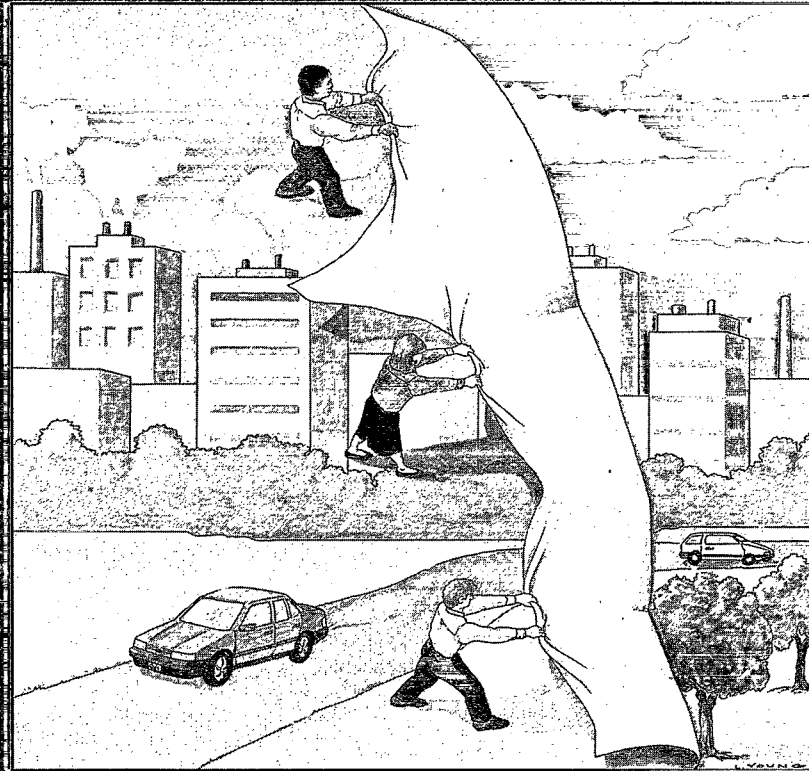


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THE CLEAN AIR ACT OF 1990

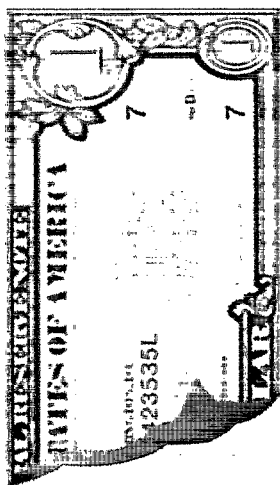
A GUIDE TO PUBLIC FINANCING OPTIONS

U.S. ENVIRONMENTAL PROTECTION AGENCY

PREPARED FOR THE CLEAN AIR ACT ADVISORY COMMITTEE

PREPARED BY THE ENVIRONMENTAL FINANCIAL ADVISORY BOARD

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"The
synergy
created by two
advisory groups working together
— advisory groups of this quality —
is really team work
at its best."

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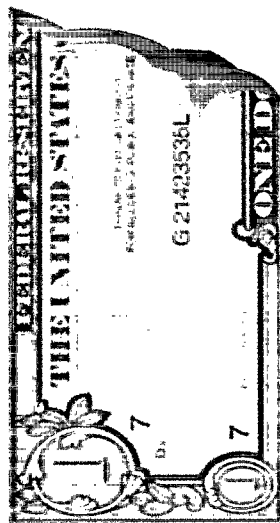
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THE CLEAN AIR ACT OF 1990:

A Guide To Public Financing Options

The new Clean Air Act may be the most progressive and sensible environmental initiative ever enacted.

The new Clean Air Act can produce tremendous public health benefits.

It also can be very expensive — but it doesn't have to be.

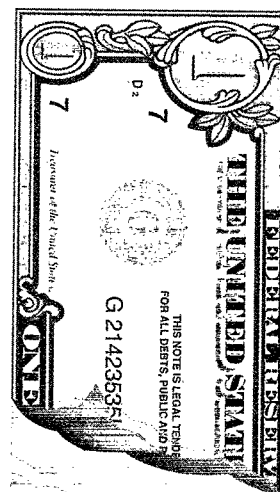
Under the Clean Air Act of 1990, state and local governments are responsible for implementation and compliance activities. As EPA's partners, state and local air quality agencies must expand many existing regulatory programs and add new ones to implement fully and comply with the Clean Air Act.

The benefits of the new Act are expected to be enormous — EPA estimates that 56 billion pounds of pollution will be removed from the air each year. In human terms, these measures will significantly reduce lung disease, cancer, and other serious health problems. The impact on the environment will be equally significant — less acidic lakes, more abundant crops and forests, and enhanced visibility.

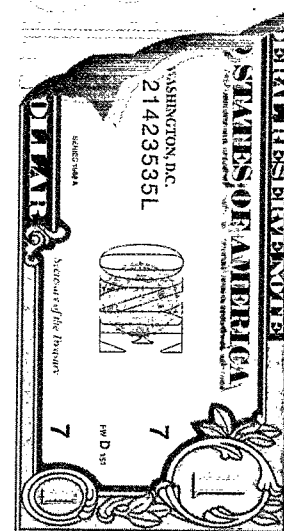
Clearly, the costs of achieving such health and environmental benefits will be substantial. While the eventual cost is still unknown, air programs across the nation currently are assessing the costs of these new and expanded regulatory programs and compliance actions, and the share of the financial burden that will be borne by state and local governments.

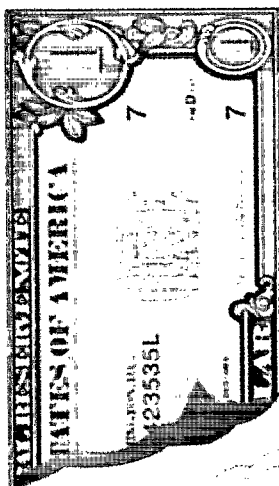
This guide examines opportunities both within the provisions of the Clean Air Act and within current air program financing arrangements for state and local authorities to meet the funding requirements of the new Act. In the Act, Congress provided authority to all state and local air agencies to charge emissions fees at levels sufficient to cover their air permit programs. Even with this new authority, state and local governments will need to explore alternative funding mechanisms and other arrangements to cover program costs not associated with the permit program. The financing mechanisms described in this guide may provide additional funding for state and local air quality agencies and are intended to supplement, but not replace, existing general revenues or federal grant assistance.

The Clean Air Act also encourages several market-based programs, such as an allowance trading program that enables utilities to buy and sell emission credits and mobile source trading between fleets of vehicles. While these and other innovative programs can reduce the overall cost of implementation to both the public and private sectors, the focus of this guide is on public financing options to support implementation and compliance activities. By "working smart," state and local governments can lower the costs and increase the results of implementing the Act.

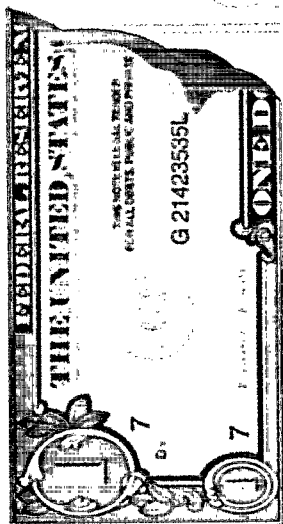


The financing mechanisms in this guide are intended to supplement, but not replace, existing general revenues or federal grant assistance.





*The strength of
the state programs
is enhanced
by relying on a
diversity of
funding sources.*



Historical Sources Of Funds

— Federal Grants, Permit Fees, and General Revenues —

Historically, state and local air agencies have relied on three sources of revenues to support air programs — federal grants available under Section 105 of the Clean Air Act, a variety of fees and charges, and state and local general revenues. On average, federal grants have funded some 35 percent of state and local programs. The percentage of fees, charges, and general revenues that make up the remaining balance is as diverse as the hundreds of state and local air agencies.

