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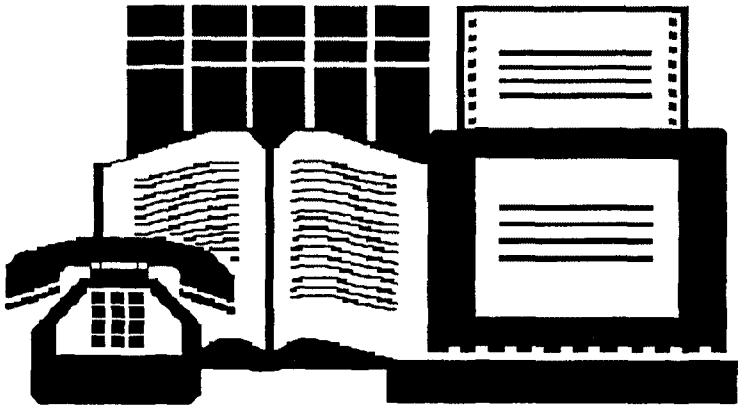
Public Policy Mechanisms: Non-Regulatory Options For Environmental Protection

PUBLIC POLICY MECHANISMS: NON-REGULATORY OPTIONS FOR ENVIRONMENTAL PROTECTION

JUNE 1991



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PUBLIC POLICY MECHANISMS: NON-REGULATORY OPTIONS FOR ENVIRONMENTAL PROTECTION

INTRODUCTION

Traditional environmental protection mechanisms favor command-and-control legislation backed by strong enforcement. Today, EPA is expanding its use of non-regulatory mechanisms that encourage partnerships with governments, environmental communities, industries and businesses. **Public Policy Mechanisms: Non-Regulatory Options for Environmental Protection** was developed as a tool for EPA managers to identify and explore various options for non-regulatory environmental protection. The bibliography focuses on techniques and applications of non-regulatory options on national and international levels.

Each entry in **Public Policy Mechanisms: Non-Regulatory Options for Environmental Protection** includes a summary of a journal article with the source of the entry noted at the end of the sunmmary. The information is organized into the following sections: General Overview; Economic Incentives: Market-Based, Tax-Based, Emissions Trading, Bubble Policy, International; Aplications of Economic Incentives: Acid Rain, Agriculture, Air Pollution, Hazardous and Solid Waste, Public Utilities; Public-Private Partnerships; Debt-for-Nature; and Pollution Prevention.

Public Policy Mechanisms: Non-Regulatory Options for Environmental Protection was compiled from the following databases: ABI/INFORM, MANAGEMENT CONTENTS, ENVIROLINE, NTIS, POLLUTION ABSTRACTS, and PAIS. Entries from PAIS do not have full abstracts but include a brief descriptive summary. For copies of articles listed in this bibliography, contact Sigrid N. Smith, Reference Librarian, EPA Headquarters Library, (202) ~~382~~-5922 or Email address, Library.HQ/EPA3738.

I. GENERAL OVERVIEW

Green Economics
Kay, John; Silberston, Aubrey
National Institute Economic Review (UK) n135 PP: 50-64 Feb 1991

The principal environmental problems generally are not the result of an inappropriate pursuit of the interests of the current generation; they derive from a failure to perceive correctly what the interests of that generation are or to establish mechanisms that properly reflect them. A positive policy for the environment begins not from broad generalization, but from specific analysis of the environmental costs and benefits of actions and policies. The most serious fallacy in green policies may be the assertion of general remedies for problems whose solution is sensitively dependent on the facts of a particular case. A careful evaluation of costs and benefits is insufficient, however, when costs and benefits accrue to different groups. Environmental improvements will always entail losses for some and gains for others, and this should be recognized. (ABI/INFORM)

Revenue-Neutral Incentives for Efficiency and Environmental Quality
Koomey, Jonathan; Rosenfeld, Arthur H.
Contemporary Policy Issues v8n3 PP: 142-156 Jul 1990

Interest has grown in using monetary incentives as an efficient way to promote energy efficiency and environmental quality. A description is presented of issues raised in designing revenue-neutral incentive policies to achieve these goals. Such policies involve charging fees in proportion to undesirable characteristics and giving rebates in proportion to desirable characteristics. The fees pay for the rebates and for any administrative costs of the program. Conceptual issues raised in designing such incentive plans are analyzed to correct for externalities and to promote the efficiency of buildings and automobiles. The nature and importance of externalities are examined, the rationale for revenue-neutral incentive policies is presented, and 6 revenue-neutral incentive programs for achieving these goals are described. The criteria that should be used in determining the size of rebates and fees are analyzed. (ABI/INFORM)

Acceptance of Need for Choices Brightens Hopes for Solutions
Berry, John M.
Financier v14n7 PP: 5-9 Jul 1990

Since the first Clean Air Act was passed in 1970, it has been updated and strengthened. Recent estimates of the annual cost of pollution control in the US are in the neighborhood of $90 billion, or 1.7% of the gross national product. Economist Paul Portney has

estimated that passage of Clean Air Act amendments will add between $25 billion and $30 billion to the current total cost by the year 2005. Public awareness of the health and other damage done by pollution has made many people willing to pay for cleanup - at least if the cost is not too burdensome. By using low-sulfur fuel at Southern California Edison, most customers have accepted that the approximately 5% extra on electric bills is a reasonable contribution to improve air quality. An incentive-based approach to the problems of meeting standards of air emissions and selling credits is being adopted by many utility companies and is being accepted by environmental groups. (ABI/INFORM)

Regulating Bureaucratic Polluters
Lyon, Randolph M.
Public Finance Qtrly v18n2 PP: 198-220 Apr 1990

The behavior of polluting public sector agencies and other bureaucracies under environmental policies based on economic incentives, such as transferable permits and pollution taxes, and under direct regulations are analyzed. A theoretical model is developed to consider the incentives for bureaucratic behavior that can arise where the provision of pollution control services increases the salary, prestige, and other perquisites of decision makers. The possible existence and magnitudes of the effects implied by the model are then respectively examined by considering actual and simulated environmental management programs. The evidence considered suggests that public-sector polluters may participate in a manner somewhat different from private-sector polluters under programs relying upon economic incentives. The simulations imply that, even in the presence of bureaucratic distortions, programs relying upon economic incentives are likely to be less expensive than direct regulations.
(ABI/INFORM)

THE GREENING OF CORPORATE AMERICA
SMITH, EMILY T.; CAHAN, VICKI; ELLIS, JAMES E.; WEBER, JOSEPH
BUSINESS WEEK, APR 23, 90, N3156, P96(8)

WITH INCREASING PUBLIC CONCERN ABOUT THE ENVIRONMENT, CORPORATIONS ARE GRADUALLY TAKING A PROACTIVE ROLE IN CONSERVATION AND POLLUTION ISSUES. POLLUTION MANAGEMENT IS OFTEN IN THE BEST INTERESTS OF THE COMPANY, AS PROFITS ARE ERODED BY CONSUMER DISMAY AS WELL AS SHARP FINES FOR VIOLATIONS OF POLLUTION REGULATIONS. SUCCESSFUL CORPORATE INITIATIVES HAVE TOP-LEVEL POLITICAL SUPPORT, AND SHOP-LEVEL PARTICIPATION, OFTEN OPERATING IN CONCERT WITH FINANCIAL INCENTIVES. (ENVIROLINE)

Using Economic Incentives to Maintain Our Environment
Tietenberg, T. H.
Challange v33n2 pp.42-46 Mar/Apr 1990

Instead of mandating environmental policies, environmental groups and regulators are offering economic incentives to achieve their objectives. Using incentives can: 1. reduce the conflict between environmental protection and economic development, 2. ease the transition to a sustainable relationship between the environment and the economy, and 3. encourage the development of more environmentally benign production processes. An economic incentive appraoch known as the "offset policy" was introduced in the mid-1970's to lower air pollution in a number of U.S. cities. Emission reduction credits were awarded to companies that voluntarily lowered their emissions below regulation standards. These credits could be sold to new firms seeking to move into the city as long as the acquiring firm bought 1.2 emission credits for each 1.0 units of emissions added by the new plant. With this approach, air quality improved every time a new firm moved into the area. (ABI/INFORM)

Earth Day: Twenty Years Later
Miller, William H.
Industry Week v239n6 PP: 86-97 Mar 19, 1990

The 20th anniversary of the first Earth Day, April 22, 1970, is approaching. There are indications that many companies are becoming more responsive to the environment, and environmentalists are expressing more interest in market-based incentive solutions. One example is the Environmental Defense Fund's close work with the Environmental Protection Agency and the White House in developing the emissions-trading scheme in the acid rain portion of President Bush's 1989 clean air proposal. The president of the National Audubon Society, Peter A. A. Berle, praises Du Pont Co. for its decision to discontinue production of chlorofluorocarbons, but he criticizes oil companies for their tepid support of energy conservation. Sierra Club Executive Director Michael Fischer says that good deeds have been centered mostly in small and medium-sized firms. Like industry, the environmental movement is not monolithic. Dialogue with industry has not increased on the aggressive side of the spectrum. On the conservative side, the Nature Conservancy refuses to join in lobbying coalitions with other environmental groups. (ABI/INFORM)

Environmental performance will count in the 1990s
Wells, Richard P.
Marketing News v24 March 19, 1990, p22(1)

Marketing research indicates that environmental issues are important to consumers, and firms hoping to succeed in the 1990s

will be the ones that achieve a performance in the marketplace that is sensitive to the environment. Firms can achieve success by using an environmental management strategy which responds to market incentives and uses innovative marketing approaches. It also will be important to develop advertising which reflects a commitment to environmental performance and is simple to comprehend. Additionally firms will need to monitor consumer response to the market-focused environmental techniques used in corporations. (MANAGEMENT CONTENTS)

Breaking the Circle of the Short-Term Fix: We Must Earn the Right to Operate
Mahoney, Richard J.
Executive Speeches v4n8 PP: 16-19 Mar 1990

To earn the right to operate, to regulate, and to legislate, the cycle of the short-term environmental fix must be broken. The current system of command and control used by government to achieve environmental improvements in industry is the slowest, most expensive, and most contentious way to a solution. Moreover, voluntary environmental initiatives by industry tend to be penalized by the system. The US must accept a more realistic view of what is possible and achievable. Laws and regulations must become less prescriptive, and cooperative solutions must be encouraged, not politicized as collusion. Approaches are needed that encourage voluntary and creative initiatives and market incentives for industry to eliminate waste at the source rather than at a Superfund site years later. Industry must embrace the concept of environmental stewardship, work toward a goal of absolute zero chemicals in the environment, and commit itself to the idea of making no significant impact on the environment. (ABI/INFORM)

"PROFITS ARE FOR RAPE AND PILLAGE"
MORGENSON GRETCHEN AND ; EISENSTODT GALE
FORBES, MAR 5, 90, V145, N5, P94(6)

WHILE GOVERNMENT REGULATION AND CONSOLIDATION IS GENERALLY CRITICIZED IN MOST POLITICAL REALMS, IN THE AREA OF ENVIRONMENTAL REGULATION IT IS AS STRONG AND PERSISTENT AS EVER. INDUSTRY LEADERS ARGUE THAT POORLY PLANNED LEGISLATION COSTS BILLIONS OF DOLLARS IN COMPLIANCE ANNUALLY; EXAMPLES ARE GIVEN FROM THE CLEAN AIR ACT AND THE RESOURCE CONSERVATION AND RECOVERY ACT. PROPONENTS OF DEREGULATION ARGUE THAT THE FREE MARKET SYSTEM, IMPLEMENTED WITH GREATER SUCCESS IN SOME COMMUNIST COUNTRIES, WOULD DO MORE TO ENCOURAGE ENVIRONMENTALLY SOUND INDUSTRIAL PRACTICES. OPTIONS SUCH AS EMISSIONS CREDIT TRADING AND SELECTIVE IMPLEMENTATION ARE PROPOSED AS ALTERNATIVES TO UNILATERAL REGULATION. (ENVIROLINE)

BUSINESS AND THE ENVIRONMENT
SIWOLOP SANA AND ; BARRETT AMY
FINANCIAL WORLD, JAN 23, 90, V159, N2, P40(3)

GIVEN THE GLIMPSE OF FEDERAL REGULATIONS TO COME, A GROWING NUMBER OF COMPANIES ARE WILLING TO TAKE PREEMPTIVE, UNILATERAL ACTION EVEN IF IT MEANS SACRIFICING SANE LINES OF BUSINESS. CORPORATE INITIATIVES ON POLLUTION CONTROL BEING TAKEN AT SUCH COMPANIES AS MONSANTO, LOUISIANA LAND & EXPLORATION, 3M, AND H.B. FULLER ARE EXAMINED. MONSANTO HAS VOLUNTARILY AGREED TO REDUCE ITS TOXIC AIR POLLUTION TO ONLY 10% OF 1987 LEVELS TO KEEP FROM BEING SEEN AS A POLLUTER. LOUISIANA LAND & EXPLORATION RECEIVED THE CONSERVATION AWARD FOR RESPECTING THE ENVIRONMENT FROM THE USDI IN 1989. AND 3M AND H.B. FULLER HAVE TAKEN THE LEAD IN LEARNING HOW TO MAKE POLLUTION CONTROL EQUAL COST CONTROL. DISCUSSED IS THE PRACTICE OF FIXING BLAME FOR POLLUTION ON COMPANIES EVEN IF THAT POLLUTION OCCURRED BEFORE THERE WERE LAWS AGAINST IT. SUGGESTED IS A REMEDY OF ASSESSING A SURCHARGE ON COMMERCIAL AND INDUSTRIAL PROPERTY-CASUALTY INSURANCE PREMIUMS TO CLEAN UP THE MOST DANGEROUS HAZARDOUS WASTE SITES. (ENVIROLINE)

THE CRITICAL DECADE. ENVIRONMENTALISM IN THE 1990S: WHERE ARE WE HEADED?
RUSSELL DICK
E MAGAZINE, JAN-FEB 90, V1, N1, P30(8)

MAN'S WANTON DISREGARD FOR THE EARTH SINCE THE INDUSTRIAL REVOLUTION HAS RESULTED IN THE CONTAMINATION OF THE WORLD'S AIR, LAND, AND WATER BY TOXIC POLLUTANTS. ENVIRONMENTALISTS BELIEVE THAT THE 1990S WILL BE A CRITICAL DECADE AND WILL DETERMINE THE FUTURE OF THE EARTH. MANY NATIONAL LEADERS PURPORT TO BE COMMITTED TO THE ENVIRONMENTAL CAUSE AS CONCERN GROWNS AMONG THE CITIZENS OF THEIR NATIONS. GLOBAL ENVIRONMENTAL IMPROVEMENTS CAN ONLY OCCUR IF INDUSTRY MAKES THE ENVIRONMENT A PRIORITY. GOVERNMENTS COULD ENCOURAGE CORPORATE ENVIRONMENTAL RESPONSIBILITY BY OFFERING FINANCIAL INCENTIVES TO THOSE THAT ARE RESPONSIBLE. MANY STATE AND LOCAL GOVERNMENTS HAVE EMERGED AS STAUNCH ADVOCATES FOR THE ENVIRONMENT AND, JOINED BY A GROWING NUMBER OF GRASSROOTS ORGANIZATIONS, HAVE WAGED THE BATTLE TO SAVE THE EARTH FROM DESTRUCTION. (ENVIROLINE)

