- VOCs by 17 percent and NOx by 8 percent -- despite growth in population, travel and industrial activity. As a consequence, <sup>declined</sup> the trend in ambient ozone concentrations was ~~actually down~~ by 9 percent from 1979 to 1987. Increases occurred again, however, in the hot summers of 1987 and 1988.

The deadline for meeting urban ozone standards set back in 1977 under the existing Clean Air Act has already expired. Despite this progress in reducing ozone, the deadlines have not been met. Without new legislation, the EPA will be required by law to impose Federal Implementation Plans (FIPs) on several major American cities. These FIPs could involve draconian controls that will sharply curb economic growth and dramatically alter the lifestyles of local residents.

Moreover, over the next decade, both EPA and the Federal Highway Administration estimate that growth in automobile use will begin to outstrip ~~any~~ reductions that occur from fleet turnover, so that VOC emissions will increase after 2000.

Thus, additional measures ~~are needed~~ to reduce ozone-causing emissions are needed if Americans are to have air that is clean enough to meet the health standard. The President's plan sets forth these additional clean air measures.

Some measures required under current law will help reduce VOC's. These include:

- o The effect of tightened automobile and truck tailpipe emission standards, which will continue to cut emissions as older cars are replaced with new ones;

- o The implementation of required inspection and maintenance programs by state and local governments;
- o Volatility controls on gasoline. Earlier this year, the Bush Administration required a reduction of gasoline volatility (to a standard of 10.5 pounds per square inch);
- o Selected stationary source controls.

It is estimated that these measures will reduce VOC emissions from baseline levels by 18% by 2005. They will bring 23 cities into attainment by 1995, but without additional controls, increased automobile use will cause many of these to slip back out of attainment, leaving 72 cities out of attainment by 2005.

Additional Federal Measures Under the President's Proposal:

In an ambitious effort to bring all cities into attainment, the President's proposals call for:

- o Further tightening the volatility requirements for gasoline nationwide during the summer months to reduce evaporative emissions which cause ozone formation, by 8 percent. *AN EPA... THIS WILL REDUCE VOC...*
- o Reductions in vehicle evaporative emissions caused by automobile running losses, which will cut VOC emissions by an estimated 4.2%.
- o Federal regulations to control damaging emissions from treatment, storage, and disposal of hazardous wastes, which will cut VOC emissions by 3.2%.
- o Providing EPA with the authority to regulate VOC emissions from small sources and consumer products, such as consumer solvents and paints, which EPA estimates will cut VOC emissions by 2.5%.
- o Tightening hydrocarbon emission tailpipe standards for automobiles by almost 40%. The current standard will be tightened to the level soon to be required on all California vehicles (from .41 to .25 grams per mile). This will cut VOC emissions by 0.4%.
- o A first time requirement for light duty trucks to meet the same tailpipe standard now required of automobiles (.41 gpm). This will cut VOC emissions by 0.2%.
- o Expanded vehicle inspection and maintenance programs in serious non-attainment areas, which will cut VOC emissions by 1.2%.

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- o Requirements to extend the life of emissions control devices from 50,000 miles to 100,000 miles which will cut VOC emissions by 1%.
  - o Provide EPA new authority to issue control technology guidelines (CTGS) to major stationary source emitters (factories and plants). The most cost-effective control guidelines will be issued first. These guidelines are expected to result in a 3.5% reduction in VOC emissions.
  - o Provide for the use of alternative fuels -- such as clean burning methanol, natural gas, and ethanol -- in the most serious non-attainment areas. The President's plan is designed to ensure that 1,000,000 clean-fueled vehicles are introduced into America's most polluted cities by the year 1997. The program will not only reduce VOC emissions by an additional 2 to 5%, it will dramatically reduce toxic air emissions such as benzene, toluene, and xylene.

#### The Long-Term Clean Fuels Program:

The clean fuels program proposed by the President is perhaps the most innovative and far-reaching component of his proposal. It is designed to provide a long-term reconciliation of the environment and the automobile -- so that Americans can continue to enjoy economic growth, freedom in using their motor vehicles, and clean air.

The Administration proposes to replace a portion of the gasoline fleet in certain cities with new vehicles that operate on clean burning fuels. In the 9 major urban areas where current data shows the greatest concentration of ozone, the Administration's plan calls for the phased-in introduction of alternative fuels and clean-fueled vehicles to run on them according to the following schedule:

500,000 vehicles in 1995  
 750,000 vehicles in 1996  
 1,000,000 vehicles in 1997 and thereafter

10 42. SUNSET

The major metropolitan areas affected by the plan are: Los Angeles, Houston, New York City, Milwaukee, Baltimore, Philadelphia, Greater Connecticut, San Diego, and Chicago. If these areas are able to demonstrate that they can achieve analagous reductions in VOC's and toxic air chemicals through other measures, the plan would allow them to "opt out" of the alternative fuels program. The plan would also allow other cities to be included in the program at their request.