Broadening Sources Of Funds And Financial Arrangements To Meet Clean Air Act Challenges

While the Clean Air Act's new air emissions permit fees (under Title V) are expected fully to fund direct and indirect expenses associated with running these programs, these fees will not recover the costs of running many other air quality control activities, such as mobile and area source control. To finance these and other air program responsibilities, state and local agencies may have to explore a wide variety of approaches, including:

- **New Revenue Sources**, such as fees other than Title V emissions fees, taxes on polluting activities or on inputs that cause air pollution, and fines and penalties.
- **Regional Authorities and Special Districts** that provide an efficient means of implementing air programs because of their ability to consolidate administrative requirements, capture economies of scale, target problem areas, and raise revenues through special assessments or service charges.
- **New Institutional Approaches**, such as revolving loan funds, trust and enterprise funds, and bond banks, which help publicly owned sources comply with Clean Air Act requirements at low cost, and which match revenues to their intended uses.
- **Public-Private Partnerships** that may accomplish certain program elements at lower cost than can purely public alternatives, depending on the characteristics of the partnership. Possible candidates include mobile source emissions inspection, emissions inventories, and ambient monitoring.

Matching Financing Sources To Air Program Activities

The alternative revenue sources and institutional arrangements discussed in this guide demonstrate that there is an array of options for financing state and local regulatory programs and compliance activities. Individual revenue sources may be more appropriate for some uses than others. When selecting revenue mechanisms, program managers should consider the timing of revenues, total revenue potential, reliability of revenues over time, and fairness across those who pay and those who either benefit or cause air pollution.

Similarly, financial management mechanisms should be carefully matched with the uses of funds to be managed. Important considerations in structuring such arrangements include local characteristics such as conventions for balancing intergovernmental powers, authority to raise revenues or manage funds on behalf of the public, budgeting and accounting conventions, and political willingness to delegate fiscal responsibility.

Public financing is only one of the many challenges facing states and local governments as they address the requirements of the new Act. The mechanisms suggested here, while not the answer to all program needs, can provide the financial foundation for new and expanded state and local programs.

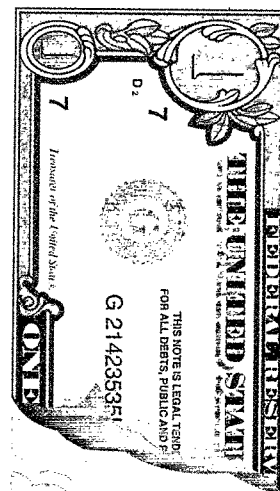
Introduction

Under the Clean Air Act of 1990, state and local governments must establish an array of new and expanded programs to protect the nation's air quality. To be sure, these programs will be costly, but the federal Environmental Protection Agency is also taking a more flexible approach to implementing these laws, and providing multiple options to clean the air. By "working smart," states and local governments can help achieve clean air in a cost-effective way. Critical to the success of the Clean Air Act is the development of adequate resources to implement the many new and expanded requirements of the law. This paper examines financing alternatives that can be used to support state and local implementation activities. The financing mechanisms described in this guide may provide additional funding for state and local air quality agencies and are intended to supplement, but not replace, existing general revenues or federal grant assistance.

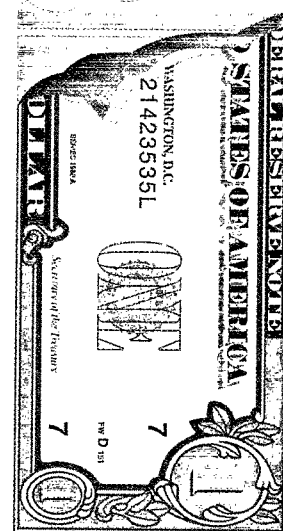
This guide is intended to assist state and local authorities as they explore alternative financing options for implementation of the requirements of the Clean Air Act. The sections below describe the requirements of the law and related state and local program requirements, and introduce a range of financing mechanisms and institutional approaches that state and local governments can draw upon in establishing new program activities.

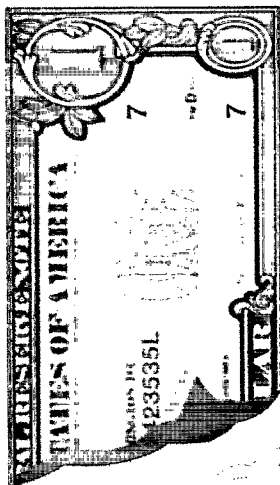
Requirements Of The — CLEAN AIR ACT OF 1990 —

The Clean Air Act of 1990 will result in the single largest environmental regulatory program initiated under a federal statute. The Act is comprised of 11 titles, covering a wide variety of air quality issues ranging from bringing nonattainment areas into compliance with air quality standards to addressing the problems of acid rain and ozone depletion. The table located near the back of this guide (page 20) presents the key provisions of the Clean Air Act by title.

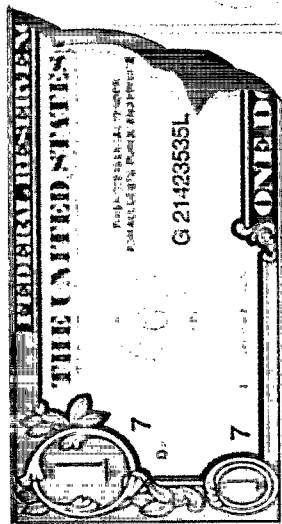


*We must
have your help.
The key to
"lower-cost
clean air"
is a working
partnership...*





While permit fees (under Title V) are expected to fund the full expense associated with the stationary source permit program, they will not recover the costs of running other activities, such as mobile and area source control.



Under the Act, state and local regulators are on the front-line of implementation. To implement the new Act, state or local governments, where authorized, will need to adapt and enhance basic programmatic and regulatory activities as follows:

- ◆ Prepare and implement State Implementation Plans (SIPs);
- ◆ Implement permit programs for stationary sources;
- ◆ Create economic incentives programs, including emissions fees and marketable permits;
- ◆ Improve monitoring of emissions from stationary sources;
- ◆ Create new inventories of ozone-causing emissions;
- ◆ Enforce Stage II control programs at gasoline stations;
- ◆ Adjust inspection and maintenance programs for mobile sources to comply with the basic and enhanced provisions of the Act;
- ◆ Take the Clean Air Act into consideration in transportation planning, including the creation of new transportation control programs under the 1991 Intermodal Surface Transportation Efficiency Act; and
- ◆ Bring state and local public facilities (including stationary sources and state fleets) into compliance.

Implementation of these activities will increase the size, scope, and cost of state and local air programs over the next several years. The costs of these new or expanded programs, and the share of the financial burden that will be borne by state and local governments, is currently being assessed by governments across the nation.

Meeting The Financial Needs Of The — CLEAN AIR ACT OF 1990 —

Historically, states have relied on three sources of revenues to support air program activities — federal grants (and in particular §105 funds), state permit fees, and general revenues. In the past, federal grants have comprised as much as 35 percent of state and local program funding. A significant portion of state and local air program funding also has come from state general revenues. In Maryland, for example, general fund revenues accounted for 36 percent of the total expenditures of the Air Management Administration in 1991 (total expenditures of \$5.5 million). Federal grants provided 35 percent of funding needs, with permit fees accounting for 18 percent, and 11 percent coming from reimbursements and other

sources. As of 1990, at least 24 states and 25 local air authorities had air permit programs that were supported at least in part with permit fees.

Title V of the Clean Air Act requires that states impose emissions fees on stationary sources at levels sufficient to finance the Title V permit program. States must charge at least \$25 per ton per regulated pollutant unless they can prove that a smaller charge will cover the full direct and indirect costs of the permit program. This program will greatly augment states' financial resources to administer pollution control programs by requiring sources of pollution to pay their share of the costs of states' air pollution programs. While this helps, it will not meet all of the new program requirements outlined above because: (1) fee revenues can be used *only* for the Title V permit program (which covers primarily stationary sources); and (2) fees are not likely to cover the full cost of the program, especially in the interim period before full implementation, since a number of states are choosing to phase-in full cost recovery fees over several years.