ECONOMIC INCENTIVES TO RESOLVE URBAN CRISES
HARRINGTON WINSTON
RESOURCES (RESOURCES FOR THE FUTURE), WINTER 90, N98, P13(4) THE TRAFFIC CONGESTION, SITING OF LOCALLY UNDESIRABLE FACILITIES, AND AIR POLLUTION ARE THREE SERIOUS URBAN ENVIRONMENTAL PROBLEMS THAT APPEAR MORE UNMANAGABLE TODAY THAN 20 YEARS AGO. CONSTRUCTION OF AN EXTENSIVE NETWORK OF EXPRESSWAYS AND INTERSTATE HIGHWAYS HAS PERMITTED THE SPREAD OF LOW-DENSITY DEVELOPMENT THUS INCREASING

CONGESTION AND TRAVEL TIME FROM HOME TO THE WORKPLACE. URBAN SERVICE FACILITY SITINGS HAVE BECOME A DIFFICULT AND COSTLY PROBLEM, SINCE THIRD PARTIES NOW MAY FIGHT SITING DECISIONS. ALTHOUGH THE CLEAN AIR ACT HAS HELPED REDUCE EMISSIONS OF SOME POLLUTANTS, THE US STILL FACES POTENTIALLY SERIOUS ACID RAIN PROBLEMS. TO REMEDY THESE PROBLEMS, MANAGEMENT STRATEGIES THAT RELY HEAVILY ON ECONOMIC INCENTIVES ARE BEING CONSIDERED. (ENVIROLINE)

INCENTIVES, MCDM, AND ENVIRONMENTAL PROTECTION
NAGEL STUART (UNIV OF ILLINOIS, URBANA) AND ; NAGEL ROBERT (CONGRESSIONAL STAFF OF SEN. THOMAS HARKIN, D-IA)
J ENV SYSTEMS, 1989-90, V19, N1, P25(8)

ENVIRONMENTAL PROTECTION CAN BE FACILITATED BY THE SUBSTANCE OF INCENTIVES THEORY COMBINED WITH MULTI-CRITERIA DECISION-MAKING METHODS (MCDMS). IN INCENTIVES THEORY, PUBLIC POLICY SHOULD SEEK TO ENCOURAGE SOCIALLY DESIRABLE BEHAVIOR BY INCREASING THE BENEFITS AND DECREASING THE COSTS OF SUCH BEHAVIOR. THE ESSENCE OF MCDM IN A PUBLIC-POLICY CONTEXT IS THE IDEA OF SYSTEMATICALLY PROCESSING A SET OF SOCIETAL GOALS TO BE ATTAINED, ALTERNATIVE PUBLIC POLICIES FOR ACHIEVING THEM, AND RELATIONS BETWEEN GOALS AND ALTERNATIVE POLICIES IN ORDER TO CHOOSE THE BEST OPTION OR PREDICTIVE DECISION RULE. SIMPLE AND REALISTIC MODELS ARE APPLIED TO THE ANALYSIS OF POLLUTION-CONTROL INCENTIVES FOR ILLUSTRATION. (ENVIROLINE)

Here Comes the Big New Cleanup
Main, Jeremy
Fortune v118n12 PP: 102-118 Nov 21, 1988

Evidence of ecological damage and dangers to the environment are making environmental issues national and bipartisan. The next Administration will immediately confront major pollution problems that include: 1. acid rain, 2. ozone at ground level and the lack of it in the stratosphere, 3. toxic waste, and 4. water pollution. While current environmental regulations have made progress in some areas, they are expensive, prone to regulatory and legal problems, tied to unrealistic goals, and locked into the wrong technologies. Some say the US could continue the cleanup process without excess regulation and expense by adopting a more commonsense, market-oriented strategy. The US should harness market forces by providing incentives for business and individuals to go beyond what regulators can require. Specific suggestions for dealing with 16 major environmental problems include: 1. tradable credits and permits, 2. taxes, 3. refunds, 4. swaps, and 5. deposits. (ABI/INFORM)

New Instruments for Environmental Policy: A Perspective
Huppes, Gjalt
International Jrnl of Social Economics (UK) v15n3-4 PP: 42-50 1988

In the postwar years of fast economic growth, extensive government regulations to curb growing environmental problems were devised in most Western nations. Three main types of policy can be distinguished: 1. physical activities undertaken by governments, 2. institutional arrangements such as liability, price corrections, and education that indirectly affect private behavior, and 3. regulation of the physical aspects of private activities such as licenses, standards, and codes. The latter type of regulation has become dominant in both Western and communist countries. The regulative emission tax is a financial instrument with theoretical advantages but with practical limitations. Because of various problems, none of the policy instruments has been developed systematically on a practical level. A tax-like system such as a security deposit system could solve a number of problems in a very cost-effective manner. In contrast to process-oriented policies, product-oriented policies are a domain where improvements can be made largely on a voluntary basis. (ABI/INFORM)

Markets for Pollution Control
Oates, Wallace E.
Challenge v27n2 PP: 11-17 May/Jun 1984
AVAILABILITY: Challenge, 80 Business Park Dr., Armonk, NY 10504

Almost every economist favors use of pricing instruments to protect the environment, but politicians and regulators have chosen the traditional command-and-control (CAC) techniques under which the environmental authority specifies the technology that polluters must adopt to control or treat their waste discharges. It is estimated that a well-designed system of pricing incentives could cut the costs of pollution control by at least 75%. Economists have long favored the effluent fees suggested by A. C. Pigou early in this century. However, a system of marketable permits to pollute, first suggested by J. H. Dales in the mid-1960s, has several advantages over an effluent fee program. Now there is a growing consensus among environmental economists that marketable emissions permits represent a more promising policy alternative for pollution control. Two recent programs of economic incentives are examined: the Environmental Protection Agency's emissions trading experiment with air pollution control, and Wisconsin's program for the management of water quality using transferable discharge permits. (ABI/INFORM)

A Simpler Path to a Cleaner Environment
Alexander, Tom
Fortune v103n9 PP: 234-254 May 4, 1981

While some environmental legislation has achieved gratifying gains, the most ambitious statutes have proved to be failures, and some have produced additional environmental ills. Legislation, now a maze of complexity, was enacted at a time when the spirit was one of emergency, and things appeared to need to be done in a hurry. At the same time, US pollution control spending has risen to $48.5 billion in 1979 from $34.5 billion in 1972. Today, public opinion is changing and beginning to focus more on economic renewal than on pollution control. Thus, there exists a good chance that in rewriting the Clear Air Act, Congress will simplify present complexity and lessen the burden of compliance on industry. The present system of offsets and increments has proved far too baffling for those who want to increase plant and equipment. Incentives can be used to cut through the regulatory maze, and Congress should support that concept when renewing the Clean Air Act. Regulatory overkill could be eased if emissions charges were varied to take into account costs of controlling various pollution sources. (ABI/INFORM)

II. ECONOMIC INCENTIVES

A. MARKET-BASED

How to Fill the Holes in Ozone Policy
Shrivastava, Paul
Business & Society Review n75 PP: 59-62 Fall 1990

Depletion of stratospheric ozone is one of the most devastating crises affecting the environment. The natural balance through which oxygen reacts with ultraviolet light to create and destroy ozone simultaneously has been disrupted by manufactured substances, mostly chlorofluorocarbons (CFC). The Montreal Protocol, an international agreement for CFC reduction, was signed by 34 countries in 1987 and provided for a 50% reduction of CFCs by 2000. No real reductions in CFCs had been achieved by 1990. Technological solutions are available, but for them to be applied, corporations must acknowledge their primary role and ethical responsibility in dealing with the problem. Economic incentives and political will and leadership are needed to completely eliminate harmful CFCs in the immediate future. Companies should raise this problem to the strategic level by appointing a board of directors committee to oversee their responses to the ozone crisis. The public can create economic pressures for major changes. (ABI/INFORM)

The carrot or the stick? some environmentalists are pinning their hopes on a "market-incentive" approach to environmental protection
Engle, Claude and Hawley Truax.
Environmental Action 20 (i.e. 21):12-15 My/Je '90

Explores the concept of pollution trading--where it comes from, how it will work, and the ramifications of its becoming a part of the new Clean Air Act. (PAIS)

Using economic incentives to maintain our environment: regulators can persuade developers to respect nature by making it worth their while; environmentalists have come to realize that their former adversary, the market, can be a powerful ally
Tietenberg, T. H.
Challenge 33:42-6 Mr/Ap '90

Calls for harnessing the power of the market with economic incentive policies for the achievement of environmental goals. (PAIS)

Variety of Imperfect Strategies Must Be Pursued for Control
Eads, George C.
Financier v13n12 PP: 30-33 Dec 1989

When air pollution was first becoming a national issue in the mid-1960s, the use of market-like mechanisms to control pollution was in disfavor with politicians and environmentalists alike. There is now a growing realization that effective control of pollution requires the use of the power of the markets because the problems are too complex to be addressed through source-specific regulations. Such regulations are unfeasible because there are literally millions of different contributing emission sources. Market-based mechanisms of pollution control can be either simple or complex, with much depending on the characteristics of the pollutant that one is trying to control. Economic incentives also offer much more flexibility and provide a broader scope for innovation. Market-based regulation does not eliminate the need for tough political decisions relating to regulation and may even complicate global negotiations, but there is no realistic alternative. (ABI/INFORM)

An incentive-conscious approach to toxic chemical controls
Roe, David.
Econ Development Q 3:179-87 Ag '89

California's Proposition 65, the Safe Drinking Water and Toxic Enforcement Act, in effect since early 1988. Market incentive created by the requirement to label products that exceed a defined level of exposure. (PAIS)

Clean profits: using economic incentives to protect the environment
Stavins, Robert N.
Policy R p 58-63 Spring '89

Reviews the recommendations of Project 88, a bipartisan effort to find innovative solutions to major environmental problems; US. Advantages of market-based approaches to deter pollution or reduce resource degradation. (PAIS)

Approaching Pollution Control via the Wallet
MacKerron, Conrad B.
Chemical Week v141n18 PP: 41-42 Oct 28, 1987

The Environmental Defense Fund (EDF), the Foundation for Research on Economics and the Environment, and 2 Columbia University Law School professors have proposed a market-based approach to environmental regulation in which part of the incentive to clean up the environment is that participants earn money doing it. Their program is based on marketable permits to pollute the environment that would be auctioned off periodically by the federal government. EDF's Frederic Krupp says the system would eliminate the inefficiencies of the present program, which is based on laws that require companies to use the best available technology to clean up pollution and ignore the fact that cleanup costs for plants and industries vary. By charging fees for permits to pollute, a financial incentive would be created for those who can clean up most cheaply to sell their permits to those whose treatment costs are highest. The result would be a least-cost allocation of control burdens. The Environmental Protection Agency already is using a similar concept in its emission trading rights in the air pollution area. (ABI/INFORM)

B. <u>TAX-BASED</u>

Feasibility Study of the Privatization of Public Wastewater Treatment Works
Heilman, J. G. ; Johnson, G. W.
Auburn Univ., AL. Water Resources Research Inst.
Sponsor: Geological Survey, Reston, VA. Water Resources Div.
Jan 89 472p
NTIS:PB89-155642/XAB

The report outlines the research and the results of a national feasibility assessment of capital-intensive privatization (CIP) of municipal wastewater works (WTW). The initial WTW CIP agreements, of which there were fewer than a dozen, were driven in part by federal tax incentives created in 1981 and 1982. These agreements involved private sector financing, design, construction, operation, and ownership of WTW facilities. Tax reform in 1986

removed most of the tax incentives, but the water industry remains interested in developing the CIP option. The conclusion reached is that the WTW CIP option offers inherent efficiencies which are independent of tax incentives. WTW CIP is a feasible option which merits serious consideration by municipalities or other authorities planning to develop wastewater treatment capacity. WTW privatization raises many issues which must be recognized and addressed if accountability and the benefits of the efficiencies inherent in CIP are to be realized. These issues are identified and addressed in greater detail in order to provide information and guidance for authorities and policymakers considering privatization. (NTIS)

The potential for private cost-increasing technological innovation under a tax-based, economic incentive pollution control policy
McHugh, Richard
Land Economics v61 Feb, 1985, p58(7)

It is shown that the implementation of a tax-based economic-incentive policy makes total private compliance costs increase (potentially) when new, less expensive pollution control technologies are introduced despite the benefits in terms of lower real control outlays. The conditions present when the 'cost-increasing' innovations occur are described, and the process is shown numerically. Ways to avoid the cost-increasing technologies, including coupling the tax incentive with a net revenue lid for the pollution control authorities, are discussed, and support for private permit plans relative to tax-based incentive plans is shown. (MANAGEMENT CONTENTS)

Financing and Taxation for Urban Control of Pollution
1964-April, 1981
(Bibliographic Citations from the NTIS Data Base)
(Rept. for 1964-Apr 81)
Apr 81 264p
NTIS:PB81-805970

The citations relate to urban and regional planners who wish to study means of financing pollution abatement programs and of taxing sources as a means of pollution reduction. The reports are divided into three sections: Air pollution studies, solid waste disposal studies, and water pollution and sewage treatment studies. (This updated bibliography contains 255 citations, 24 of which are new entries to the previous edition.) (NTIS)

C. EMISSIONS TRADING

Emissions Trading and the Natural Gas Industry
Palmisano, John; Friday, Janet; Brooks, Thomas
Gas Energy Review v18n9 PP: 15-23 Sep 1990

Despite the obvious environmental advantages of using natural gas over other fuels, there are few incentives in the existing Clean Air Act to use natural gas for environmental purposes. A less traditional federal air pollution program, known as air emissions trading, can provide the gas industry with a much richer array of opportunities for increasing the value of gas by leveraging its environmental benefits. Emissions trading allows firms to create a marketable asset, the emission reduction credit (ERC), by voluntarily reducing air emissions to levels below those mandated by their air permits. To date, industry has saved well over $1 billion by taking advantage of emissions trading opportunities. The pending Clean Air Act Amendments will expand emissions trading opportunities by incorporating them into a new regulatory program focusing on acid deposition control. The new amendments will also reduce the uncertainty regarding the permanence of emission reduction credits. (ABI/INFORM)

Comparison of direct control and market based policies for controlling emissions
Fox, J. A. ; Hanson, D. A. Argonne National Lab., IL.
Intersociety energy conversion engineering conference (25th), Reno, NV, 12-17 Aug 1990.
Sponsor: Department of Energy, Washington, DC.
Report No.: CONF-900801-5 1990 4P.; NTIS:DE90011113/XAB

Emission control can be achieved by employing direct control policies such as performance standards and technology standards or by employing market based policies such as emissions trading, emissions taxes and marketable permits. This paper describes these policies and discusses the economic, social and political advantages and disadvantages of each type of policy. As the paper will show the chief disadvantage of the direct control policies is that they do not minimize the cost of obtaining the desired level of emissions in either the short or long run. One advantage of these policies is that they may be easier to administer then the market based plans. The chief advantage of the market based policies is that they are more likely to attain a desired emissions level at least cost in both a static and dynamic sense. These market based plans do have some shortcomings which are largely political in nature. For example, some people perceive these plans as ''licenses to pollute'' where wealthy firms can continue polluting by simply paying a tax, buying a permit or trading. (NTIS)

Pollution: Trading Places
Anonymous
Economist (UK) v316n7662 PP: 32-33 Jul 7, 1990