The President's alternative fuels program, combined with other motor vehicle and fuel measures in the plan, will shrink the contribution of vehicles to the ozone problem from the current 40

percent to ten percent. ~~It~~ this represents not only an alternative to some of the more disruptive driving controls currently being considered by some states, but also a bold and innovative means of reconciling continued use of the automobile by a growing society with the ~~desire~~ ~~and the right~~ ~~to cleaner~~ ~~air.~~  
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#### Effect of the Federal Measures Proposed by the President:

Taken together, ~~all of~~ the Federal measures proposed by the President, combined with the effect of measures being pursued under current law, will cut ozone-causing VOC emissions nearly in half. EPA estimates the program will reduce annual emissions by 46% by the year 2005. In and of themselves, these measures would bring all but about 20 cities into attainment with the ozone standard.

Because of the President's commitment to ensuring clean air in all American cities, however, his plan calls for additional measures to be undertaken by the states in order to meet the standard for healthy air.

#### State Measures Under the President's Proposal:

Under the President's proposal, the roughly 20 cities with the most serious ozone pollution problems would be required to take steps to cut ozone-causing emissions by 3 percent per year beyond the cuts projected from the Federal program.

This will guarantee that, even as more realistic deadlines for meeting the standard are set, those cities with the most significant air pollution problems will be on a steady path toward cleaner air.

#### Emissions Trading: Harnessing the Power of the Marketplace to Protect the Environment

The President has also directed the EPA to develop rules and regulations which will provide companies with the maximum flexibility in achieving the pollution reductions called for in his plan.

Specifically, the President's plan would require the Administrator to develop rules which will allow automobile and fuel companies to achieve the emissions reductions called for in his proposal in any way they choose -- as long as they can certify to EPA that the combination of measures they select will allow them to meet the same emissions standards as the program outlined by the President.

This "emissions trading" concept is already being employed by the State of California. It represents a market-based means of achieving pollution control in the most cost-effective way. The EPA would publish these regulations at the same time as it

publishes regulations implementing the other control measures in the President's plan. If companies cannot demonstrate alternative means of achieving the same amount of pollution reduction, they would be required to implement the control measures outlined above.

## CARBON MONOXIDE:

### Background:

Carbon monoxide (Co) is a colorless, odorless gas that tends to reduce the oxygen carrying capacity of the blood. It is a particularly serious health threat to individuals who suffer from cardiovascular disease, especially those with angina or heart disease. Unlike ozone, carbon monoxide problems are worst in cold weather.

Two-thirds of CO emissions come from motor vehicles. Emissions of carbon monoxide decreased 25 percent from 1978 to 1987, despite a 24 percent increase in vehicle miles travelled during that period, largely because of controls already in place on emissions from cars, buses, and trucks. Some improvement from these controls will continue, as older, more heavily polluting cars are gradually replaced on America's roads by newer, cleaner vehicles. Currently, cars purchased before 1981 amount to only 38 percent of the vehicles miles traveled (VMT), but they account for over 86 percent of CO emissions.

As use of the automobile continues to grow, however, it is expected that many American cities will not attain the health-based carbon monoxide standard. That standard is 9 parts per million (ppm), measured over an 8-hour period. If a representative reading of monitors in an area shows that it exceeds the standard for two or more 8-hour periods, it is classified in "non-attainment."

There are currently about 50 American cities not meeting the standard. As with ozone, in some cases, cities exceed the standard only moderately. About 6 urban areas, however, have a carbon monoxide problem classified by EPA as "serious".

EPA estimates that even as vehicle miles travelled (VMT) grow, the effect of fleet turnover will bring almost half of those cities currently violating the standard into attainment. Several of the measures in the President's proposal designed to curb ozone-causing emissions will also help reduce carbon monoxide. These include the measures described above to tighten tailpipe standards for light duty trucks, to extend the useful life of emissions control equipment on automobiles, and to improve state and local inspection and maintenance programs.

Even with these measures, however, <sup>some</sup> several American cities will continue to have a carbon monoxide problem. To bring these cities into compliance with the health-based standard, the President's proposal contains several important measures designed to cut carbon monoxide emissions.

Specifically, the President's plan calls for:

- o A major new program to promote the use of clean-burning oxygenated fuels, which emit dramatically less carbon monoxide. The plan would require those cities with the most serious carbon monoxide problems to use gasoline blended with oxygenated fuels during the winter months. Oxygenated fuels include ethanol, methanol, ETBE, and MTBE.