Even with increased permit fees, it is clear that states will need to do more to meet the increased costs of the Clean Air Act. Four categories of possible actions are described here:

- **New revenue sources;**
- **Regional authorities;**
- **New institutional approaches; and**
- **Public-private partnerships.**

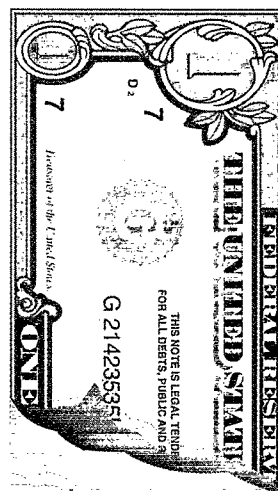
Financing mechanisms and institutional arrangements within these four categories build on opportunities in the provisions of the Clean Air Act and in current air programs so that state and local authorities can meet the funding requirements of the new Act. The following matrices summarize these options and offer a framework for assessing the relevance of options to particular funding needs at the state and local levels.

The first matrix lists the revenue options available to state and local air pollution programs and assesses the applicability of each revenue option at both

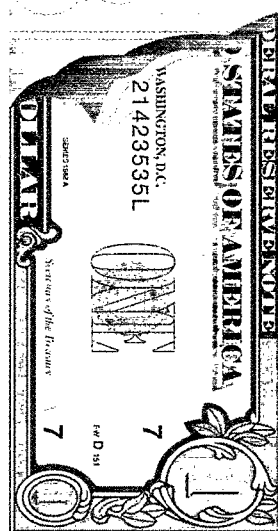
Summary Of Revenue Options

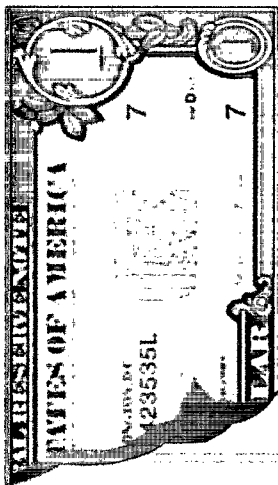
Programs... Sources Of Revenue...	State-Administered		Locally-Administered	
	Capital Costs	Program Costs	Capital Costs	Program Costs
Federal Grants	○	●	○	●
Fees	●	●	●	●
Taxes	●	●	●	●
Fines/Penalties	○	●	○	●
Privatization	●	●	●	●
State Loans and Credit Enhancements.....	○	○	●	○

● Fully Applicable ○ Partially Applicable ○ Not Applicable



...state environmental programs cannot, and probably should not, be totally dependent for funding on fee based revenues.





the state and local level. It delineates between capital and programmatic costs because a revenue source is often more appropriate for one or the other classification of cost. Applicability is assessed based on the timing of revenue collection versus the timing of the costs being incurred and the availability of the various revenue sources, along with their relative reliability.

The second matrix summarizes relevant fund management mechanisms, identifying the revenue source with which they are commonly associated, the level of government most likely to use the mechanism, and the level of government benefiting from or receiving the funds.

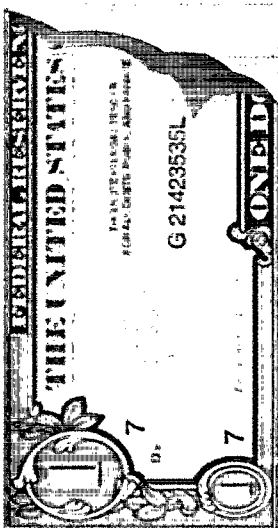
Summary Of Fund Management Mechanisms

Management Mechanisms	Associated Source Of Revenue	Fund Administered By:	Manages Funds On Behalf Of:
Annual Appropriations	General Revenues	State or Local	State or Local
Revolving Funds	Loans	State	Local
Bond Banks	Debt	State	Local
Enterprise Funds	Fees	State or Local	State or Local
Trust Funds	Grants or Loans	State or Local	State or Local

New Revenue Sources

While the Title V permit fee program provides an important funding source to states, it is only one source and its applicability is limited. In addition, it will take a number of years for states to implement permit fee programs because, in most cases, new state legislation is needed and because EPA must approve all permit programs. Each state must submit a permit program to EPA for approval by November 15, 1993. EPA then must approve or disapprove the program within one year of its submittal. Within one year after a state has an approved program, it must have collected applications from sources. All permits must be issued within three years of program approval (by November 1997, at the latest). Some states will implement a program and collect fees earlier, but other states may not collect fees until the end of this implementation period. Some states are collecting interim fees prior to full implementation to help cover the start-up costs associated with establishing the new permit program, but these fees do not necessarily exactly match the federally mandated permit fees; nor are they set to recover the full cost of implementation.

States will need to identify alternative funding mechanisms to cover new air program costs not associated with the permit program and to fund the short-term costs of implementing new permit programs before the fees are fully



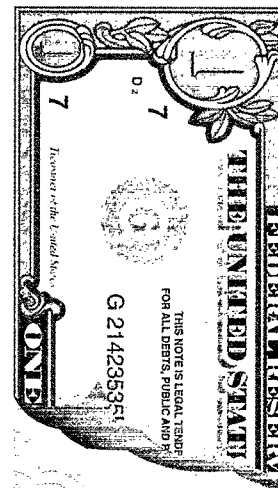
implemented. Possible funding mechanisms include fees (other than the Title V permit fees), taxes, and fines and penalties.

Not every financing mechanism will be appropriate for every state or local program. Within each jurisdiction, political, administrative, and legal characteristics will influence the selection, design, and implementation of a financing mechanism. The accompanying box lists eight key factors that can be used to evaluate the merits of each mechanism in the context of the program it is designed to finance. In general, no single financing mechanism will completely satisfy all criteria. Equity considerations, for example, may be qualified by concerns over administrative costs, economic impacts, and incentive effects. Taken together, however, these criteria form the basis for selecting an appropriate financing mechanism for a specific program activity.

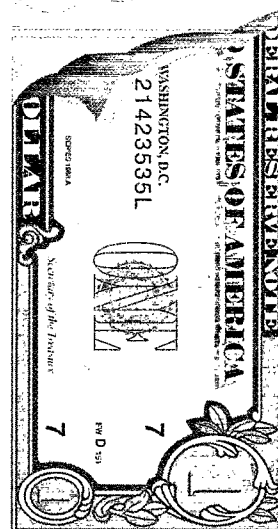
Criteria For Evaluating Financing Mechanisms

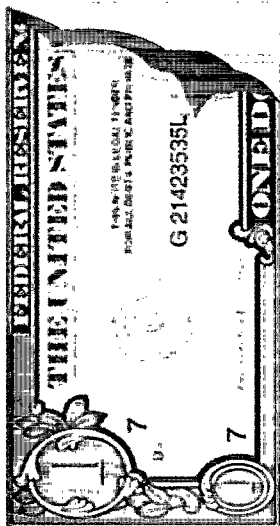
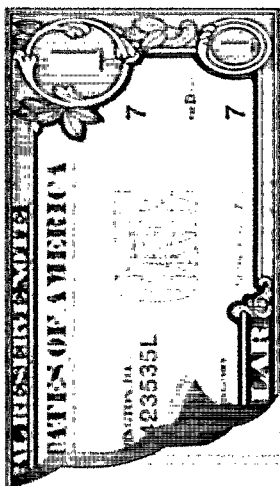
- **Equity** reflects the fairness of the distribution of the funding burden among individuals. Equity in clean air programs can be approached from two directions — those who create or contribute to environmental problems should bear the funding burden (the "polluter" pays) or those who benefit from program activities should bear the funding burden (the "beneficiary" pays).
- **Legislative acceptability** reflects the political attractiveness of a financing mechanism. There are unique legislative predispositions in each state that often influence the choice of a financing mechanism.
- **Public acceptability** reflects the willingness of those subject to a fee or tax to pay, or the willingness of the public to make a particular sector pay.
- **Flexibility** reflects the ability to use revenues from alternative financing mechanisms as needed for a variety of program activities.
- **Revenue potential** is measured by the amount of money that can be raised with a particular financing mechanism, and whether a mechanism provides a one-time or continuing source of revenues.
- **Feasibility** relates to the legal authority to impose a fee or tax as well as to factors that affect the workability of a financing mechanism.
- **Administration requirements** relate to the effort needed to implement an alternative financing mechanism, including start-up costs and on-going collection and management of funds.
- **Impacts** relate to whether a financing mechanism creates incentives for desirable (or possibly undesirable) behavior, and whether it places an undue financial burden on industry or general taxpayers.