Tradable permits are at the core of the new clean-air bill now before Congress, and the group doing most to promote them is the Environmental Defense Fund. The 20-year-old idea combines the flexibility and cost-effectiveness of an economic instrument with the certainty of regulatory standards. In essence, a regulator sets a ceiling on the amount of pollution allowed for a whole industry and issues permits to individual firms for their share in that amount. Polluters can then buy or sell permits so that those who can clean up cheaply do so and then make money by selling spare permission to others. The main feature is the cap the program imposes on emission from electricity-generating plants. Severe penalties are a 2nd vital feature. The Bush administration wants emissions trading incorporated into any international agreement on climate change. An international trading system in greenhouse gases would allow countries that could reduce emissions more cheaply to sell gas-emitting allowances to those for which cuts were more expensive. (ABI/INFORM)

Exposure Trading: An Approach to More Efficient Air Pollution Control
Roumasset, James A.; Smith, Kirk R.
Jrnl of Environmental Economics & Mgmt v18n3 PP: 276-291 May 1990

To improve the cost-effectiveness of air pollution control, emissions trading among sources has long been recommended and recently implemented in the US. However, the implicit conceptual framework underlying emissions trading falls well short of the theoretical optimum. The concept of exposure trading is introduced, which makes the linkage between pollution sources and human health more explicit by focusing on exposure rather than concentration. One result of this shift is that incentives are established for regulated sources to consider unregulated sources, including those outdoors, and programs to induce behavioral changes in exposed populations as part of decisions to reduce their costs of exposure control. Exposure trading also facilitates a more comprehensive environmental policy by providing an administrative mechanism for including pollution sources other than the large industrial point polluters that are the focus of traditional analysis. (ABI/INFORM)

WHERE DID ALL THE MARKETS GO? AN ANALYSIS OF EPA'S EMISSIONS TRADING PROGRAM
HAHN ROBERT W. AND ; HESTER GORDON L. CARNEGIE MELLON UNIV, PA.
YALE J ON REGULATION, WINTER 89, V6, N1, P109(45)

RESEARCH CONCERNING THE USE OF MARKET SYSTEMS TO REGULATE ENVIRONMENTALLY DAMAGING ACTIVITIES IS REVIEWED, AND THE

LEGISLATIVE AND REGULATORY FRAMEWORK OF EMISSIONS TRADING IS SUMMARIZED. THE PERFORMANCE OF EMISSIONS TRADING IS EXAMINED, AND FOUND TO HAVE PROVIDED ECONOMIC BENEFITS WHICH DID NOT REACH THEIR POTENTIAL. REGULATIONS WHICH STYMIE EFFECTIVE USE OF EMISSIONS TRADING ARE CONSIDERED, AND PROPOSALS FOR REFORM ARE SUGGESTED. (ENVIROLINE)

Trading Emission Reduction Credits
Palmisano, John
Plant Engineering v43n14 PP: 78-80 Sep 14, 1989

With emission trading, plant managers have the freedom to control air pollution in the most cost-effective manner. In some cases, a firm can substitute less expensive surplus emission reductions at one emission point for expensive reductions at another. Emission credits can be created in several ways, including: 1. through alternative fuel strategies, 2. through equipment shutdowns, and 3. through curtailments of production. The trading process can be handled through any one of 4 avenues. These include: 1. offsets, which enable existing firms to locate in nonattainment areas, 2. bubbles, which allow managers of existing facilities to increase pollution controls where the costs are low in exchange for reducing pollution controls where the costs are high, 3. netting, which refers to sources using emission credits to avoid certain new source requirements, and 4. emission banking, which is the creation, certification, and storage of emission reduction credits for future use. (ABI/INFORM)

Capital Turnover and Marketable Pollution Rights
Maloney, Michael T.; Brady, Gordon L.
Jrnl of Law & Economics v31n1 PP: 203-226 Apr 1988

The empirical question is addressed of whether restrictions on emissions trading enhance or retard the rate of ambient air quality improvement. Ambient air quality has improved since the 1970s, though it is uncertain whether the improvement is due to the 1970 Clean Air Act or to other factors. Rules that limit the scope of the pollution-permit market create an incentive to postpone retirement of old pollution sources, which has a negative impact on air quality. Using air pollution control regulatory expenditures as a measure of the strictness of regulation, it was found that a doubling in regulation results in an 8% increase in capital's age. When the age of capital is related to actual pollution rates, it is found that a 1% increase in age has a 1% increase in pollution. The estimates suggest that stricter restrictions on trading permits result in a higher rate of pollution than would have existed without restrictions. (ABI/INFORM)

Bureaucratic politics and regulatory reform: the EPA and emissions trading
Cook, Brian J.
'88 xvi+165p
SERIES: Contributions in pol. science no. 196

Chronicles 15 years of congressional debate over the use of incentive-based regulatory instruments for pollution control; implications for administrative agencies. (PAIS)

EMISSIONS TRADING: WHY IS THIS THOROUGHBRED HOBBLED?
DUDEK DANIEL J. (ENV DEFENSE FUND, NEW YORK) AND ; PALMISANO JOHN (AERX, WASHINGTON, DC)
COLUMBIA J ENV LAW, 1988, V13, N2, P217(40)

EMISSIONS TRADING IS AN EPA ENVIRONMENTAL PROTECTION REFORM THAT HAS PROVEN SUCCESSFUL IN NUMEROUS WAYS: BY REDUCING TENSION BETWEEN ECONOMIC AND AIR QUALITY GOALS, BY MEETING POLLUTION STANDARDS FOR LESS MONEY, AND BY FOSTERING PRIVATE SECTOR POLLUTION CONTROL EXPERTISE. THE FLEXIBILITY AND EFFECTIVENESS OF PRIVATE SECTOR AIR POLLUTION CONTROL INITIATIVES HAVE PROVEN THAT OTHER AREAS OF ENVIRONMENTAL CONTROL COULD PROFIT FROM MARKET-BASED SYSTEMS, WHICH ARE A REASONABLE COMPROMISE BETWEEN OVER-REGULATION AND DE-REGULATION. (ENVIROLINE)

Economic Implications of Emissions Trading Rules for Local and Regional Pollutants
Atkinson, S. E.; Tietenberg, T. H.
Canadian Jrnl of Economics (Canada) v20n2 PP: 370-386 May 1987

In 1975, the US Environmental Protection Agency began a historic process of regulatory reform, now known as the Emissions Trading Program. For nonuniformly mixed pollutants such as sulfur dioxides, air quality is a function not only of the level of emissions, but also of their location and stack heights. Attention is focused on how to protect local air quality and limit long-range pollutant deposition caused by emission trades, while permitting as much cost-reducing trading activity as possible. Programming simulation models are employed to examine the implications of 2 trading rules in 2 different airsheds. These rules are compared in terms of: 1. compliance costs, 2. ambient degradation, 3. emission loadings, and 4. long-range deposition. It is found that the use of either trading rule represents a great improvement over exclusive reliance on the current allocation of control responsibility. (ABI/INFORM)

The Market for Bads: EPA's Experience with Emissions Trading
Hahn, Robert W.; Hester, Gordon L.
Regulation v11n3/4 PP: 48-53 1987

Recently, the Environmental Protection Agency (EPA) has allowed some modest reforms in its rigid approach to environmental management. For example, the emissions trading policy gives companies the opportunity to devise less costly ways to control their emissions. This policy includes the bubble program and 3 other programs. A review of the emissions trading policy shows that it has resulted in substantial economic gains, in the form of reduced compliance costs for companies, with little effect on the environment. However, the gains have been limited as a result of a struggle over property rights between industry groups and environmentalists. Reforms would reduce the uncertainties involved in trading and encourage more external trading. One change should be to improve information about baseline emissions. Also, the use of emissions credit banks should be encouraged. (ABI/INFORM)

"EMISSIONS TRADING" TO MEET CLEAN-AIR LAWS
WEISS MALCOLM ; PALMISANO JOHN
RESIDUALS MANAGEMENT TECHNOLOGY, FAIRMONT
NATURAL GAS APPLICATIONS FOR AIR POLLUTION CONTROL, 1987, P83(11)

EMISSIONS TRADING COMPRISES THE OFFSET POLICY, BUBBLE POLICY, NETTING, AND EMISSIONS BANKING. THESE CONCEPTS ALLOW FIRMS TO SUBSTITUTE RELATIVELY CHEAP, SURPLUS EMISSIONS REDUCTIONS FOR EXPENSIVE REDUCTIONS AT OTHER EMISSION POINTS. EPA'S POLICIES PERTAINING TO THE FOUR COMPONENTS OF EMISSIONS TRADING ARE DISCUSSED, AND UTILITY TRADING EXPERIENCE IS REVIEWED. SINCE ALL EMISSIONS TRADING IS BASED ON EMISSIONS REDUCTION CREDITS, INDIVIDUALS AND FIRMS CAN PARTICIPATE ONLY AFTER CREATING EMISSIONS REDUCTIONS. (ENVIROLINE)

"EMISSIONS TRADING" FOR AIR POLLUTION CONTROL: A VIEW FROM EPA
LEVIN MICHAEL H. EPA, FAIRMONT:
NATURAL GAS APPLICATIONS FOR AIR POLLUTION CONTROL, 1987
P73(10)

EMISSIONS TRADING (ET) CAN ALLOW FIRMS TO COMPLY WITH THE CLEAN AIR ACT OF 1977 IN THE MOST COST-EFFECTIVE MANNER RATHER THAN BY MEETING UNIFORM REQUIREMENTS. THE FOUR BASIC COMPONENTS OF ET ARE EXPLAINED: BUBBLE POLICY, NETTING, OFFSETS, AND BANKING. THESE ELEMENTS PROVIDE BALANCE SHEET REASONS FOR BETTER THAN REQUIRED PERFORMANCE. OVER 200 BUBBLES WERE APPROVED IN 29 STATES BY EPA BY 1985, WITH TOTAL ESTIMATED SAVINGS OF OVER $800 MILLION. SELECT USE BUBBLES CAN BE USED EITHER BY SWITCHING ONE SOURCE COMPLETELY TO GAS, OR BY SWITCHING IT TO A LOWER-EMITTING MIXTURE OF COAL AND GAS, IN ORDER TO ALLOW AN EQUIVALENT INCREASE IN EMISSIONS AT ANOTHER SOURCE. (ENVIROLINE)

Trade-Offs in Designing Markets with Multiple Objectives
Hahn, Robert W.
Jrnl of Environmental Economics & Mgmt v13n1 PP: 1-12 Mar 1986

According to targets-instruments literature, at least one instrument is required to meet each target of problems that have multiple objectives. When there are costs associated with utilizing instruments, there are trade-offs to consider in meeting a prescribed set of objectives. Such trade-offs are examined in the context of using markets to control externalities. For example, the basic goal of the Environmental Protection Agency's emissions trading policy is to achieve better environmental quality at lower cost, and this requires that an increase in emissions at one source be offset by a greater reduction at another source. The states preside over trading under this constraint, using the ''offset ratio.'' Three basic mechanisms are used to minimize the risk of air deterioration: 1. the requirement of detailed atmospheric modeling to demonstrate a net air quality improvement, 2. the specification of a region for trading without modeling, and 3. the employment of an offset ratio greater than unity. Thin markets and high transactions costs can be circumvented, but the solutions typically involve trade-offs. (ABI/INFORM)

THE CONCEPTUAL FRAMEWORK
(EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY)
TIETENBERG T. H.
RESOURCES FOR THE FUTURE REPORT, 1985, P14(24)

THE TRADITIONAL COMMAND-AND-CONTROL APPROACH TO AIR POLLUTION CONTROL IMPOSES A LARGE INFORMATION BURDEN ON CONTROL AUTHORITIES, WHO HAVE IN RESPONSE PROMULGATED EMISSION STANDARDS THAT ARE NOT COST-EFFECTIVE. COST-EFFECTIVE EMISSIONS TRADING SYSTEMS MUST BE DESIGNED ACCORDING TO THE NATURE OF THE POLLUTANT REGULATED. A COST-EFFECTIVE ALLOCATION OF UNIFORMLY MIXED, ASSIMILATIVE POLLUTANTS COULD BE ACHIEVED BY AN EMISSIONS PERMIT SYSTEM. FOR NONUNIFORMLY MIXED ASSIMILATIVE POLLUTANTS, AN AMBIENT PERMIT SYSTEM WOULD YIELD THE COST-EFFECTIVE ALLOCATION OF CONTROL RESPONSIBILITY. UNIFORMLY MIXED ACCUMULATIVE POLLUTANTS CAN BE CONTROLLED USING A CUMULATIVE EMISSION PERMIT SYSTEM. (ENVIROLINE)

ENVIRONMENTAL REGULATION AND ECONOMIC EFFICIENCY
US CONGRESSIONAL BUDGET OFFICE REPORT, MAR 85 (134)

THE EFFECT OF POLLUTION CONTROL EXPENDITURES ON THE EFFICIENCY WITH WHICH U.S. GOODS AND SERVICES ARE PRODUCED IS ANALYZED, BOTH ABSOLUTELY AND RELATIVE TO THE EXPERIENCE OF MAJOR U.S. TRADING PARTNERS. ENVIRONMENTAL QUALITY STANDARDS AND ATTAINMENT STRATEGIES IN THE U.S. AND ABROAD ARE COMPARED, AS ARE ATTENDANT EXPENDITURES. FINDINGS SUGGEST THAT ENVIRONMENTAL REGULATION HAS NOT BEEN A MAJOR

CONTRIBUTOR TO A LOSS IN THE EFFICIENCY OF THE U.S. PRIVATE ECONOMY. EMISSIONS TRADING AND EMISSIONS TAXES CAN BE IMPLEMENTED TO ALLOW POLLUTERS MORE ATITUDE WHEN COMPLYING WITH REGULATION WITHOUT RELAXING OVERALL POLLUTION ABATEMENT GOALS. (ENVIROLINE)

EMISSIONS TRADING GIVES FLEXIBILITY IN MEETING CLEAN-AIR LAWS
WEISS MALCOLM ; PALMISANO JOHN
RESIDUALS MANAGEMENT TECHNOLOGY, POWER, MAR 85, V129, N3, P55(4)

EMISSIONS TRADING REPRESENTS A REGULATORY REFORM UNDERTAKEN BY EPA INTENDED TO IMPROVE THE ENVIRONMENTAL EFFICIENCY OF EACH DOLLAR SPENT ON AIR POLLUTION CONTROL ACTIVITIES. THE PROGRAM GIVES PLANT MANAGERS THE FLEXIBILITY TO TAKE ADVANTAGE OF CONTROL ALTERNATIVES TO FIND THE MOST COST-EFFECTIVE AND EVEN PROFITABLE WAYS TO CONTROL AIR POLLUTION. EMISSIONS TRADING IS COMPRISED OF FOUR SIMILAR CONCEPTS: OFFSETS, BUBBLES, NETTING, AND BANKING. UTILITY TRADING EXPERIENCE IN ATTAINING EMISSION REDUCTION CREDITS IS SURVEYED. (ENVIROLINE)

REGULATORY REFORM IN AIR-POLLUTION CONTROL
TIETENBERG TOM
COLBY COLLEGE,
RESOURCES, WINTER 85, N79, P17(4)