Blending oxygenates into fuel will not only reduce carbon monoxide, it will also sharply reduce toxic air emissions caused by aromatics in conventional gasoline.

The President's plan would allow cities to "opt out" of the oxygenated fuels requirement, if they could demonstrate to EPA that they would come into attainment of the carbon monoxide standard using other measures.

EPA estimates that requiring oxygenated fuels in areas with serious carbon monoxide problems will reduce carbon monoxide emissions by an additional 18% in these areas.

- o Giving EPA the authority to issue regulations for a carbon monoxide cold temperature standard. Carbon monoxide problems are exaggerated when motor vehicles start in exceptionally cold weather. This standard has the potential to reduce carbon monoxide emissions by 7 to 12 percent.

The President's plan will bring the vast majority of cities into attainment with the carbon monoxide standard by 1995, and will bring all American cities into attainment by the year 2000.

#### PARTICULATE MATTER:

##### Background:

Particulate matter (PM10) includes acid sulfates, toxic organics and metals, and insoluble dusts that come from traditional stack emissions, as well as area sources such as wood stoves and open burning. Construction, roadways and mobile sources also contribute to the problem.

PM10 can cause premature death in elderly and ill persons, aggravation of existing respiratory disease, increased respiratory illness and other effects.

Particulate matter (PM10) standards were revised in 1987 to address smaller particulate matter particles most likely to penetrate the lungs.

The President's program will:

- o Require reasonably available control measures to meet the standard.
- o Ensure that the majority of cities meet the standard by 1994, and that all cities meet PM10 standards by 2001.

## TOXIC AIR POLLUTANTS

### Highlights:

- o Dramatically accelerates progress in controlling major toxic air pollutants.
- o Uses best technology available to cut air toxics.
- o Promises certifiable progress in regulating sources of toxic air emissions on a set schedule.

### Background:

The emission of toxic chemicals into the air is believed to cause cancer and other health effects in humans.

Since 1974, EPA has been required to regulate such emissions in order to provide an "ample margin of safety" to the public. Because this margin has been difficult to define and has been the subject of continued litigation, EPA has had difficulty proceeding with regulation under the law. Since passage of the statute, it has published regulations for only seven toxic air pollutants.

Because the statute has proven unworkable, the President has proposed a major revision of the law in order to guarantee greatly accelerated progress in reducing the damaging effects of toxic air pollution.

Data recently released by the EPA indicate that 2.7 billion pounds of toxic chemicals are emitted into the air each year. EPA estimates that these emissions contribute to approximately 1500-3000 fatal cancers annually. Toxic chemical emissions are associated also with respiratory disease and birth defects.

Motor vehicles and stationary sources each account for approximately half of air toxic emissions. The measures in the President's plan designed to curb VOC emissions and promote alternative fuels will sharply reduce emissions from motor vehicles.

The President's plan also includes a major new initiative to reduce air toxic emissions from stationary sources (factories, plants, and other such sources).

A majority of identified carcinogens are emitted by about 30 industrial categories, including steel mills (coke ovens), rubber, pulp and paper, chromium electroplating, electric utility cooling towers, and solvent users. The President's plan is designed to reduce quickly emissions from these sources.

The President's program will:

- o Establish a set schedule for regulating major sources of toxic air pollution. Under the plan, EPA will publish regulations for controlling ten source categories with two years, 25 percent of source categories by 1995, 50 percent of the source categories by 1997, and all categories of air toxics by 2000.
- o Require emitters of toxic air pollution to use the Maximum Available Control Technology (MACT) to sharply cut pollution. This means that EPA would set a standard based on the best technology currently available. Plants would then be required to meet that standard; with some exceptions for those who have already reduced most air toxics and for very small plants to add flexibility.
- o Encourage voluntary reductions early, before standards are even published, by providing credit for those reductions against the MACT requirement.

*After 10 years (Phase I) if there is*

- o Require the EPA Administrator to assess any remaining risk after reductions from state-of-the-art technology and determine the need for further controls. The Administrator could then require: a) up to a 90 percent further reduction or b) additional controls based on any "unreasonable risk" being posed to the public.

It is estimated that the President's air toxics initiative, will eliminate in the first phase about three-quarters of the cancer deaths caused by toxic air emissions from factories and plants.

The annual costs of the program are difficult to estimate until actual standards are published, but current EPA estimates center at about \$2.0 billion per year.

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*Based on his assessment, the EPA Administrator could set additional standards based on "unreasonable risk" which would allow considerations of cost and technology. Standards would well as risks (eg health effects).*