Source: Discussion Paper on Alternative Financing Mechanisms for State Water Programs.
Prepared by Apogee Research, Inc., for EPA's Office of Water, November 1989.



By
"working smart,"
state and local
governments can
help achieve
clean air in
a cost-effective
way.





Fees

A fee is generally a charge for a particular activity or service.

Fees for public services are intended to establish a direct link between the demand for services and the cost of providing them.

Many of the activities conducted by states as part of their air quality programs could be supported by a "fee for service." For example, fees may be charged for issuing permits, inspecting facilities, discharging or disposing of materials, monitoring, and sampling, or for the incremental burden (or "impact") placed on public services by new development. This could include fees imposed on non-Title V sources, such as small boilers and area sources. Examples of new fees for mobile sources include additional vehicle inspection fees, registration fees, and new vehicle fees.

In Maryland, for example, the Air Management Administration (AMA) has imposed an Asbestos Contractors' License fee of \$75-\$450 (depending on the number of employees engaged in asbestos projects). The fee is charged to businesses, contractors, and public entities who engage in an asbestos project. Other fees funding the AMA's budget include permit-to-construct fees, fees for new emission-generating facilities operating in a non attainment area, and permit-to-operate fees. Oregon has instituted an emission-based motor vehicle fee of \$2 for pre-1980 cars and \$1 for newer cars levied at the time of registration. The estimated \$3.5 million in annual revenues will go to a special Department of Transportation fund to be used for alternative transportation projects to mitigate motor vehicle air pollution.

New York is considering a broad array of new or increased fees to finance both stationary and mobile source requirements, including an emissions fee of \$250 per emission point for non-title V sources (e.g., small boilers), increased inspection and registration fees, a new vehicle fee, and fees on "excess" vehicle miles travelled (VMT). In addition to raising revenues, several of these options are intended to create incentives to reduce air pollution. For example, the "excess" VMT fee might encourage drivers to be more efficient in using their vehicles (e.g., by combining trips) or to shift to an alternative mode of transportation.

Surcharges on existing mobile source fees could also provide support for state and local air pollution programs. For example, Florida finances state and local air programs through a \$1 surcharge on auto license tags. If a county has a local air pollution control program that the state has declared eligible for funding, it receives \$0.75 of the surcharge from the automobiles registered within the county. If the county does not have such a program, the entire amount is dedicated to the state's air pollution control program. As of March, 1992, over seven Florida counties had programs which were partially supported by this license fee.

In many cases, fees are set to recover the full cost of the service for which they are being collected. Indeed, this is a requirement of the Title V permit fee programs by the time they are fully implemented. One way to ensure maxi-

imum utilization of a financing mechanism such as the Title V permit fee is to ensure that all of the activities related to the permit program are included in the costs to be recovered through permit fees. For example, a comprehensive Title V permit program would include not only the cost of issuing a permit, but also the indirect costs of administering the program, such as monitoring emissions, inspecting facilities, developing and maintaining new source inventories, and planning-related activities, as well as indirect departmental overhead costs.

ADVANTAGES

A fee is often the most equitable means of matching program costs with those parties responsible for or benefiting from program activities. Both legislatures and the public are increasingly comfortable with charging "fees for service." Fees can generate substantial revenues at relatively low rates where the base is fairly large. In addition, fees can be designed to tap "new" sources of revenues that do not overlap or compete with existing sources of program funding or general revenues. Finally, fees can induce desirable changes in behavior (such as reduced air emissions).

DISADVANTAGES

Many state legislatures are reluctant to set fees high enough to recover program costs. Historically, states and localities have charged only a nominal amount for services, with the remaining costs financed with general revenues. As a result, "fees" that are acceptable to the public today are relatively low. This creates a dilemma for state programs that rely on fees to support their program activities but that cannot raise fees to cover full cost without encountering public resistance. Another potential disadvantage of fees is that where they fall on the same parties, materials, or activities as another assessment, there may be competition from other programs that already rely on that source of funds (e.g., many vehicle-related charges may compete with highway or transit programs). Finally, if fees are perceived as too high, they could create incentives to avoid payment through relocation, noncompliance, or other means.

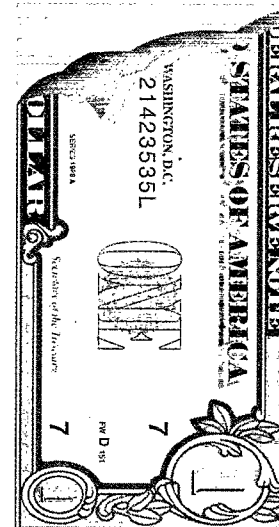
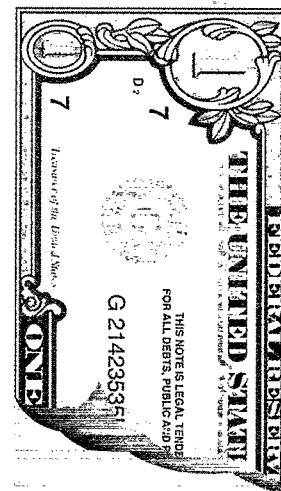
Taxes

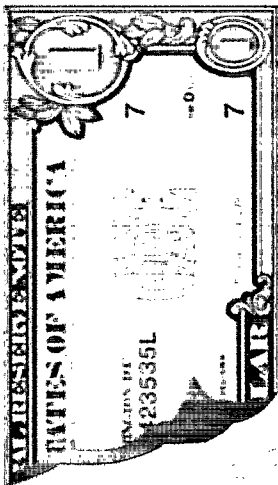
A tax is generally a charge against sales, income, or property.

Taxes are typically used when program funding needs are large and when the benefits of an activity are widespread.

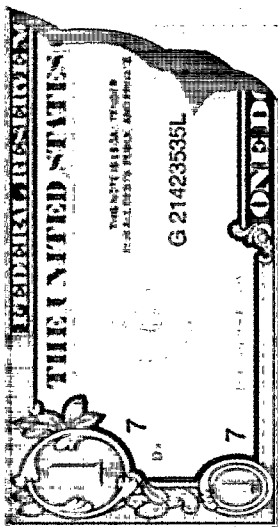
Unlike fees, there may be less of a direct relationship between the tax and the use of funds.

Taxes are the primary source of general fund revenues. Sales and income taxes comprise the majority of state general revenues, while property taxes are the primary source of revenues for local governments (exclusive of revenue sharing from the state). The mix of revenues from different taxes varies significantly from state to state, reflecting factors such as the level of manufacturing





*...we need
more flexibility.
The job is simply
too big for any one
sector or level of
government.*



or industrial activity, political predispositions, and historical preferences.

Air programs have two options for using taxes to support their programs. They can seek financial support from legislatures in the form of increased appropriations from general revenues or seek dedication of specific tax revenues. As states and localities face increasing demands on their general funds, environmental programs are experiencing decreased appropriations even as new regulatory requirements are driving program costs up. In the face of such competition, it may be more constructive to look for new and dedicated taxes, rather than attempt to capture a greater share of general fund appropriations from year to year.

For state or local air quality programs, taxes on sales or income provide some opportunity for establishing a dedicated revenue source. A sales tax could be levied on products or activities that contribute to air pollution, such as gasoline or automobiles. An income tax or tax surcharge could be imposed on those businesses whose industrial activities contribute to air pollution. New York is considering an excise tax on automotive parts to help finance its mobile source program. In California, the Sacramento Air Quality Management District is partially funded by a local option sales and use tax on retail sales in the county, a share of which is dedicated to the local air authority. Other examples include severance taxes on coal and oil, tolls, a value-added tax (VAT) on certain manufacturing processes, and property transfer taxes.