THE EPA EMISSIONS TRADING PROGRAM IS AN ATTEMPT AT REGULATORY REFORM. IT SEEKS TO RENDER THE COMMAND AND CONTROL APPROACH MANDATED IN THE CLEAN AIR ACT OF 1970 MORE FLEXIBLE BY ALLOWING POLLUTERS MORE OPTIONS IN MEETING THEIR ASSIGNED CONTROL RESPONSIBILITIES. RELATED BUBBLE AND OFFSET POLICIES ARE EXPLAINED; REVISIONS AUTHORIZED UNDER THE CLEAN AIR ACT OF 1977 ARE DISCUSSED. THE ENDURING ROLE THAT THE EPA EMISSIONS TRADING PROGRAM IS PLAYING IS DIRECTLY ATTRIBUTABLE TO THE FACT THAT IT WAS PRECEDED BY A VERY COST-INEFFECTIVE REGULATORY POLICY. (ENVIROLINE)

EVALUATION AND PROPOSALS FOR FURTHER REFORM
(EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY)
TIETENBERG T. H.
RESOURCES FOR THE FUTURE REPORT, 1985, P188(29)

THE EPA EMISSIONS TRADING POLICIES ARE EVALUATED IN TERMS OF COST-EFFECTIVENESS AND SPEED OF COMPLIANCE. PROPOSALS FOR FURTHER REGULATORY REFORM ARE OUTLINED. WHILE THE TRADING POLICY IS MORE COST-EFFECTIVE THAN COMMAND-AND-CONTROL POLICIES, IT IS NOT FULLY COST-EFFECTIVE. RECOMMENDATIONS ARE SUMMARIZED FOR GAINING CONTROL OVER EMISSION TIMING, REINTERPRETING NEW SOURCE PERFORMANCE STANDARDS AND BEST AVAILABLE CONTROL TECHNOLOGIES, AND IMPROVING THE AIR QUALITY ACCOUNTING SYSTEM. (ENVIROLINE)

ENFORCEMENT
(EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY)
TIETENBERG T. H.
RESOURCES FOR THE FUTURE REPORT, 1985, P168(20)

EMISSIONS CONTROL ENFORCEMENT UNDER THE CLEAN AIR ACT OF 1977 IS ADDRESSED. ENFORCEMENT PRACTICES UNDER THE COMMAND-AND-CONTROL APPROACH HAVE RESULTED IN A HIGH PERCENTAGE OF NONCOMPLIANCE. THE 1977 AMENDMENTS ADDED A NEW NONCOMPLIANCE PENALTY TO THE ENFORCEMENT ARSENAL, BASED LOOSELY ON THE ZERO NONCOMPLIANCE MODEL, WHICH IS DESIGNED TO REDUCE THE PROCEDURAL BURDEN. THE EMISSIONS TRADING PROGRAM CAN BE EXPECTED TO HAVE MIXED EFFECTS ON ENFORCEMENT. BY LOWERING COMPLIANCE COSTS, IT REDUCES THE INCENTIVE TO RELAX EMISSION STANDARDS AND TO VIEW NONCOMPLIANCE AS A LESS EXPENSIVE ALTERNATIVE. HOWEVER, IT OPENS NEW POSSIBILITIES FOR RELYING ON SOURCES WHICH ARE MORE DIFFICULT TO MONITOR. (ENVIROLINE)

THE TEMPORAL DIMENSION
(EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY)
TIETENBERG T. H.
RESOURCES FOR THE FUTURE REPORT, 1985, P149(19)

MEETING SHORT-TERM EMISSION STANDARDS COST-EFFECTIVELY MEANS CONTROLLING THE TIMING AS WELL AS THE QUANTITY OF EMISSIONS. TRANSFERABLE PERMIT SYSTEMS CAN BE DEFINED TO MEET THESE STANDARDS COST-EFFECTIVELY. PERIODIC AND EPISODIC PERMIT SYSTEMS ARE DISCUSSED. ESTABLISHING A COMPLETE PERIODIC CONTROL PROGRAM COULD INCREASE EMISSION LOADINGS SIGNIFICANTLY IN PERIODS OTHER THAN PEAK PERIODS. THE ESTABLISHMENT OF A TRANSFERABLE EPISODE PERMIT SYSTEM WOULD MAKE IT EASIER TO IDENTIFY THOSE SOURCES WHICH CAN UNDERTAKE EMISSIONS REDUCTIONS RELATIVELY CHEAPLY ON SHORT NOTICE. (ENVIROLINE)

MARKET POWER
(EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY)
TIETENBERG T. H.
RESOURCES FOR THE FUTURE REPORT, 1985, P125(24)

TWO TYPES OF MARKET POWER ARE POSSIBLE IN TRANSFERABLE EMISSION PERMIT MARKETS. THE FIRST ARISES WHEN A PRICE-SETTING SOURCE OR A COLLUSIVE COALITION OF SOURCES SEEKS TO MANIPULATE THE PRICE OF PERMITS FOR THEIR OWN FINANCIAL GAIN. THE SECOND STEMS FROM THE DESIRE OF ONE PREDATORY SOURCE OR A COALITION OF SOURCES TO USE THE PERMIT MARKET AS A VEHICLE FOR REDUCING THE COMPETITION THEY FACE IN PRODUCT OR FACTOR MARKETS. AUCTION, SUBSIDY, AND GRANDFATHERING APPROACHES TO MARKET MANIPULATION ARE DISCUSSED. (ENVIROLINE)

DISTRIBUTING THE FINANCIAL BURDEN
(EMISSIONS TRADING: AN EXERCISE IN REFORMING POLLUTION POLICY)
TIETENBERG T. H.
RESOURCES FOR THE FUTURE REPORT, 1985, P93(22)

THE COMMAND-AND-CONTROL APPROACH IMPOSES A LARGE AND UNEQUALLY DISTRIBUTED FINANCIAL BURDEN ON COMPLYING SOURCES. BECAUSE THE ALLOCATION OF THE BASELINE CONTROL RESPONSIBILITY CAN BE USED TO AFFECT THE DISTRIBUTION OF COSTS WITHOUT INCREASING THE AMOUNT SPENT ON CONTROL TECHNOLOGIES, EMISSION TRADING OFFERS THE OPPORTUNITY TO ACHIEVE BOTH COST-EFFECTIVENESS AND FAIRNESS. THE CONTROL AUTHORITY HAS MANY OPTIONS IN DISTRIBUTING THE FINANCIAL BURDEN. IT CAN AUCTION OFF ALLOWABLE EMISSION OR CONCENTRATION PERMITS OR ALLOCATE A BASELINE CONTROL RESPONSIBILITY ON THE BASIS OF SOME INITIAL DISTRIBUTION RULE. (ENVIROLINE)

Emissions Trading and What It May Mean for Acid Deposition Control
Raufer, Roger K.; Feldman, Stephen L.
Public Utilities Fortnightly v114n4 PP: 17-25 Aug 16, 1984

One of the most controversial topics in the debate over acid deposition control strategies for electric utilities has been the potential use and benefits of emissions trading. The potential for emissions trading by electric utilities is important for proposed emission reductions and as a mechanism proposed to handle the growth of new emission sources. The electric utility market has already faced a number of impediments that have slowed the use of emissions trading in the existing Environmental Protection Agency program, such as: 1. regulatory constraints, 2. uncertainty, and 3. transaction costs. Utility-specific impediments include: 1. ratemaking, 2. construction planning times, and 3. enhanced potential for future regulatory actions. The market impediments have resulted in the hoarding of emission reduction credits. Emissions trading in an acid deposition program could be minimized by the proper emissions reduction allocation, but it may display many of the characteristics of the existing emissions trading program. The experiences of electric utilities in the Ohio River Valley support this idea. (ABI/INFORM)

Legal Issues Related to Creation, Banking and Use of Emission Reduction Credits (ERCs).
Part I: The 'Taking' Issue - Is Compensation Required if a Sta e or Local Government Confiscates or Reduces the Quantity of Banked ERCs

(Final rept.)
Tether, Ivan J.
ICF, Inc., Washington, DC.
Sponsor: Environmental Protection Agency, Washington, DC.
Report No.: EPA 230/04-82-001; NTIS:PB82-221854
(See also PB81-214249 and PB81-235046.)
May 82 23p

Emissions Trading, under the Clean Air Act, includes bubbles, netting, emission offsets, emission reduction banking, and is the subject of an EPA proposed Policy Statement (47 Fed. Reg. 15076, Apr. 7, 1982). These alternatives involve the creation of surplus reductions at certain stacks or vents and use of these reductions to meet requirements applicable to other emission sources. Emissions trades can provide more flexibility, and may therefore be used to reduce control costs, encourage faster compliance and free scarce capital for industrial revitalization. Where private parties have banked surplus emission reductions for future use or sale, states may determine that a portion of these reductions is required for clean air purposes. This paper provides legal analysis of the Constitutional issue of whether by 'taking' all or part of a person's banked emission reduction credits a state becomes liable to compensate that person. The paper concludes that the state would not be liable in this circumstance, particularly if the state had set out in advance, in its banking rule, the circumstances that could give rise to such a taking and the way it would be done. (NTIS)

Legal Issues Related to Creation, Banking and Use of Emission Reduction Credits (ERCs).
Part 2. The Public Trust Doctrine
Environmental Protection Agency, Washington, DC.
Report No.: EPA 230/02-84-004 NTIS:PB84-195460
(See also PB82-221854)
May 84 14p

This report presents an overview on which involves the creation of surplus pollution reductions (Emission Reduction Credits) at certain emission sources and use of these reductions to meet requirements applicable to other emission sources. The public trust doctrine holds that some public resources, notably land, are held in trust by the state for the public. Insofar as an Emission Reduction Credit (ERC) might be construed as a private right in a public resource (air), the doctrine may be of concern to states adopting an emissions trading program. At most, the public trust doctrine is common law, and presumably a properly enacted state

regulatory program (enacted under state and federal statute) would preempt a common law doctrine. The only consistent reading of the public trust doctrine is that the state must administer public property in a way that ensures broad public use for all purposes. An emissions trading program is consistent with this end, allocating competing uses of a limited resource. An ERC program does not conflict with the public trust doctrine, and the doctrine should prove no obstacle to Emissions Trading. (NTIS)

On Marketable Air-Pollution Permits: The Case for a System of Pollution Offsets
Krupnick, Alan J.; Oates, Wallace E.; Van De Verg, Eric
Jrnl of Environmental Economics & Mgmt v10n3 PP: 233-247 Sep 1983

An examination of the properties of several alternative forms of marketable air-pollution permit systems for the control of air pollution leads to a proposal for a system of pollution offsets as the most promising approach. Under this scheme, sources of emissions are free to trade emissions permits subject to a constraint of no violations of the predetermined air quality standard at any given receptor point. The pollution-offset system is shown to have the capacity to achieve the predetermined standards of air quality at the minimum aggregate abatement cost, but it still makes comparatively modest demands both on the administering agency and on the pollution sources. Working through its Emissions Trading Policy, the Environmental Protection Agency (EPA) already has provided a framework for the introduction of such a system. However, changes must be made in the Clean Air Act and existing regulatory procedures before cost savings from a market-oriented approach can be fully realized. (ABI/INFORM)

EMISSIONS TRADING IN THE UNITED STATES: AN OVERVIEW AND THE TECHNICAL REQUIREMENTS
BRADY GORDON L.
CEQ, J ENV MANAGEMENT, JUL 83, V17, N1, P63 (17)

EPA UNDER THE REAGAN ADMINISTRATION HAS INTRODUCED THE CONCEPT OF THE ''EMISSIONS TRADING POLICY STATEMENT,'' WHICH ALLOWS STATES TO ESTABLISH AN EMISSION TRADING SYSTEM BASED ON THE IDEA OF MARKETABLE DISCHARGE PERMITS. THE STATEMENT DOES NOT FUNDAMENTALLY ALTER THE EXISTING REGULATORY APPROACH AND DOES NOT ALLOW STATES TO DEPART FROM THE CURRENT ADMINISTRATIVE PROCEDURES. THE STATE-OF-THE-ART OF TECHNICAL COMPONENTS NECESSARY FOR IMPLEMENTING THE STATEMENT IS DESCRIBED. (ENVIROLINE)

A STEP FORWARD? AN ECONOMIC APPROACH IN AIR QUALITY MANAGEMENT
BRADY GORDON L.
CEQ, ENV POLICY & LAW, JAN 83, V10, N1, P3 (9)

THE USE OF TRADING AND MARKET-BASED APPROACHES IN AIR QUALITY MANAGEMENT IS CONSIDERED. TRADE RECOGNIZES THAT MUTUAL GAINS AND PAYOFFS TO A PARTICULAR REGION MAY BE SECURED THROUGH COOPERATIVE BEHAVIOR. TRADING CAN LEAD TO AN EQUILIBRIUM IN WHICH THE COSTS FOR ALL ACTIVITIES IN THE AREA ARE EQUAL TO THE PRICE OF DISCHARGE PERMITS. A FULL-SCALE MARKET IN AIR POLLUTION ENTITLEMENTS CAN SAVE INDUSTRY UP TO 90% COMPARED WITH COMMAND AND CONTROL APPROACHES. ASPECTS OF EPA'S EMISSION TRADING SYSTEM, ESPECIALLY ITS COST-EFFECTIVENESS AND LONG-TERM VIABILITY, ARE DISCUSSED. IMPLEMENTATION OF THE FOUR MAJOR PROVISIONS OF THE 1970 CLEAN AIR ACT IS HIGHLIGHTED: NAT'L AMBIENT AIR QUALITY STANDARDS, NEW SOURCE PERFORMANCE STANDARDS, STATE IMPLEMENTATION PLANS, AND EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS. (ENVIROLINE)

Emissions Trading: An Overview of the EPA (Environmental Protection Agency) Policy Statement
(Research rept.)
Brady, G. L. ; Morrison, R. E.
National Science Foundation, Washington, DC. Div. of Policy Research and Analysis.
Report No.: NSF/PRA-82013; PRA/RR-82-2; NTIS:PB85-150316/XAB
26 May 82 39p

The Environmental Protection Agency's Emissions Trading Statement is examined. The Statement consolidates the emission reductions achieved and used through current administrative procedures for the bubble, netting, offset, and banking programs into a common currency: the Emission Reduction Credit (ERC). The Statement provides guidelines for air quality management regions to develop generic state implementation plan provisions governing transactions in ERCs. The Statement invites firms to create 'surplus'discharge reductions beyond current control requirements. The incentive for participation is the opportunity to make a profit by selling ERCs to other firms that face higher marginal emissions control costs. The existing regulatory implementation incentive structure for stationary source dischargers is described, and the evolution of the Statement is traced. Issues that may limit the cost-effectiveness of the ERC program are considered. (NTIS)

Incentives for Technological Innovation in Air Pollution Reduction: An ETIP Policy Research Series. Volume 9: Internal Offsets and Technological Innovation: Six Case Studies
Mogee, Mary Ellen
National Bureau of Standards, Washington, DC. Experimental Technology Incentives Program.
Report No.: NBSIR-82-2475; NTIS:PB82-208372
(See also Volume 8, PB81-218273.)
Apr 82 73p

This report describes the experiences of six industrial firms with the new Federal policy of internal offsets. Offsets are part of a group of regulatory reforms initiated by the Environmental Protection Agency and called by the generic title of 'emission trading'. Offsets were introduced to allow continued economic growth in nonattainment areas and to stimulate innovation in pollution control and process technology by making it profitable for firms to create more reductions than the law now requires. The report discusses the problems of defining and measuring innovation as well as presenting industrial firm perceptions of innovation associated with offset cases. (NTIS)

Manual for a Prototype Emissions Banking and Trading Recordkeeping System
(Final rept.)
Berg, Dennis
American Mangement Systems, Inc., Arlington, VA.
Sponsor: Environmental Protection Agency, Washington, DC.
Report No.: EPA230/04-82-002; NTIS:PB82-209610
Apr 82 69p

The manual describes a prototype recordkeeping system for use by state and local agencies that adopt an emissions banking and trading program. The manual is organized to demonstrate how the prototype would be used to record information for various types of emissions trades, and to produce various reports of use to program managers, participating firms, and other interested organizations. The documents comprising the prototype system are described and examples are provided for tracking emission reduction credits through: creation and deposit; sale or transfer; and withdrawal and use. (NTIS)

Tax Considerations Related to the Creation, Financing, Banking, Use and Disposition of ERCS in Controlled Trading Approaches to Air Pollution
(Final rept.)
Baker, E. P. ; Winslow, Peter H.
ICF, Inc., Washington, DC.
Sponsor: Environmental Protection Agency, Washington, DC.
Report No.: EPA 230/01-82-001; NTIS:PB83-148361
(See also PB81-214249)
Jan 82 86p
Prepared in cooperation with Scribner, Hall, Thornburg and Thompson, Washington, DC.

Emissions trading, under the Clean Air Act, includes bubbles, netting, emission offsets, emission reduction banking, and is the subject of an EPA proposed Policy Statement (47 Fed. Reg. 15076, Apr. 7, 1982). These alternatives involve the creation of surplus reductions at certain stacks or vents and use of these reductions to meet requirements applicable to other emission sources. Emissions trades can provide more flexibility, and may therefore be used to reduce control costs, encourage faster compliance and free scarce capital for industrial revitalization. This paper discusses tax considerations regarding the currency of emissions trading, the Emission Reduction Credit, or ERC. Major issues include: (1) tax benefits available to a firm creating an ERC, (2) financing issues, (3) tax attributes of an ERC, and (4) ERC sales and option transactions. Like most business and financial activity, ERC transactions turn substantially on tax issues. The study includes issues raised by the Economic Recovery Tax Act of 1981. (NTIS)

Emissions Trading: Technical/Scientific Requirements
Brady (Gordon L.), Washington, DC.
Sponsor: National Science Foundation, Washington, DC.
Report No.: NSF/PRA-82043; NTIS:PB83-166736
1982 197p

This study examines the institutional, scientific, and technical issues in the Environmental Protection Agency regulatory reform proposal for rulemaking entitled: 'Emissions Trading Policy Statement: General Principles for the Creation, Banking, and Use of Emission Reduction Credits.' The existing regulatory implementation incentive structure for stationary source dischargers is described. Requirements for uniform technology standards are found to vary in stringency according to whether the discharger is an existing source or a modified source and according to the attainment status of the region. Market-based approaches that may be used in air quality management are considered, and the Emissions Trading Policy Statement is presented as a logical extension of administrative innovations already in limited use. The value of the pricing system in air quality management is discussed. Simplification of the Emissions Trading Policy Statement and abandonment of uniform

technology standards are recommended. Reviewer comments and a response from the principal investigator are included in the report. (NTIS)

Modified Fiscal Incentives in Environmental Policy
Blackman, Sue Anne Batey; Baumol, William J.
Land Economics v56n4 PP: 417-431 Nov 1980

Pigouvian effluent charges and markets in emissions rights, the 2 mainstays of economists' environmental proposals, have gained little support among policy makers. The US Environmental Protection Agency and other environmental authorities have introduced several regulatory programs based on financial incentives which have aroused minimal opposition. An analysis is presented of several new programs and the degree to which they approximate measures that are theoretically ideal. The emissions offset policy is examined showing its close similarity to a market in pollution rights. Despite their limitations, the policies described are a step in the direction of increased efficiency in pollution control. (ABI/INFORM)

D. BUBBLE POLICY

Emission Control Technologies and Emission. Factors for unpaved Road Fugitive Emissions. (User's Guide)
Fitzpatrick, M.
JACA Corp., Fort Washington, PA.
Sponsor: Environmental Protection Agency, Cincinnati, OH. Center for Environmental Research Information.
Report No.: EPA 625/5-87/022; NTIS:PB90-274101/XAB
Sep 87 56p

During the past decade, research has shown that particulate emissions from open sources such as unpaved roads contribute significantly to ambient particulate matter concentrations in many areas. The current EPA emission trading policy, commonly called the bubble policy, allows excessive emissions from one source to be offset by improved control of another source within the same plant. In implementing the bubble policy, some plants have agreed to reduce fugitive dust emissions in lieu of tighter controls on process emissions. The document has been prepared to assist control agency personnel in evaluating unpaved road fugitive emissions control plans and to assist industry personnel in the development of effective control strategies for unpaved roads. The document describes control techniques for reducing unpaved road emissions, methods for quantifying or estimating emissions generation, and provides data or estimating the efficiency of the performance of various control technologies. Although fugitive particulate

emissions can be reduced by reducing the extent of the source, the document focuses on the use of 'add-on' controls which do not affect the size or throughput of the source. (NTIS)

An Optimization Approach to Environmental Policy Making: A Case Study of Coal Liquefaction Process
Tayi, Giri Kumar; Rubin, Edward S.; Lincoln, David R.
Energy Systems & Policy v9n2 PP: 141-169 1985

Coal liquefaction plants are among the energy conservation processes that may achieve environmental quality objectives in a more cost-effective and environmentally acceptable manner via innovative approaches to regulation permitting trade-offs among multiple emission sources of a complex facility. The issues implied by this view of conservation and regulation are considered quantitatively in the context of a ''bubble policy'' for meeting sulfur dioxide emission limitations for a coal liquefaction process. The analysis is carried out with a computerized simulation model to compare the bubble concept with source-specific emission standards. Application of the methodology to different scenarios affirms that the bubble policy could result in lower production costs while still meeting air quality requirements. Secondary environmental impact to other media, such as water and land, could also be minimized with the approach. The review of the methodology addresses its general applicability and limitations. (ABI/INFORM)

A 'Bobbly' Win for EPA Policy
Anon
Chemical Week Vol.135, No.1, July 4, 1984, P. 14.

The United States Supreme Court upheld the Environmental Protection Agency's bubble policy for industrial air pollution control. The policy allows a plant to treat all air pollution sources as if one source. This permits plants to implement fewer controls on higher emission sources. The Natural Resources Defense Council (NRDC) opposes the policy as a loophole against the Clean Air Act. (MANAGEMENT CONTENTS)

A Plan that Bends the Clean-Air Rules
Anon
Business Week, No.2777, Feb. 14, 1983, P. 48H.

The Environmental Protection Agency (EPA) is introducing a new policy it hopes will help companies reduce antipollution costs. The so-called bubble policy would permit some plants to exceed pollution limits if others would cut below required levels. The savings companies would realize could then be used to acquire more advanced antipoluution technology. (MANAGEMENT CONTENTS)

How to Limit the Rising Costs of Stricter Regulation
Anonymous
Chemical Week v128n3 PP: 36-40 Jan 21, 1981

Chances are slim that the Reagan Administration will eliminate the governmental rules that cost businesses millions of dollars. In the effort by the business community to contain these costs, the discipline of regulation management will play an increasingly important role for chemical companies. Under the new Administration, forecasting regulations, monitoring compliance, and negotiating with regulators may become even more important than in the past. Balance sheet considerations are motivating firms to invest in tools for managing regulation, such as hiring of experts and implementing specialized monitoring devices. Monsanto is installing a computer system to organize issues such as employee health and chemical hazards, and its Environmental Policy Staff tries to forecast what new regulations will be promulgated and when. Cost control efforts of companies concentrate on the Environmental Protection Agency's (EPA) ''bubble policy'', whereby a firm can deal with total emissions of a locality rather than with individual sources. Future innovative approaches may also be needed to deal with regulations cost effectively. (ABI/INFORM)

Will John Barker's Bubble Burst?
Johnson, Greg
Industry Week v206n7 PP: 63-65 Sep 29, 1980

Armco, Inc., Middletown, Ohio, is trying out a simple and logical plan that could save industry millions in the war on air pollution. John E. Barker, corporate director of environmental engineering, is trying to convince the Environmental Protection Agency (EPA) that his so-called ''bubble-policy'' is as effective but far less expensive than the traditional air pollution control program mandated by EPA to control particulate emissions at Armco's Middletown steelworks in southern Ohio. If Barker is successful, Armco will spend only $4 to $5 million, compared to spending an additional $15 million if the company is forced to install EPA controls. The bubble plan is based on a ''trade-off'' of process emissions control for control of windblown fugitives. It is expected that the bubble will cut particulate emissions 4,000 tons per year, 6 times as much as traditional process controls Any pollutant would have to exit through a single smokestack on the top of an imaginary bubble that encompasses the entire Middletown Works, in contrast with the individual stack and process control stack which EPA has traditionally relied upon. (ABI/INFORM)

Bubbles and Efficiency: Cleaner Air at Lower Cost
Maloney, M. T.; Yandle, Bruce
Regulation v4n3 PP: 49-52 May/Jun 1980

In December 1979, one year after endorsing an experimental ''bubble'' policy, the Environmental Protection Agency (EPA) announced 2 new options for reducing air pollution. This new cost-effectiveness or ''bubble'' approach is simple enough to understand when applied to a single plant: if the cost of removing an additional unit of a given pollutant is higher for some sources than for others, the manager can reduce the plant's total cost of achieving the desired air quality by shifting emission control from the higher-cost to the lower-cost sources until the point is reached when the incremental cost becomes the same at each source.Studies have indicated that the application of the regional bubble concept can be very cost-effective in terms of emission control costs. Results showed that the regional bubble applied to 52 DuPont plants yielded significantly more clean air than source standards, while generating considerable cost savings. Even though these results appear to be positive, there are still some unanswered questions concerning applicability, costs, and net social benefits. (ABI/INFORM)

Steel's Bid for Softer Standards
Anonymous
Business Week n2636(Industrial Edition) PP: 122O-122P May 12, 1980

The Environmental Protection Agency (EPA) is considering renegotiating 2 large consent agreements signed with US Steel Corporation. Signing of the 2 landmark agreements last year was seen as a victory for the EPA. One major agreement for renegotiation is the extensive unemployment resulting from plant closings which were partly due to the high cost of meeting environmental regulations. The current agreements require the steel companies to be in compliance with air quality standards by December 31, 1982, the nationwide compliance deadline. The proposed delays by the steel companies could jeopardize the 1982 deadline or eliminate it.US Steel Corporation is considering installing a new basic oxygen furnace and wants a delay to decide. US Steel is also seeking credits against pollution in other plants as a result of reducing emissions with the new furnaces. US Steel is also trying to get changes in the Pennsylvania laws which would allow the bubble policy of extending pollution credits over an area. The EPA is concerned with the precedent that would be set if it made changes in the agreement. (ABI/INFORM)

Industry Ready to Test EPA ''Bubble''
Anonymous
Industry Week v204n3 PP: 70,75 Feb. 4, 1980

Since the Environmental Protection Agency (EPA) announced its ''bubble policy,'' a number of corporations have stepped-up work on proposals to determine if the policy is a cost effective air pollution control mechanism as its proponents claim. The concept is based on an imaginary bubble over an industrial plant with a single imaginary smokestack for all plant emissions. Industry has been required in the past to control airborne emissions from individual smokestacks scattered across a plant site. The bubble allows engineers to concentrate on least-cost approaches so long as the total pollution is within permissible limits.EPA predicts that steel producers will save 5-10% on particulate control, utilities will trim 15% from sulfur dioxide control costs, and chemical producers could save as much as 60% on hydrocarbon control. Armco, Inc., is implementing a bubble strategy at its Middletown, Ohio, steelmaking facility. It plans to limit wind-blown or open-dust emissions from roads and open lands rather than install more expensive controls on individual steelmaking processes. Minnesota Mining & Manufacturing Co. (3M) believes the bubble is applicable to processes using hydrocarbons. (ABI/INFORM)

Buying and Selling for Cleaner Air?
Yandle, Bruce
Business v29n2 PP: 33-36 March/April 1979

In July, 1978, the Environmental Defense Fund (EDF) petitioned the U.S. Environmental Protection Agency (EPA) to consider the use of an auction system, along with various other marketing approaches, for allocating the use of air quality in the Ohio River Valley region of the U.S. Following the mandate of the Clean Air Act, the EPA required each state to have an approved plan for implementing the provisions of the Act. The EPA then developed emission guidelines and standards for the various pollutants defined in the national standards. The regulations were very uniform and did not take into account the diversities of regions, thus causing difficulties for firms and industries. In nonattainment areas, environmentalists and industrialists learned that something had to be traded off in order to achieve more of something else, bringing EPA to announce its "offset policy." This policy means that an industry can expand if the demand for its product is sufficient to pay the cost of emission offsets. (ABI/INFORM)

E. INTERNATIONAL

Taxation: Uncertain Incentives
Crowe, Ian
CA Magazine (Canada) v124n3 PP: 51-52 Mar 1991

Social policy has always had a significant influence on the formulation of income tax law. Thus, it is surprising that, in these environmentally sensitive times, Canada has only a few tax incentives designed to encourage environmental protection. Two of these are by way of accelerated capital cost allowance. Classes 24 and 27 essentially provide for a 3-year write-off of the cost of pollution-control equipment. Class 34 also provides for a 3-year write-off and includes equipment designed to encourage energy conservation and use of alternative energy sources. Tax-motivated investments and expenditures have a history of abuse, and no doubt the government will be cautious about encouraging expenditures in this area. Nevertheless, these incentives do work, so it is inevitable that pressure will build for government to provide incentives to encourage the collective effort necessary to solve environmental problems. (ABI/INFORM)

GREEN DIPLOMACY: A COOL LOOK AT HOT AIR
ECONOMIST, JUN 16, 90, V315, N7659, P17(3)

SINCE THE MONTREAL PROTOCOL OF 1987 DICTATED CURBS ON THE USE OF CFC'S, INTERNATIONAL DIPLOMACY HAS HAD TO ADDRESS ENVIRONMENTAL ISSUES AT EVERY LEVEL OF INTERACTION. MOST "GREEN ISSUES" EXTEND BEYOND NATIONAL BOUNDARIES, AND BECOME THE SUBJECT OF INTERNATIONAL DEBATE. AN ANALYSIS OF THE MONTREAL PROTOCOL REVEALS THE EXTENT AND ECONOMIC IMPLICATIONS OF SUCH INTERNATIONAL TREATIES. (ENVIROLINE)

The "Greening" of Europe
Hawk, Ruth
Europe n300 PP: 6-8 Oct 1990

The European Community (EC) governments increasingly favor green taxes as a means to harmonize their differing directives into a system of stricter pollution control. Taxes and other economic instruments are incentives to encourage consumers and industry to behave in ways that do little harm to the environment. For example, in May 1990, France became the first country to put in place taxes to control pollution. France's decree allows substantially higher taxes to be put on air and water pollution and on household and industrial waste. The tax revenues will be used to fund the development of new technologies for reducing and measuring pollution levels. West Germany has called for a world agreement on environmental issues, particularly carbon dioxide emission

reductions. The agreement is to be prepared for the June 1992 Conference on Environment and Development. The European Environment Agency, now in the formative stage, is expected to publish a code of ethics to be met by Western companies building factories in Eastern Europe to ensure that the less stringent environmental laws in these countries are not exploited. (ABI/INFORM)