ADVANTAGES

Depending on the base, a tax can build directly on the principle that the polluter or beneficiary pays. For example, a tax on products that contribute to pollution problems (such as pesticides or gasoline) falls on "polluters," while a tax on protected resources falls on "beneficiaries." Where the tax base is broad (e.g., sales or income), a tax at even a low rate can generate substantial revenues. Imposition and collection of taxes may be relatively straightforward — generally, the commodities on which a tax is levied have value and the point of transaction (e.g., sales) can be clearly identified. Further, the mechanisms of existing state agencies may be used to collect revenues. Finally, taxes can be designed to avoid state-to-state and international competitiveness concerns by targeting consumers as opposed to producers of products, thus avoiding possible relocation by industry to avoid the tax.

DISADVANTAGES

A major disadvantage to using taxes to fund state air programs is public and legislative opposition. In particular, many legislatures resist dedicating tax revenues to particular programs; instead, they may reserve their taxing authority (and tax revenues) for the general purposes of the state, and insist that state air programs compete with other public programs for revenues. In today's tax climate, public resistance to new taxes is also high. Also, where a clear opportunity for dedicated taxes exists (such as an automobile excise tax) there may be competition from other programs or from the state's general fund for those revenues (e.g., in

Washington, an auto manufacturer's tax, which was initially proposed to support cleanup of Puget Sound, was diverted by the legislature to the state's air program). A further objection to taxes for specific program funding is that the relationship between the tax base and target populations (polluters or beneficiaries) is sometimes tenuous. Some taxes may be difficult to justify beyond the fact that they raise needed program funds. Finally, taxes may be regressive, imposing greater costs on low income households relative to higher income households.

Fines and Penalties

Fines and penalties are imposed primarily for violations of federal or state requirements or regulations.

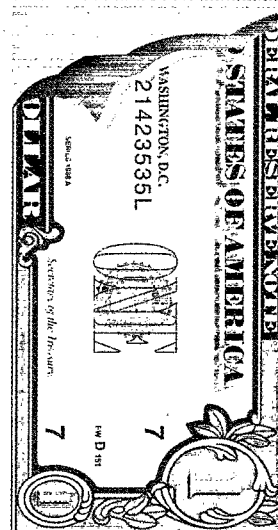
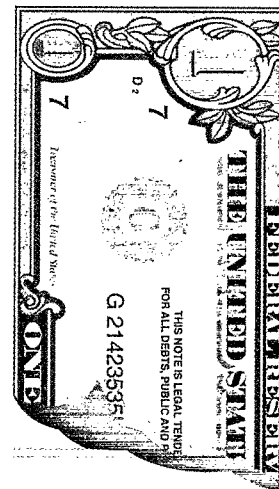
Whereas fees and taxes may be collected on everyday activities, fines and penalties are collected only on the exceptions to normal operations. As such, fines and penalties typically do not provide a steady stream of revenue. More often, fines and penalties have been used to create positive incentives (e.g., improved compliance).

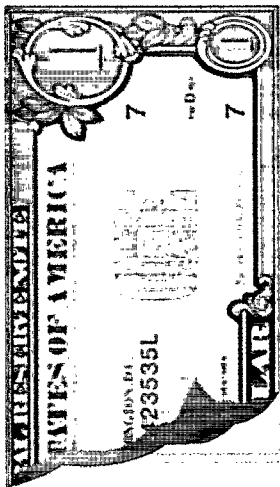
ADVANTAGES

Fines and penalties adhere closely to the principle of "polluter pays." As a result, they enjoy both public and legislative acceptability. They also may be an effective means of creating incentives for desired behavior, if violations can be detected and the resulting fine is higher than the cost of the desired behavior (such as installing a preventative measure). Finally, states may exercise considerable discretion in the use of revenues from fines and penalties.

DISADVANTAGES

The feasibility of fines and penalties is dependent on the enforcement authority's ability to detect potential violations. This may require extensive inspection, monitoring, and enforcement activities. Without such enforcement activities, the value of fines and penalties as a source of funds or as an incentive is lost. Revenues from fines and penalties may be sporadic, and do not provide a steady and predictable stream of revenues for program operations. Finally, reliance on fines or penalties as the only source of funds for program activities could create perverse incentives for the state agency to pursue unnecessary enforcement actions.





Regional Authorities

A regional authority is an independent agency created through an intergovernmental agreement among participating local jurisdictions.

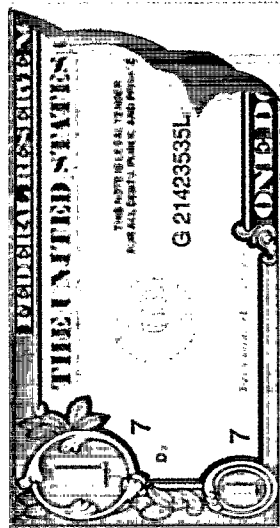
The authority generally is governed by a board of directors comprised of representatives from the participating governments.

In some states, implementation of air programs may be better managed at a sub-state level. At the same time, the county or local level of government may be too small to capture the geographic aspects of air emissions and dispersion of pollution. In response, some states have allowed for the creation of regional authorities to deal with the problem. Regional authorities may offer a cost-effective means of implementing program requirements.

Several states have long-standing regional air pollution control authorities. In Oregon, state law expressly allows cities and counties to form regional air pollution control authorities by adopting local ordinances. If the state Environmental Quality Commission determines that the boundaries of the authority are reasonable and the proposed financing is sufficient, the state delegates its air permitting activities to the regional entity. There is currently one such regional authority in Oregon, which is financed through a combination of state and federal grants, permit fees, local funding, and enterprise activities. Because the local authorities are ultimately responsible for their own financing, the cost of air permit implementation to the state may be reduced.

Special districts offer another means of forming a sub-state or regional entity that encompasses several local jurisdictions. Special districts are limited-purpose local governments created as separate entities, often with substantial independence from general-purpose local governments (e.g., counties, municipalities, and townships). A special district can be created by state law to provide environmental program services. Characteristics of special district governments differ widely among the states, with varying degrees of administration and fiscal autonomy provided for by state legislative provisions. Special district governments are known by a variety of titles, including districts, authorities, commissions, and boards. Options for sources of revenue include special fees or taxes, special assessments, and tax increment financing. Of the special districts in the United States, 43 percent have the power to impose district-wide property taxes, 24 percent impose service charges, and 14 percent have the power to impose special assessments.

The state of California has created independent local air pollution control districts to implement air quality programs. The principle sources of revenue for these districts are permit fees, automobile registration surcharges, and local special taxes. For example, the Sacramento Air Quality Management District, which has been in existence since 1975, finances its \$8 million budget through a combination of local sales taxes, county automobile registration fees, permit fees, and federal and state grants.



ADVANTAGES

Regional authorities can consolidate administrative and other activities in a single agency, eliminating duplication of effort among local agencies. Due to economies of scale, a regional authority often can perform required air pollution monitoring and permitting activities more cost-effectively than individual local agencies. Since the regional authority sometimes is financed by contributions from the local governments involved, it can reduce the burden on the state budget and increase the chances that the costs of air pollution control will be shared equitably among local governments. Regional air pollution districts allow states to target air pollution efforts to a particular area, implementing more stringent regulations and monitoring only where necessary, thus directing funds where the needs are greatest.

DISADVANTAGES

State governments may be concerned about loss of state control over regional air programs that have been entirely delegated. Since the regional authorities are smaller, the state program may be able to achieve greater economies of scale. If the regional authority is financed by local funds, it may be vulnerable to local budget problems, intergovernmental financial disputes, or regional economic downturns. Local politics may hinder regulation of economically important industries and cause uneven implementation across regions, even where conditions are similar. Regional authorities also may encourage a narrower focus on the problems of a particular area, while decreasing focus on wider, interstate air pollution concerns.