CAR EMISSIONS IN THE FIELD
RIJKEBOER R. C. (NETHERLANDS ORG APPLIED SCIENTIFIC RESEARCH, DELFT) AND ; ZWALVE W. J. (NETHERLANDS MINISTRY PUB HOUSING PHYS PLANNING & ENV PROTECTION),
SCIENCE OF THE TOTAL ENV, APR 90, V93, P159(8)

A FIVE-YEAR PROGRAM WAS LAUNCHED IN THE NETHERLANDS TO PERFORM IN-USE COMPLIANCE TESTS ON VEHICLES CERTIFIED UNDER THE REQUIREMENTS OF THE EEC TAX INCENTIVE SCHEME FOR CONTROLLING EXHAUST EMISSIONS. MEASUREMENTS HAVE BEEN MADE ON ABOUT 350 VEHICLES OF 68 VEHICLE TYPES TO DATE. THE VEHICLES ARE TESTED BEFORE AND AFTER TUNING OVER URBAN AND RURAL DRIVING CYCLES. AVERAGE EMISSIONS OF CARBON MONOXIDE, HYDROCARBONS, AND NITROGEN OXIDES ARE REPORTED. TUNING PROTOCOLS SIGNIFICANTLY REDUCED CO AND HYDROCARBON EMISSIONS. WHEN TUNED, MOST VEHICLES WERE FOUND TO COMPLY WITH THE EMISSION STANDARDS. (ENVIROLINE)

An International Tax on Pollution and Natural Resource Depletion
Sterner, Thomas
Energy Policy (UK) v18n3 PP: 300-302 Apr 1990

During 1989, the world witnessed a surge in top-level political concern for environmental problems, as seen in major "green" speeches from such politicians as Thatcher, Gorbachev, and Bush advocating the strengthening of international environmental cooperation. However, when it comes to actual implementation, policies adopted are comparatively weak, as illustrated by insufficient support for the United Nations Environment Programme, which still carries a vast responsibility and workload with a completely undersized budget and staff. To resolve these global problems, global institutions and policy instruments must be introduced. An international tax based on pollution and natural resource depletion is proposed. Such a tax would not only finance urgent environmental work, but would also be a valuable instrument of environmental policy. Also, a global tax on fossil energy is proposed. (ABI/INFORM)

A COMPARISON OF NEW ECONOMIC METHODS IN USSR ENVIRONMENTAL POLICY WITH WESTERN APPROACHES
EBERHARDT ALFRED UNEP, NAIROBI, KENYA
ENV MANAGEMENT, MAR-APR 90, V14, N2, P151(10)

COMPARISON OF THE EXPERIENCES OF SEVERAL DECADES OF ENVIRONMENTAL POLICY IN CENTRALLY PLANNED ECONOMIES, REPRESENTED BY THE USSR, AND IN MARKET ECONOMIES EXEMPLIFIED BY THE US AND WEST GERMANY, DEMONSTRATES THE SIMILARITIES BETWEEN THEM IN SPITE OF THE DIFFERENCES IN POLITICAL AND ECONOMIC STRUCTURE. ONE OBVIOUS SIMILARITY IS SEEN IN THE FACT THAT ENVIRONMENTAL MANAGEMENT IN BOTH THE EAST AND WEST EMERGES AS A REGULATORY "COMMAND AND CONTROL" APPROACH, WHICH WAS LATER SUPPLEMENTED BY ECONOMIC INCENTIVES. THE ECONOMIC METHODS INTRODUCED IN THE 1988 USSR RESOLUTION "ON THE RADICAL TRANSFORMATION OF THE SYSTEM OF NATURAL CONSERVATION" INCLUDE CHARGES FOR THE USE OF NATURAL RESOURCES AND THE EMISSION OF POLLUTANTS. EXPERIENCES WITH THIS APPROACH WILL BE OF INTEREST TO WESTERN NATIONS, WHILE LIABILITY REGULATIONS OF THE US CAN BE USED TO DESIGN PROVISIONS TO IMPLEMENT THE USSR RESOLUTION. RECENT POLITICAL DEVELOPMENTS, INCLUDING A NUMBER OF BILATERAL TREATIES, HAVE DEMONSTRATED THE RELEVANCE OF AN EAST-WEST EXCHANGE OF EXPERIENCE IN ENVIRONMENTAL MANAGEMENT. (ENVIROLINE)

Green Taxes: Where There's Muck There's Brass
Anonymous
Economist (UK) v314n7646 PP: 46-47 Mar 17, 1990

When the Organization for Economic Cooperation & Development (OECD) reviewed the economic measures for environmental protection that countries had in place by mid-1987, it found that most had been introduced to raise the money to pay for regulation. In the past couple of years, however, governments have become more interested in changing behavior - the encouragement of recycling, for instance. The OECD is currently working on guidelines for green taxation. The guidelines are to be published in summer 1990 and given to OECD environment ministers when they meet in January 1991. The measures being tried in Europe generally fall into one of 2 categories: 1. taxes or charges, or 2. refundable deposits. Denmark has an elaborate set of green imposts, including a chlorofluorocarbon tax, a refundable deposit on drink containers, and a charge on pesticides in small containers. Germany plans to change the basis for automobile tax from engine size to exhaust fumes and noise. Ireland has announced a ban on the sale of soft coal in central Dublin, and in Belgium, proposals to tax waste water and solid waste are being considered. (ABI/INFORM)

Economic instruments for environmental regulation
Tietenberg, T. H.
Oxford R Econ Policy 6:17-33 Spring '90

Experience with emissions trading in the US and emission charges in Europe. (PAIS)

Britain: A Greener Budget
Anonymous
Economist (UK) v314n7639 PP: 61-63 Jan 27, 1990

The UK's Institute for Fiscal Studies has conducted a study to see how environmental (green) taxes might work. Ways to apply green taxes to transport include: 1. widening the gap between leaded and lead-free gasoline, 2. using a tax on new automobiles or a vehicle excise duty on current cars to encourage use of catalytic converters, and 3. raising the gasoline duty to reduce fuel consumption. A tax on carbon dioxide production could encourage a shift to low-carbon or no-carbon fuels, but if the UK introduced a carbon tax unilaterally, the structure of industrial production would alter. A value-added tax on domestic gas and electricity is another option. Green taxes may be more appropriate for encouraging energy conservation than for preventing other kinds of pollution, such as indirect pollution. Green taxes need to be imposed at high levels to have much environmental effect, but they do offer governments a new source of cash. (ABI/INFORM)

A GREENER BUDGET
ECONOMIST, JAN 27, 90, V314, N7639, P61(3)

THE INST FOR FISCAL STUDIES, UK, HAS STUDIED THE FEASIBILITY OF TAXES ON ROAD TRANSPORT, FOSSIL FUELS, FERTILIZERS, AND DISCHARGES OF INDUSTRIAL EFFLUENTS INTO RIVERS. THESE "GREEN TAXES" COULD BE AN EFFICIENT WAY FOR THE UK GOVERNMENT TO RAISE REVENUE WHILE HELPING TO CLEAN UP THE ENVIRONMENT. THE PROS AND CONS OF TAXES ON ROAD USE, CARBON DIOXIDE EMISSIONS, AND CHEMICAL CONTAMINATION OF SOIL AND WATER ARE DISCUSSED IN DETAIL. HOWEVER, THESE TAXES MAY PROVE TO BE A DISAPPOINTMENT TO GOVERNMENTS ANXIOUS TO CLEAN UP THE ENVIRONMENT. THEY OFTEN NEED TO BE IMPOSED AT HIGH LEVELS TO HAVE MUCH EFFECT. BUT AS FAR AS REVENUES, GOVERNMENTS SHOULD BE DELIGHTED; THEY ARE OFTEN A BETTER ALTERNATIVE TO MORE BUREAUCRACY AND MORE PUBLIC SPENDING ON REGULATION. (ENVIROLINE)

Greening Europe: The Freedom to Be Cleaner than the Rest
Anonymous
Economist (UK) v313n7624 PP: 21-24 Oct 14, 1989

The European Community (EC) is trying to develop rules that allow countries at different stages of economic development to pursue

national environmental policies that do not hinder free trade. Long before it had legal authority to do so, the EC commission had been trying to get the EC countries to adopt common environmental standards. As amended by the Single European Act, the EC treaties allow one country to impose higher environmental standards than others, but only if it does not create an open or disguised barrier to intra-EC trade. Some of the environmental consequences of 1992 will arise not from the removal of barriers but from the lower prices and faster growth that will occur. The conclusion of a study by the EC probably will be that 1992 will hurt the environment if EC countries do not take measures to steer the new growth into wholesome channels. (ABI/INFORM)

The economic approach to the environment: economic instruments --charges tax differentiation or "emissions trading" --provide incentives to reduce environmental damage
Barde, Jean-Philippe
OECD (Org Econ Coop and Development) Observer 158:13-15 Je/Jl '89

Role in environmental policy; OECD countries. (PAIS)

Hazardous waste management: a West German approach
Linnerooth, Joanne and Allen V. Kneese
Resources p 7-10 Summer '89

Approach using both economic incentives and regulatory control; Bavaria, Germany. (PAIS)

And Now, the Greening of Europe
Maremont, Mark
Business Week n3104(Industrial/Technology Edition) PP: 98D-L May 8, 1989

The environment, largely ignored by Europeans in the past, has become a popular topic. Environmental group Greenpeace International reports that its list of European members has grown by 50% in the past 18 months. Sensing the environmental concerns, major political parties are trying to appropriate the issue. The UK's prime minister, Margaret Thatcher, known for opposition to almost anything that may harm British industry, is now alluding to a pro-environment sentiment. Industrial catostrophes and widespread worries about the ozone layer are contributing to the new concern among Europeans. Germany is at the forefront of environmental concern, while the Mediterranean nations lag behind. The European Community is assuming a higher profile on environmental affairs as 1992 approaches. In November 1988, European automobile companies and governments agreed on a country-by-country phase-in of tougher exhaust standards by 1993. (ABI/INFORM)

A SYSTEMS APPROACH TO A TECHNOLOGY-BASED RESPONSE TO THE GREENHOUSE GAS ISSUE
HAMILTON L. D. BNL, UPTON, NY,
OECD/IEA ENERGY TECHNOLOGIES FOR REDUCING EMISSIONS OF GREENHOUSE GASES SYM, PARIS, FRANCE, APR 12-14, 89, V1, P207(32)

USING A SYSTEMS APPROACH TO A TECHNOLOGY-BASED RESPONSE TO THE GREENHOUSE-GAS PROBLEM, TECHNOLOGIES ARE EVALUATED WITHIN THE CONTEXT OF THE ENERGY, ECONOMIC, AND ENVIRONMENTAL SYSTEMS OF WHICH THEY ARE AN INGREDIENT. THE SYSTEMS APPROACH THAT HAS EVOLVED TO ADDRESS THE ACID-RAIN PROBLEM IN EUROPE EXEMPLIFIES THIS PROCESS. AN INTERNATIONAL EFFORT IS PROPOSED TO EXTEND OR DEVELOP NATIONAL SYSTEMS MODELS OF ENERGY AND ENERGY-RELATED EMISSIONS OF GREENHOUSE GASES FOR INDUSTRIAL NATIONS. GUIDELINES FOR ASSESSING EMISSIONS TRADEOFFS AND GENERATING APPLICABLE TECHNOLOGY DATABASES ARE PRESENTED. (ENVIROLINE)

Environmental Management and Economic Development
Schramm, G. ; Warford, J. J.
International Bank for Reconstruction and Development, Washington, DC.
Report No. ISBN-0-8013-3904-1 c 1989 220 p; NTIS:PB89-217210/XAB

Environmental management and economic policy in developing countries; Environmental and natural resource accounting; Marginal opportunity cost as a planning concept in natural resource management; The environmental basis of sustainable development; Economic incentives for sustainable production; Deforestation in Brazil's Amazon Region: magnitude, rate, and causes; An economic justification for rural afforestation: the case of Ethiopia; Managing the supply of and demand for fuelwood in Africa; Economic aspects of afforestation and soil conservation projects; Multilevel resource analysis and management: the case of watersheds. (NTIS)

HOW TO PAY FOR CONSERVING BIOLOGICAL DIVERSITY
MCNEELY JEFFREY A. IUCN, SWITZERLAND
AMBIO, 1989, V18, N6, P308(6)

GOVERNMENTS ARE HAVING DIFFICULTY FINDING SUFFICIENT FINANCIAL RESOURCES FOR ADDRESSING THE PROBLEMS OF BIODIVERSITY CONSERVATION IN A WAY THAT IS COMMENSURATE WITH THE NEEDS OF SOCIETY. FUNDING MECHANISMS USEFUL PRIMARILY AT THE NATIONAL AND LOCAL LEVELS ARE IDENTIFIED. RESOURCE MANAGEMENT AGENCIES CAN CHARGE ENTRY FEES TO NATIONAL PARKS, CHARGE FOR ECOLOGICAL SERVICES PROVIDED BY PROTECTED AREAS AND FORESTS, AND COLLECT SPECIAL TAXES ON TIMBER EXTRACTION, WOOD TRADING, AND TRADE IN WILDLIFE AND WILDLIFE PROJECTS. MECHANISMS USEFUL PRIMARILY AT THE INTERNATIONAL LEVEL INCLUDE EXPLOITATION OF INTERNATIONAL CONVENTIONS FOR PROVIDING FINANCIAL SUPPORT, SEEKING DIRECT SUPPORT FROM INTERNATIONAL

CONSERVATION ORGANIZATIONS, AND SWAPPING DEBT FOR NATURE CONSERVATION. (ENVIROLINE)

Public-private partnership salvages recyclables in Sweden
Pollock, E.L.
WASTE AGE VOL. 18, NO. 1, p. 78+, Publ.Yr: 1987

One of the world's oldest refuse companies in now in the sixth year of a successful collection and recycling partnership with a consortium of nine municipal entities in Sweden. (POLLUTION ABSTRACTS)

III. APPLICATIONS OF ECONOMIC INCENTIVES

A. ACID RAIN

Acid Rain Control and Public Utility Regulation
Trisko, Eugene M.; Wayland, Robert E.
Public Utilities Fortnightly v114n5 PP: 15-22 Aug 30, 1984

In view of the probable costs to electric utilities of compliance with pending federal acid deposition control legislation, state regulatory agencies with rate and other jurisdiction over utilities would be wise to anticipate and start planning for that contingency. Timely development of policy positions on control cost recovery and other consequences of federally enacted requirements would diminish many uncertainties associated with the control effort. The current legislative proposals would have implications for several acid rain control and public utility regulation areas, including: 1. fuel procurement oversight, 2. fuel supply contract practices, 3. fuel switching and power plant performance, 4. scrubber retrofit and plant life extension programs, 5. emerging control technology, 6. emission trading potential, and 7. rate level and structure. The costs and administrative complexities of acid rain control could be reduced by state and regional cooperation. (ABI/INFORM)

Acid Rain Reduction Credits
Tietenberg, Thomas H.
Challenge v32n2 PP: 25-29 Mar/Apr 1989