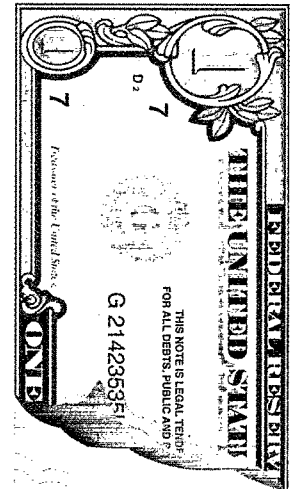
New Institutional Approaches

In addition to implementing new administrative programs to ensure private compliance with the Clean Air Act, state and local entities will have to bring their own facilities into compliance with the Act. This will mean that increased investment at the state and local level will be required to ensure compliance of publicly-owned stationary sources of air pollution as well as mobile sources, such as state or local fleets.

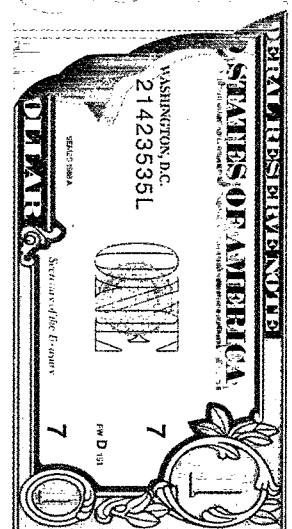
There are several institutional initiatives states can develop to facilitate public capital investments. These include:

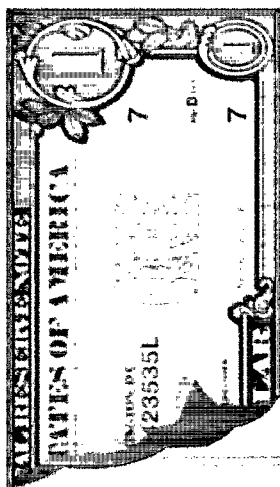
- **Revolving loan funds;**
- **Trust and enterprise funds; and**
- **Bond banks.**

These institutional approaches offer several advantages to states. Trusts and enterprise funds can ensure that revenues from specific sources (such as



...significant opportunities exist for all levels of government and the private sector to improve the efficiency of environmental finance and to boost levels of investment needed to ensure that environmental goals are met.





a fee or special tax) are dedicated to their intended uses. Dedication through a trust or fund also may enhance public acceptability of a new fee or tax, because it reinforces the link between the revenue and its intended use. Revolving loan funds and bond banks may lower the cost of raising capital, thereby making it easier for states and local governments to finance needed capital investments in air pollution control measures.

Revolving Loan Funds

Revolving loan funds provide loans to local governments for capital investments.

The repayment of these loans over time allows the fund to revolve its lending ability in perpetuity.

The State Revolving Loan Fund (SRF) program established to replace the construction grants program in wastewater treatment could provide a model for the development of an air quality loan institution. The revolving loan fund (RLF) concept could be applied to air programs to help local governments meet the anticipated need for capital investment to bring public facilities, such as municipal incinerators or public transit systems, into compliance with the Clean Air Act. A revolving loan fund could be capitalized with a grant from the federal government or with state bond proceeds.

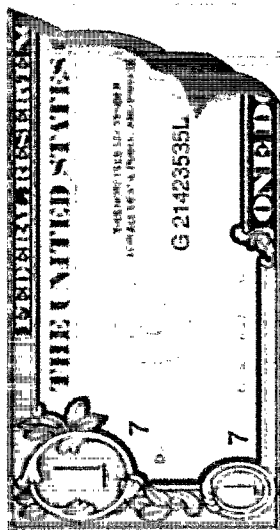
Revolving loan funds can be designed to provide assistance based on environmental needs and/or financial need. The current SRF program bases loan applications on the former, but several states also take into account a community's ability to pay. Interest rates can be fixed or flexible. For example, very poor communities could be offered loan terms at a lower or zero rate of interest. Revolving loan funds could even provide grants.

ADVANTAGES

The primary advantage of a revolving loan fund is that it is a self-sufficient source of capital for capital investments. SRFs also are flexible in that they can be structured to offer subsidies where needed.

DISADVANTAGES

Creating a revolving loan fund requires a sizeable investment of capital. With federal grant funds diminishing and state bonds increasingly extended, it may be difficult to capitalize a revolving loan fund for a new program area such as air pollution control. Several problems could arise if revolving loan funds are not administered or designed carefully. The most obvious concern is the potential for depletion of the fund corpus, either because interest rates are set too low, or because default rates are too high. A second concern is whether particular states have sufficient demand for such an institution. Without a sufficient volume of lending activity, a revolving loan fund may not provide a cost-effective means of financing public investments.



Trust and Enterprise Funds

Financial management mechanisms link sources of funds with their intended uses, and also can be used to increase the value of resources between the time they are collected and disbursed.

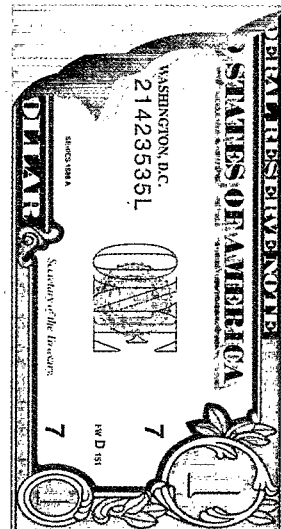
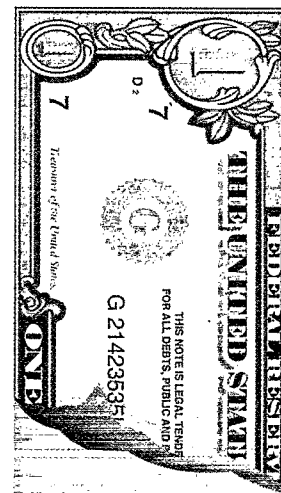
Three mechanisms are summarized here. Trust funds are created by states to receive revenues generated by a specific tax or other funding mechanism and disburse funds for the purposes to which the revenues are dedicated. A variation on this concept is an **environmental endowment**, which can be created to promote state air quality goals. In general, an endowment is an independent, incorporated legal entity that directs funds toward a variety of research and program activities. Endowments may receive revenues from a number of sources, including dedicated taxes, fines or legal settlements, or voluntary contributions. **Enterprise funds** are used to manage the finances of government activities that are largely self-supported through user fees or another specified revenue source. An enterprise fund is really no more than an accounting mechanism to separate the financing of a particular activity from the general fund. As a result, income and outlays can be segregated from the general government budget. For instance, state and local air programs may wish to establish enterprise funds to segregate the income and expenditures associated with the Title V permit fee program to guarantee that the use of these funds is for Title V-related activities.

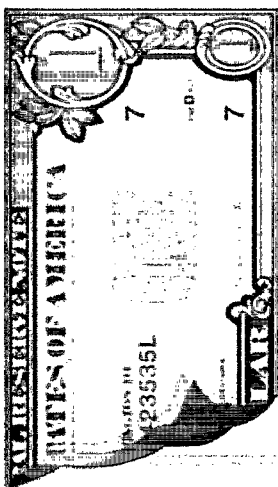
ADVANTAGES

The major advantage of funds, and the primary reason for using them, is to ensure that revenues from specified sources are used only for their intended purposes. Funds also help insulate program activities from the vagaries of the appropriations process. Funds help preserve program revenues by preventing them from reverting to the general fund at the end of the budget period. Finally, where interest on fund balances accrues directly to the fund, revenues can grow through good financial management.

DISADVANTAGES

Funds place an additional administrative burden on the state, and may only be cost-effective where program revenues are substantial. There may be legislative opposition to the use of funds because of the loss of control over disbursements of state revenues. Finally, where fund balances may be subject to interfund transfers to meet other funding needs of the state, they may provide only limited security for program revenues. In Connecticut, the legislature recently transferred \$4 million from the Auto Emissions Fund and \$6 million from the Leaking Underground Storage Tank Fund to cover increased expenditures for a low-income energy assistance program.





Bond Banks

Bond banks assist local governments, and especially small communities, in gaining access to the municipal debt markets and in lowering the cost of debt financing.