Attempts by Congress to legislate an effective policy response to the problem of acid rain have failed. There are several obstacles to adopting more stringent controls on older sources of acid rain. An innovative regulatory approach to overcoming these

obstacles is the acid rain reduction credit (ARRC) program, which is patterned after the Environmental Protection Agency's successful emissions trading program. This economic incentive approach offers the possibility for achieving emission reduction targets at a lower cost, while dealing realistically with electrical generating units that are about to be replaced or are in a financially precarious position. Any sources of emissions contributing to acid rain could have excess reductions, or credits, which could be transferred to other plants. This plan offers: 1. lower costs, 2. incentives for reduced emissions, and 3. greater flexibility. (ABI/INFORM)

B. AGRICULTURE

NATIONAL AGROENVIRONMENTAL INCENTIVE PROGRAMS: THE U.S. EXPERIENCE
REICHELDERFER KATHERINE H. USDA, WASHINGTON, DC.
AGRICULTURE & WATER QUALITY: INTERNATIONAL PERSPECTIVES (LYNNE RIENNER PUBLISHERS), 1990, P131(15)

INCENTIVE PROGRAMS BASED ON VOLUNTARY PARTICIPATION HAVE BEEN A HALLMARK OF US AGRICULTURAL POLICY. NEGATIVE INCENTIVE PROGRAMS TO CONTROL POLLUTION HAVE BEEN LESS COMMON, BUT ARE GAINING ACCEPTANCE. MAJOR AGRICULTURAL INCENTIVE PROGRAMS SINCE 1930 ARE REVIEWED AND ANALYZED FOR FACTORS DETERMINING SUCCESS OR FAILURE. THESE PROGRAMS INCLUDE DIRECT PAYMENT FOR APPROPRIATE PRACTICES, DISINCENTIVES FOR ENVIRONMENTALLY INAPPROPRIATE PRACTICES, AND TECHNICAL ASSISTANCE TO ENCOURAGE CERTAIN TYPES OF FARMING. [Book chapter] (ENVIROLINE)

CONTROL OF AGRICULTURAL POLLUTION BY REGULATION
ANDERSON GLENN D. ENV LAW INST, WASHINGTON, DC,; DE BOSSU ANN E.; KUCH PETER J.
AGRICULTURE & WATER QUALITY: INTERNATIONAL PERSPECTIVES (LYNNE RIENNER PUBLISHERS), 1990, P63(39)

AGRICULTURAL POLLUTION HAS BEEN SUBJECT TO RELATIVELY LITTLE REGULATION IN THE US EVEN THOUGH VOLUNTARY CONTROL OF NONPOINT-SOURCE POLLUTION HAS PROVEN INADEQUATE. THE ECONOMIC BASIS OF REGULATORY CONTROL IS ANALYZED, AND REGULATORY POLICIES ARE COMPARED WITH INCENTIVE POLICIES. REGULATORY APPROACHES IN THE US AND EUROPE ARE SURVEYED AND COMPARED WITH INCENTIVE PROGRAMS. [Book Chapter] (ENVIROLINE)

C. AIR POLLUTION

Saving the climate saves money: the threat of global warming
Flavin, Christopher and Nicholas Lenssen.
World Watch 3:26-34 N/D '90

Suggests various economic incentives for reducing air pollution. (PAIS)

Clean Air and Natural Gas Vehicles
Tilley, C. Ronald
Public Utilities Fortnightly v126n6 PP: 31,34 Sep 13, 1990

The US is losing the fight against air pollution. Since 2/3 of the carbon monoxide that contaminates the air comes from motor vehicles, cleaner burning fuels are imperative. A national market for natural gas vehicles (NGV) would improve air quality and help reduce dependence on foreign oil. It would be appropriate for the federal government to set an example by making 10% of its nonmilitary vehicles NGVs. Regulatory commissions can expedite the sale of NGVs by removing regulatory restraints on the sale of natural gas. To assist in environmental improvements, regulatory programs must: 1. permit the recovery of the reasonable costs of establishing fuel facilities for fleets and fleet vehicle conversions or privately owned NGVs, 2. provide regulatory support or financial incentives to private fleet owners who use NGVs, and 3. provide special, clean-fuel tax incentives. (ABI/INFORM)

Study of Economic Incentives to Control Photochemically Reactive Organic Compound Emissions from Consumer Products
(Final rept)
Gibbs, M. J. ; Tlaiye, L. ; Letourneau, M.
ICF Consulting Associates, Inc., Universal City, CA.
Sponsor: California State Air Resources Board, Sacramento.
Report No.: ARB-R-90/447; NTIS:PB91-129346/XAB
Aug 90 231p

The study investigates and evaluates two economic incentive systems (emissions fees and quotas) as potential control strategies for reducing emissions of photochemically reactive organic compounds (PROCs) found in consumer products. Hair sprays and spray paints were examined in detail. Current emissions in California, technical options for reducing emissions and economic incentives needed to promote the implementation of the technical options were identified. Options for designing and implementing the economic incentives were discussed. The study concludes that economic incentives can be used to reduce PROC emissions from hair spray and spray paint products. Because cost is the principal barrier preventing the wide-spread use of most of the PROC-reducing

formulations and packaging systems, an incentive fee or quota is appropriate for promoting the use of the desired formulations and packaging systems. The effectiveness of economic incentives is reduced when non-cost barriers, such as inadequate product performance information, prevent the use of emissions-reducing formulations and packaging. In these situations, consumer awareness programs or other steps in conjunction with economic incentives should be considered. It is also recommended that economic incentives be implemented for a group of products, as opposed to for a single product. (NTIS)

Empirical properties of economic incentives and command-and-control regulations for air pollution control
(economic and non-economic approaches to controlling air pollution)
Kolstad, Charles D.
Land Economics v62 Aug, 1986, p250(19)

The application of a spatial, stochastic model of emission regulation design to the southwestern 'Four Corners' states (Utah, Arizona, Colorado, and New Mexico) examines the efficacy of command-and-control regulations versus economic incentives in minimizing air pollution. Moreover, the regional case study of air pollution regulations and alternatives addresses the issues of: (1) price controls versus quantity controls, within the area of economic incentives; and (2) the spatial resolution of economic incentives. The objective of this analysis is not to encourage air pollution regulation reform, but to provide insight as to air pollution regulatory alternatives. Efficiencies of various forms of pollution control regulation are appraised according to types of environmental damage ("linear damage," "kinked damage," "superlinear damage," and "slightly superlinear damage"). (MANAGEMENT CONTENTS)

D. HAZARDOUS AND SOLID WASTE

State Policies on Waste-to-Energy Facilities
Migden, Janine L.
Public Utilities Fortnightly v126n6 PP: 26-30 Sep 13, 1990

As more attention is focused on the crisis of disposing of all the solid waste the US produces, incinerators coupled with energy production emerges as one of the viable alternatives. Some environmental advantages of incineration are that air emissions are not latent with sulfur dioxide or nitrogen oxides and that a renewable resource is replacing a fossil fuel, a nonrenewable resource, thus promoting conservation. Economic benefits of waste-to-energy (WTE) include the creation of jobs, stabilization of tipping fees for solid waste disposal, and the generation of reliable, long-term, low-cost electricity. Many states have

recognized the special attributes of WTE and have enacted policies that provide additional rate incentives. However, these incentives are not the only mechanisms used by commissions to encourage the development of WTE. Maine and a number of other states have implemented competitive bidding options. The most receptive state toward cogeneration and small power production is probably California. For WTE to reach its full potential, it is imperative that state regulation decompartmentalize. (ABI/INFORM)

Recycling: The Newest Wrinkle in Waste Management's Bag
Bremner, Brian
Business Week n3148 (Industrial/Technology Edition) PP: 48-49 Mar 5, 1990

Waste Management Inc. (Oak Brook, Illinois) has 7 hazardous waste landfills and 5 incinerators that handle millions of tons of waste a year. Waste Management's Recycle America subsidiary has become the US' largest recycler. Waste Management is not just looking to placate the environmental groups that have criticized the firm in the past; recycling is turning into a profitable business. Also, it conserves precious landfill space. Underscoring its interest in recycling, Waste Management recently signed joint ventures with papermaker Jefferson Smurfit Corp. and Du Pont Co. to recycle paper and plastic. The recycling push complements Waste Management's strategy of offering curbside-to-landfill garbage services to cities. Waste Management is not likely to make much money in recycling anytime soon, and the company faces stiff competition. Congress is considering a package of tax incentives that are designed to spur use of recycled materials.
(ABI/INFORM)

What Have You Done for Me Tomorrow?
Cook, James
Forbes v145n4 PP: 88,92 Feb 19, 1990

Safety-Kleen Corp. (Elgin, Illinois) services 180,000 service station and automobile repair shop customers through a nationwide network of 162 branches and 1,100 salespeople. In the mid-1980s, Safety-Kleen began recycling fluids of all kinds, beginning with small-quantity industrial fluids and moving up to large-quantity truck and tank load lots. In 1989, Safety-Kleen earned an impressive $46 million on $480 million in sales for a 20% return on equity. While this was enough to hold the company's stock at around 30 per share, up from a low of 13 in 1982, it is well below the 1987 high of 39 1/2. Safety-Kleen would like to see service stations charge recycling fees of 50 cents for each oil change. However, service stations will not levy the surcharge unless they have an economic incentive. The US Congress and the Environmental Protection Agency are considering increasing the environmental restrictions on the disposition of used oil, which almost certainly

will enable Safety-Kleen to increase prices for recycling. (ABI/INFORM)

DEMAND AND MARKET INCENTIVES: A LOOK AT INDUSTRIAL POLICIES
HEMPHILL THOMAS A. NEW JERSEY DEPT OF ENV PROTECTION
WASTE AGE, JAN 90, P24(3)

FOR RECYCLING TO BE SUCCESFUL, CERTAIN ECONOMIC PREREQUISITES MUST BE MET: SUPPLY MUST BE CONSISTENTLY GENERATED, AND CONSUMER DEMAND MUST EXIST. THE GOVERNMENT COULD PLAY A SIGNIFICANT ROLE IN GENERATING DEMAND-SIDE INTEREST. TO FACILITATE RECYCLING, GOVERNMENT POLICIES AT THE FEDERAL AS WELL AS STATE AND LOCAL LEVELS MUST SUPPORT THIS MARKETING EQUATION, AS WELL AS MANDATING WASTE REDUCTION GOALS. SUCH POLICIES SHOULD ADDRESS STABLE MATERIAL RESOURCES, EXPEDITED CONSTRUCTION AND ENVIRONMENTAL PERMITTING WITHIN THE RECYCLING INDUSTRY, CAPITAL FINANCING OR INCENTIVES, AND LEADERSHIP IN PROCUREMENT OF RECYCLED MATERIALS. (ENVIROLINE)

Protecting the environment
Weidenbaum, Murray.
Society 27:49-56 N/D '89

Partial contents: Economic solutions to hazardous waste problems; Economic incentives needed; A birth control approach to pollution. (PAIS)

To clean up landfills, the leader should be municipalities using economic incentives to settle
Bernstein, Norman W.
Environmental Law Reporter 19:10012-15 Ja '89

Urges municipalities to take initiative in developing settlements with polluting companies; outlines New York City case. (PAIS)

Economic Incentives and Disincentives for Recycling of Municipal Solid Waste
Franklin Associates Ltd., Prairie Village, KS.
Sponsor: Center for Economic Policy Analysis, Chicago, IL.; Office of Technology Assessment, Washington, DC.
Dec 88 142p
NTIS:PB91-119099/XAB

The purpose of the study is to identify and analyze various Federal government policies that may discourage or act as disincentives to the recycling of materials from municipal solid waste. The study primarily evaluates economic policies, but also examines tax policies and their potential effectiveness in

reducing or eliminating the barriers to recycling. The report is prepared as an internal document to be used by the Congress of the United States, Office of Technology Assessment (OTA) in their assessment of municipal solid waste. The report organization follows the scope of work as defined by OTA: Chapter 1 - Federal Subsidies for Virgin Materials; Chapter 2 - Federal Subsidies for Recycled Materials;Chapter 3 - Federal Subsidies for Alternative Energy Sources; and Chapter 4 - State Tax Incentives. (NTIS)

Solid Waste Management Alternatives: Review of Policy Options to Encourage Waste Reduction
Zimmermann, E.
Illinois Dept. of Energy and Natural Resources, Springfield. Energy and Environmental Affairs Div.
Feb 88 91p
Report No. IL/ENR/RE/PA-88/03; NTIS:PB88-188560/XAB

In order to adopt effective waste reduction policies, States must first develop a framework for evaluating alternative policy options. Such a framework should include a clear definition of 'waste reduction', a set of policy evaluation criteria, consideration of a variety of policy approaches, and targeting of policies to appropriately distinguished sectors of waste generators. Three general approaches are possible to encourage waste reduction: (a) regulatory approaches; (b) financial incentives and/or disincentives; (c) research and education. The report outlines a wide range of policy options which encourage both post-consumer and industrial waste reduction. The most effective waste reduction policies will most probably include a balanced mixture of educational programs, financial incentives/disincentives, and regulations designed to best meet overall waste reduction goals consistent with established evaluation criteria. (NTIS)

Assessing the viability of marketable permit systems: an application in hazardous waste management
Opaluch, James J.; Kashmanian, Richard M.
Land Economics v61 Aug, 1985, p263(9)

The increasing number of hazardous waste dumps discovered near residential neighborhoods, such as the Love Canal area in New York State, has led to increased awareness in the general population of the dangers of hazardous wastes, which in turn has made hazardous waste management a persistent societal problem. The use of economic incentives for pollution control is examined from two points of view: a strategy allowing flexible response by companies to test for efficient benefits, and the distribution of cost savings among kinds of companies to test the political pressure likely to result in response to proposals for marketable permit plans.
(MANAGEMENT CONTENTS)

E. PUBLIC UTILITIES

Regulatory aspects of emissions trading: conflicts between economic and environmental goals
Bohi, Douglas R. and Dallas Burtraw.
Electricity J 3:47-55 D '90

Implications of proposed distribution of credits for emissions control that can be bartered by electric utilities.
(PAIS)

Weighing environmental costs in utility regulation: the task ahead.
Gordon, Kenneth.
Electricity J 3:54-63 O '90

Economic incentives for factoring the environment into energy planning decisions; US. Evaluation of current approaches, and possibilities for routine adoption of the process.
(PAIS)

EEI's New Risk-Taking President Talks About the Electric Utility Industry
Rodgers, Lori M.
Public Utilities Fortnightly v126n3 PP: 17-19 Aug 2, 1990

Thomas R. Kuhn, who became president of the Edison Electric Institute (EEI) in May 1990, indicated that one topic of concern within the electric utility industry is implementation of the Clean Air Act. EEI has supported the clean coal technology (CCT) program, and, regarding the emissions trading portion of the bill, Kuhn remarked that the free marketplace ultimately should work. Kuhn believes the industry should retain nuclear energy as an option, although significant progress needs to be made in the nuclear waste area. EEI favors a standardized design for nuclear plants. The issue of efficiency and demand-side management (DSM) is also something electric utility companies are involved in. All of EEI's member companies have DSM programs, which, in the past decade, have increased from around 130 programs to over 1,300. Kuhn mentioned that the public needs to be educated on topics such as global warming and health concerns associated with electric and magnetic fields. EEI proposes to meet that challenge by doing additional research. In order to ensure that the public is aware that the industry is environmentally oriented, EEI plans on increasing advertising and public relations efforts.
(ABI/INFORM)

Emissions trading in the electric utility industry
Krupnick, Alan J. and others
Resources p 10-13 Summer '90

Economic incentives for reduction of sulfur dioxide emissions under the proposed revision of the Clean Air Act. (PAIS)