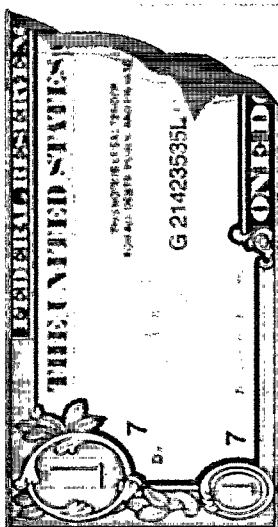
Currently, at least 13 states have bond banks. Small and economically disadvantaged communities frequently do not have established credit ratings, making it difficult and costly for them to issue bonds for capital projects. Those communities that can issue bonds pay high costs of capital because the fixed costs of issuance impose a greater burden when spread over a smaller bond issue and may pay a higher yield because of their credit risk. Communities without sufficient credit experience may be required to secure bond insurance that raises the cost of capital further. A bond bank can help lower the cost of capital for local communities and can be of special assistance to small or economically disadvantaged communities. It will either sell bonds in the bond market and use the proceeds to purchase bonds from local communities, or it may purchase local issues, pool them, and sell the debt as one large bond issue. Proceeds from the pooled bond sale are loans to the participating local communities, which repay the loan from facility revenues or from other local revenue sources. The costs of capital are lowered because pooling lowers the associated risk of default, similar to the way insurance policies operate.

ADVANTAGES

The primary advantage of a bond bank is that it helps communities gain access to otherwise inaccessible municipal debt markets. It also lowers the cost of debt financing for communities.

DISADVANTAGES

Unlike a revolving loan fund, a bond bank must constantly go back to the bond market for new capital because loan repayments from local governments are used to pay debt service on previous bond issues. Thus a bond bank's ability to assist local governments will fluctuate with the general level of bond activity. In addition, because bond banks rely on the sale of bonds backed solely by loan repayments, they cannot offer the interest rate subsidies of revolving loan funds.



Public-Private Partnerships

Public-private partnerships can be defined as private sector involvement in historically public sector activities, ranging from performing contract labor for a public agency to private ownership and operation of a public purpose facility.

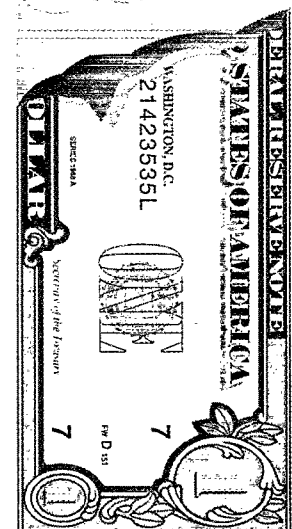
Through public-private partnerships in the performance of Clean Air Act mandated activities, state and local governments may be able to reduce the public capital and operating costs involved in the implementation of the Clean Air Act, thereby reducing the need for state funds. The Act requires state and local governments to undertake numerous activities, including, but not limited to, inspection, inventory, and monitoring of air quality and emissions. In addition, states will be required to bring their own emission sources into compliance with the Clean Air Act requirements. Depending on each state's situation, it may be cost-effective for state and local governments to consider employing private sector resources, in lieu of state resources, for some or all of the required activities.

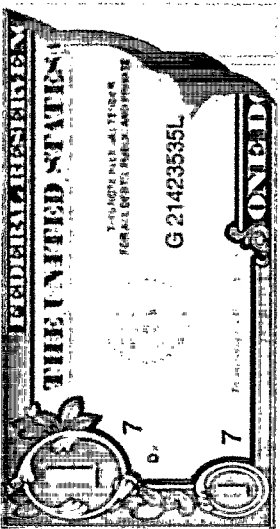
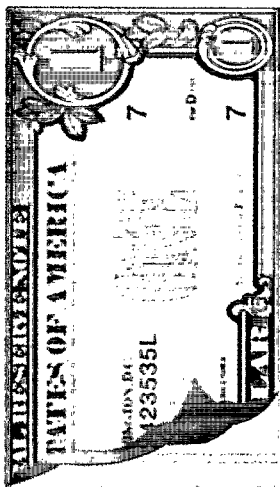
Public-private partnership arrangements fall into two broad categories: capital and operating; and operating only. Capital arrangements involve some form of private ownership and operation of a public facility. By permitting private ownership, capital costs can be shifted to the private sector, eliminating the need to acquire public capital and relieving the burden on public debt capacity. In addition, cost savings can be achieved because private capital construction costs are often lower than public construction costs, in part because the private design, procurement, and decision-making processes are often faster than the public construction processes, and in part for the same reasons listed below for operating costs. Private operating costs often can be lower because: (1) a private company may be more responsive to competitive pressure; (2) a private company may experience lower labor costs; and (3) a private company can achieve economies of scale by operating multiple facilities, even in multiple states. As an example, in other environmental programs such as solid waste removal and wastewater treatment, the private sector often has been 15 to 20 percent more cost-efficient than its public counterpart in both capital and operating costs.

One area where public-private partnerships already have been applied in a number of states is vehicle emissions inspection. Stricter vehicle emissions inspection requirements in the Act will involve capital expenditures for new inspection equipment and facilities. If the final EPA regulations require the more intensive I/M-240 emissions test, many states may have to invest in new equipment and facilities. For example, New Jersey estimates that its 30 state-run inspection facilities will need to expand from 3-4 inspection lanes per facility to 10 lanes per facility. The state currently is exploring the option of having a private company build, own, and operate the new facilities. New York also is considering centralizing its emissions inspection program by contracting out to private, non-repair auto maintenance companies. Such arrangements have already been successfully applied to emissions inspection programs in many states. For example, inspection facilities in Maryland were sited, built, and operated by a private company after a competitive bidding process. Here, part of the fee paid to the operator



Public-private partnerships can find creative ways to leverage available resources to achieve environmental quality goals.





is dedicated to state oversight and data collection, so that the cost to the state of operating the program is limited. North Carolina has recently added emissions testing to the annual inspection program operated by private gas stations. States will need to consider the tradeoffs between centralized and decentralized programs in their consideration of privatization options.

When capital facilities are not involved or when private ownership arrangements are not the best option, operational savings still can be captured by contracting out certain activities to the private sector, e.g., monitoring and inventory activities called for in the Act. The Wisconsin Bureau of Air Management is beginning a pilot program to contract out to private companies certain permitting and information and education activities required by the Clean Air Act. This pilot program resembles an existing state program using a private laboratory to monitor permitted wastewater discharges, and is another example of a public-private partnership in environmental compliance activities.

Public-private partnerships already have been successfully applied to public facilities and services in the areas of wastewater treatment and solid waste management. To reduce the cost of bringing government-owned facilities into compliance, state and local governments may also want to take a similar approach for those public facilities subject to Clean Air Act requirements. For example, selling a municipal incinerator to a private company might allow a municipal government to avoid the capital cost of emissions controls needed to bring the facility into compliance with Clean Air Act requirements.

Under any public-private partnership arrangement, it is important to recognize that the ultimate responsibility for the provision of public services remains with state and local government officials. As such, there are a number of considerations that should be examined before undertaking any form of public-private partnership. Two of the more important issues to explore are the cost-effectiveness of the arrangement and the potential impacts on public employees.

Since cost savings is often one of the first reasons to consider a public-private partnership, there must be a careful accounting of all costs associated with the proposed operation. A full accounting of costs should include both short-term and long-term needs, pricing factors, and the distribution of economic risks. The full cost of providing comparable services under public or private arrangements can then be compared to determine whether a public-private partnership is cost-effective.

Public officials must also consider the potential impact on public employees. There are steps that can be taken to mitigate the potential impacts on public employees, including agreements by the private sector to hire public employees and honor existing labor agreements, early retirement options, and education and retraining programs.

ADVANTAGES

Private sector efficiency may lead to cost savings in both construction and operation of facilities. State officials surveyed in 1991 cited higher quality services, the provision of services that would otherwise be unavailable, and shorter implementation time as primary advantages of public-private partnerships. The shorter implementation time might be a significant advantage for states required

to meet the deadlines set out in the Act for state program implementation. Private investment in needed capital facilities also will reduce the amount of public capital investment needed and reduce the impact on public budgets.

DISADVANTAGES

Statutory or regulatory changes may be needed in order to arrange public-private partnerships, which might delay implementation of the activity in question. Cost savings and other benefits of private sector involvement may not always outweigh other financial and administrative costs associated with a particular public-private arrangement. Governments also may be concerned about the potential loss of government control in a partnership. Finally, some governments may face significant political opposition from government workers who fear the transition to private sector employment, or from hostile public opinion.

Additional Sources Of Information

The information presented here provides a starting point for state and local governments to explore possible financing mechanisms for implementing the requirements of the Clean Air Act.

We welcome your comments and suggestions on
how EPA can provide additional assistance.

Please contact:

The Environmental Financial Advisory Board

c/o: U.S. EPA, Office of Administration and
Resources Management

H3304, 401 M Street, S.W., Washington, D.C. 20460

Phone: (202) 260-1020

Fax: (202) 260-0710

For questions concerning implementation of
the Clean Air Act and other guidance, Please contact:

The Clean Air Act Advisory Committee

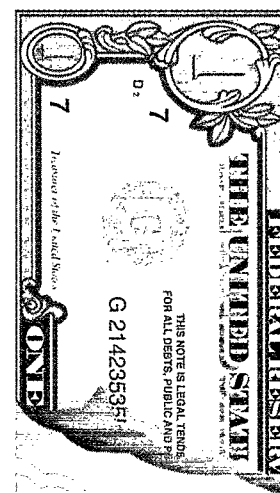
c/o: U.S. EPA, Office of Air and Radiation

ANR-443, 401 M Street, S.W., Washington, D.C. 20460

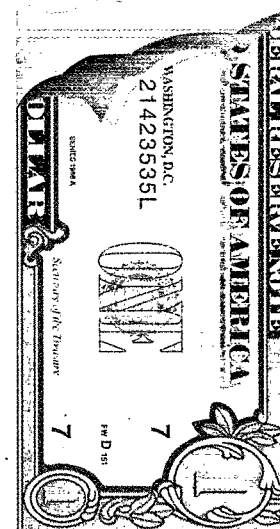
Phone: (202) 260-7400

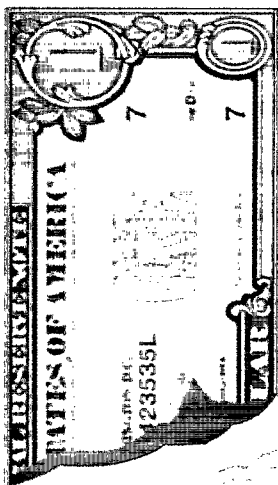
Fax: (202) 260-5155

For additional information see the back cover for a listing of federal, state, and local air program organizations and the inside back cover for a bibliography of relevant sources on financing air programs.

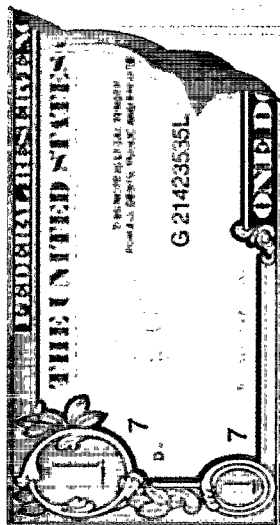


*"The key
to lower cost
clean air is
a working
partnership."*





The new
Clean Air Act
may be the most
progressive and
sensible
environmental
initiative ever
enacted.



Key Provisions of the Clean Air Act of 1990

Title I Nonattainment Areas

Ozone
(1993-2010)
Carbon Monoxide
(1995 & 2000)
Particulate Matter
(1995 & 2002)

- Technological control requirements for major and minor sources;
- Emission offset requirements at new/modified sources;
- Enhanced motor vehicle inspection and maintenance;
- Stage II controls (systems to capture evaporative emissions at service stations);
- Automatic contingency measures;
- Transportation control programs;
- Clean fuels/advanced controls; and
- Mandatory sanctions.

Title II Mobile Sources

Reformulated Gasoline
(beg. in 1995)
Oxygenated Fuels
(beg. Nov. 1992)
Fleet Program
(1998-2001)
CA Pilot Program
(Model Yrs.
1996 & 1999)
Tier I Tailpipe Std.
(1994-1998)
Tier II determination
(2003-2006)

- Reformulated gasoline in 9 ozone nonattainment areas;
- Oxygenated fuels in 41 carbon monoxide nonattainment areas;
- Clean fuel fleet programs in 25 ozone or carbon monoxide nonattainment areas;
- Tailpipe emission standards;
- Clean fueled vehicle programs and standards; and
- Fuel requirements and standards.

Title III Air Toxics

Major Sources
(1992-2000)
Area Sources
(1999)
Great Lakes and
Coastal Waters
(1995)
Industry Provisions
(Nov. 1993-2003)
Accidental Releases
(1993)
Incinerators
(1991-1994)

- Technological requirements and health-based standards (if necessary) for major sources;
- Reduction requirements at area sources;
- Great Lakes and coastal waters monitoring;
- Industry specific provisions and standards;
- Development of plans to prevent, detect, and respond to accidental releases of toxic air pollutants; and
- New source performance standards for solid waste incinerators.

Title IV Acid Rain

Sulfur Dioxide
(1995 & 2000)
New Utility Units
(by 2000)
Nitrogen Oxide
(1995 & 2000)
Emissions Monitoring
(1995 & 2000)

- SO₂ reductions required at affected sources in two phases, with trading and banking allowed;
- New utility units must obtain allowance for emissions;
- Required NO_x controls at sources affected under SO₂ control program; and
- Continuous emissions monitoring required at sources affected under the SO₂ and NO_x programs.

Title V Permits

- Permits are required for sources subject to acid rain control requirements, major sources, other sources subject to new source performance standards or hazardous air pollutant standards, other sources required to have a permit by Title I, and any other stationary source in a category designated by EPA; and
- Collection of an annual or equivalent fee sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program. The amount collected shall not be less than \$25 per ton of each regulated pollutant, or an amount sufficient to recover full program costs.

Title VI Stratospheric Ozone

Production Phase-Outs
(1991-2030)
Recovery and Recycling
(1992 & 1994)
Motor Vehicle
Air Conditioners
(1992)
Nonessential Product Ban
(1992 & 1994)
Warning Labels
(mid 1993-2015)
Safe Alternatives
(1992)

- Production of CFCs, 3 halons, carbon tetrachloride, methyl chloroform, and HCFCs to be phased out;
- Trading of production and consumption allowances;
- Standards regarding use and disposal of Class I substances during service, repair, or disposal of appliances and industrial process refrigeration;
- Standards for safe disposal of class I and II substances; and
- Regulations for the servicing of motor vehicle air conditioners.

Title VII Enforcement

- Assess administrative penalties up to \$200,000;
- Criminal violations upgraded to felonies; and
- Citizen suits against polluters.

Title VIII Miscellaneous

- Federal grant stipulations;
- Regulate outer continental shelf emissions;
- Visibility programs; and
- International border area plans.

Title IX Clean Air Research

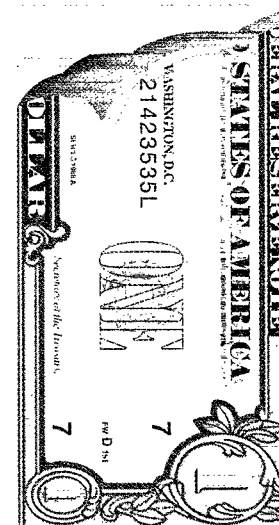
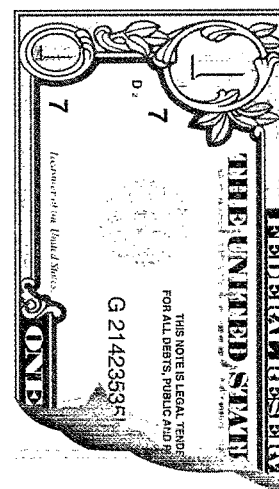
- EPA research programs;
- Environmental health research; and
- Acid rain assessment program.

Titles X and XI

- Disadvantaged business concerns; and
- Clean air employment transition assistance.

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