Cost-Minimizing Regulation of Sulfur Emissions: Regional Gains in Electric Power
Gollop, Frank M.; Roberts, Mark J.
Review of Economics & Statistics (Netherlands) v67n1 PP: 81-90 Feb 1985

Maximum allowable rates for sulfur dioxide emissions from electric utilities are set by environmental regulations. These standards do not minimize the cost of reducing emissions because they ignore firm differences in marginal abatement costs and prevent emissions trading. Marginal abatement cost functions for 56 utilities for 1973-1979 are estimated, thus quantifying the cost effect of sulphur dioxide emission restrictions. The data are derived from Environmental Protection Agency, state, and Federal Energy Regulatory Commission publications and are classified by subperiod and geographical region. Marginal costs are found to vary considerably across firms as a result of differences in the price of low and high sulfur fuels and the intensity of regulation. The potential savings from a cost-minimizing reallocation of abatement resources are estimated for the 5 geographical regions. Results indicate that current expenditures are 47% higher than cost minimizing levels. (ABI/INFORM)

IV. PUBLIC-PRIVATE PARTNERSHIPS

Public private partnerships for environmental facilities: a self-help guide for local governments
United States. Environmental Protection Agency
Admin. and Resources Mgt. My '90 iv+40p

Partial contents: Building a public-private partnership: an action checklist; Finance, procurement, and the service agreement. (PAIS)

Encouraging Signs
Hersch, Paul
Water Engineering & Mgmt v137n4 PP: 18 Apr 1990

George Ames, executive director of the Council of Infrastructure

Financing Authorities, foresees positive developments in fulfilling the US' infrastructure needs. A particularly encouraging sign is the Environmental Infrastructure Act of 1989. The bill would create a separate category of tax-exempt infrastructure bonds, and it would expedite cost recovery of wastewater facilities, improving the economics of public-private infrastructure projects. Ames notes that the Environmental Protection Agency, through its Office of Resource Management, has been marketing the advantages of public-private partnerships in building and operating new water and wastewater facilities. In Ames' assessment of the potential for long-term improvement of the US' infrastructure, state infrastructure financing agencies (SIFA) are the most encouraging development. SIFAs provide subsidized assistance for diverse water and wastewater projects, as well as for other projects. Ames believes that SIFAs can become the primary public source of funding for the environmental infrastructure. (ABI/INFORM)

Funding Environmental Programs: An Examination of the Alternatives
Shields, Evelyn
Public Budgeting & Finance v10n1 PP: 110-112 Spring 1990

Since the late 1970s, the cost of environmental protection for state government has increased while the federal contribution has decreased. To help meet the higher costs, almost all states are utilizing alternative financing mechanisms (AFM) to help support environmental programs. The primary types of AFMs are user fees and pollution discharge fees, environmental taxes, bonds, and revolving loan funds. Even though AFMs are an integral part of most environmental programs today, they cannot cover the full costs of environmental protection. A few ways that federal, state, and local governments can reduce the cost of environmental protection are through the emphasis of pollution prevention and the application of public-private partnerships. (ABI/INFORM)

WASTE: HOW BIG A MARKET?
BOWEN DOUGLAS JOHN
RAILWAY AGE, JAN 90, V191, N1, P44(2)

THE UNIVERSAL MESSAGE DELIVERED AT A RAIL MOVEMENT OF SOLID WASTE CONFERENCE IS THAT THE SOLID WASTE ISSUE IS A POTENTIAL BOOM TO THE RAIL INDUSTRY. IN THE NEXT DECADE, THE VOLUME OF SOLID WASTE MOVED BY RAIL COULD INCREASE TO AS MUCH AS 25 MILLION TONS ANNUALLY, WHICH WOULD CONTRIBUTE SIGNIFICANTLY TO BOTTOM LINE REVENUES. FACTORS DRIVING THE MOVEMENT OF SOLID WASTE BY RAIL ARE THE INCREASING LANDFILL CLOSURE RATE, BROADENING ENVIRONMENTAL CONCERNS, GROWING OPPORTUNITIES FOR PUBLIC/PRIVATE PARTNERSHIPS, AND THE ENDLESS SUPPLY OF THE COMMODITY. PRESENTLY, A CONCERN TO MANY STATES IS THE FACT THAT ONLY FOUR LANDFILLS HAVE DIRECT ACCESS BY RAIL, INDICATING A NEED FOR RELOAD CENTERS. IN ADDITION, PROPER

EQUIPMENT FOR CARRYING SOLID WASTE IS CURRENTLY VERY SCARCE. (ENVIROLINE)

Business & Government: Effecting Change - Joining Forces
Miller, Jack
World v24n3 PP: 38-39 1990

In the 1980s, governments began working with private interests to solve public problems, a result of governments being asked to do more with limited resources. Public-private partnerships cover a broad spectrum that includes short-term projects in which the private sector volunteers its services to the public sector and ongoing contractual alliances between business and government. Formal public-private partnerships provide for varying divisions of responsibility, such as: 1. facility financing, 2. design, 3. construction, 4. ownership, 5. operation, and 6. maintenance. While US public-private partnerships are considered a phenomenon of the 1980s, the concept is as old as the US. The American colonies were established with partnerships among the UK, merchants, and religious groups. Recently, there has been an increase in public-private partnerships to improve city and state infrastructure. The environment also is the focus of many new partnerships. (ABI/INFORM)

The development of substitutes for chlorofluorocarbons: Public-private cooperation and environmental policy
Miller, A. Cent. Global Change, Univ. Maryland
AMBIO VOL. 19, NO. 6-7, pp. 338-340, Publ.Yr: 1990

US regulations restricting the use of chlorofluorocarbons (CFCs) are a noteworthy example of a market-based environmental regulation. In contrast with traditional regulation dictating specific technologies, the rules limit total production leaving allocation of the permitted use to market choices. In addition to the regulations, the Environmental Protection Agency (EPA) has continued to be actively involved in the search for acceptable substitutes. These activities complement private-sector efforts to develop substitutes in several important ways that will be reviewed in this paper. A similar public/private partnership may be the most productive approach to reducing emissions of greenhouse gases. (POLLUTION ABSTRACTS)

Minnesota's public-private partnership
Connell, J.J.
WASTE AGE VOL. 21, NO. 10, pp. 73-76, Publ.Yr: 1990

Dakota County's Recyclables Collection Center is the result of teamwork among local haulers, county government, and a marketer. (POLLUTION ABSTRACTS)

Risk allocation in a changing MRF industry
Ewel, D.; Shaw, F.C.
BIOCYCLE VOL. 31, NO. 4, pp. 64-67, Publ.Yr: 1990

Technological risks, financial risks, marketing risks, and change in law risks have all discouraged municipalities and private industries from investing in recycling. By entering into a public/private partnership, both the private developer and the municipality can reduce their respective risk exposure, and hence increase the overall chances of a successful project. Municipalities and private vendors have distinct skills and resources--particularly, differing capacities to bear certain types of risk. By allocating responsibilities and risks to the party best able to bear them, a public/private recycling venture can turn these skills and resources to best effect, transforming a problem--a lack of disposal capacity--into an opportunity.
(POLLUTION ABSTRACTS)

Proceedings of the Privatization Council's third national conference
Privatization R 4:21-35+ Fall '89

Edited versions of the six Partnership Opportunity Workshops presented at the conference, Making Ends Meet: Public-Private Partnerships into the 1990's, held in Washington, D.C., May 15-16, 1989. Environmental infrastructure, transportation, municipal service contracting, health care, contracting out for assets and services, and labor relations and public/private partnerships. (PAIS)

Financing environmental infrastructure: a national challenge
Grizzle, Charles L.
Munic Fin J 10:231-9 Fall '89

Problems at the local level due to the expansion of environmental programs and activities; US. Reviews the use of public/private partnerships as an alternative financing mechanism. (PAIS)

Public-private partnership case studies: profiles of success in providing environmental services
United States Environmental Protection Agency.
Admin. and Resources Mgt. S '89 vi+118p

Components of successful partnerships in the areas of solid waste management, wastewater treatment, and drinking water; experience of 23 US communities. (PAIS)

Strategies for EV commercialization
Mader, G.H.; Bevilacqua
O.M. Electr. Veh. Dev. Corp. Cupertino, CA 95014, USA
82. Annual Meeting of the Air & Waste Management Association Anaheim, CA (USA) 25-30 Jun 1989 p68

Electric vehicle (EV) technology represents one of the most promising alternatives for improving air quality. This paper describes the utility industry's work to develop market-ready EVs, including vehicle development and testing, market analysis, and support system development. It proposes a partnership between the public and private sectors to build the initial EV market, focusing on the need to lower vehicle costs by establishing a critical production volume. (POLLUTION ABSTRACTS)

Privatization: An Emerging Management and Financing Trend
Seader, David
Water Engineering & Mgmt v136n3 PP: 44-49 Mar 1989

A recent Environmental Protection Agency Municipal Sector Study concluded that the ability of local governments to raise capital is being rapidly exceeded by mandated investments in environmental protection. A growing number of local governments are turning to private sector financing and the codevelopment of public facilities. Among the many types of private participation that have evolved in recent years, the most common is the design, construction, and operation of public facilities by a private sector organization for public use. A public-private partnership may be created using a range of ownership structures, including turnkey design-build, and can operate with public ownership of the facility, leases, limited partnerships, or some variation of the above. As the economic pressures faced by municipalities increase, many will weigh the advantages of private versus public provision of services or facilities. (ABI/INFORM)

Privatization moves to the forefront
Seader, D.
SOLID WASTE POWER VOL. 3, NO. 2, p. 59+, Publ.Yr: 1989

New federal guidelines are forcing many communities to implement new MSW disposal technologies, but don't address how these communities can raise the money to pay for them. The solution may be an expansion of the public-private partnership already in place for solid waste disposal. (POLLUTION ABSTRACTS)

The partnership works in Riverside
Anon.
WASTE AGE VOL. 18, NO. 3, pp. 34-41, Publ.Yr: 1987

A large new landfill, which will be a major disposal site for this California county, was developed by a public-private partnership from which, participants say, all have benefited. (POLLUTION ABSTRACTS)

Implementing the public/private nonpoint source management partnership: A state forestry perspective
Davis, R.L.; Miller, R.L.
For. Div., Oklahoma State Dep. Agric., Oklahoma City, OK, USA
Perspectives on Nonpoint Source Pollution: Proceedings of a National Conference Kansas City, MO May 19-22, 1985
pp. 325-329, Publ.Yr: 1985
U.S. EPA, OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC

State forestry agencies currently recognize two principal areas of concern in nonpoint source water quality management: to work with the private sector to get the management job done in the face of poor economic conditions, and to establish a more effective framework in law and policy for doing so. The new national nonpoint source policy promises to be an important advancement toward these ends, particularly because of its support for a cooperative public/private partnership approach. Opportunities exist for improvements where economic factors are not primarily limiting, particularly in public sector actions. As first priority, the public sector should put its house in order by applying the public/private partnership provisions of the national nonpoint source policy. (POLLUTION ABSTRACTS)

Planning for energy recovery from municipal refuse in New York State
Rhodes, M.; El-Baroudi, H.; Al-Iman, H.; et al.
General Electric Co.
Fifth annual industrial pollution conference: Proceedings. Atlanta, Ga. Apr. 19-21, 1977
Edited by L. Delpino and A. Krigman Publ.Yr: 1977 pp. 545-564
Water and Wastewater Equipment Manufacturers Association

An investigation was made to identify the energy recovery systems for New York urban communities (excluding New York City and Long Island) that constitute a statewide optimum management plan. Water wall incineration with heat recovery and co-firing in existing coal-fired power plants are the established technologies proposed for implementation by optimally defined urban regions. For the developed plans, cost estimates and recommendations for enhancing implementation by a public-private partnership were

made. New York State data and information on population centers, solid waste generation, legislation, and electric generating stations were the bases for the development of the statewide energy recovery management plan. It is noted, however, that the approaches and models developed and applied in the study are applicable to a great extent in other urban regions. (POLLUTION ABSTRACTS)

V. DEBT-FOR-NATURE

World Wildlife Fund: The Call of the Wild
Sweeney, Paul
CFO: The Magazine for Senior Financial Executives v7n3 PP: 63-64 Mar 1991

Lawrence J. Amon is vice-president for finance and administration at World Wildlife Fund (WWF) and The Conservation Foundation. The last 7 years have been a transition and transformation for the organization. Before their affiliation in 1985, culminating in a legal merger in 1990, World Wildlife Fund and The Conservation Foundation were separate entities. Each group had skills the other coveted. The merger resulted in a nonprofit organization with a fiscal 1991 budget of $54 million and a million members, making it the largest private environmental group operating worldwide. The bulk of WWF's operating budget (85%) goes to underwriting field programs, organizing conferences, and policy making. The rest of the operating budget is expended on administration and fund-raising activities. Debt-for-nature swaps have been a major tactic in WWF's conservation strategy since 1987. To date, the organization has bought $3.8 millon worth of debt, generating $15.1 million worth of conservation projects in Asia, Africa, and Latin America. Many other private environmental groups are also arranging debt-for-nature swaps, and WWF has taken the lead in lobbying Washington to adopt the strategy on a grand scale. (ABI/INFORM)

SWAPPING DEBT FOR DEBT IN LESS-DEVELOPED COUNTRIES: A CASE STUDY OF A DEBT-FOR-NATURE SWAP IN ECUADOR
SUNDARAM ANANT K. AMOS TUCK SCHOOL OF BUSINESS ADMIN.
INTL ENV AFFAIRS, WINTER 90, V2, N1, P67(13)

THE ECONOMICS BEHIND DEBT-FOR-NATURE SWAPS IN LESS DEVELOPED COUNTRIES ARE ANALYZED. THE EXAMPLE OF A DEBT-FOR-NATURE SWAP MADE BY THE WORLD WILDLIFE FUND TO FINANCE A NATURE CONSERVATION PROJECT IN ECUADOR IS USED TO CALCULATE THE EXPECTED RETURNS FROM THE PROJECT. ALSO DISCUSSED ARE RISKS TO CONSIDER IN SUCH TRANSACTIONS, AND HOW TO ADDRESS THESE RISKS. MATHEMATIC MODELS ARE PRESENTED. (ENVIROLINE)

Debt-for-nature swaps: effective but not enforceable
Hrynik, Tamara J.
Case Western Reserve J Internat Law 22:141-63 Winter '90

Development and success of a swap in Bolivia. Includes discussion of debt servicing and debt-for-nature swaps as an alternative debt relief program. (PAIS)

Credit Where Credit's Due
McEvedy, Imogen
Management Today (UK) PP: 88-89 Jul 1990

In 1984, Thomas Lovejoy, then of the World Wildlife Fund, proposed the idea of debt-for-nature swaps. These would allow conservation groups to purchase a debt and then swap it with the debtor country to pay for environmental projects. The bank gains a proportion of its money back by selling the debt, clears the books (claiming a large tax relief on the loss), and relends the money. The conservation group can increase dramatically the amount of local currency it receives from donations, and the debtor nation, which had no hard currency with which to pay, has now wiped out the debt using its own currency to pay for projects in its own land. Conservationists have concentrated on areas of great biodiversity, such as the tropical rain forests. Swaps have taken place in such countries as Bolivia, Ecuador, Costa Rica, and Madagascar. One criticism of the swaps is that the sums involved are too small; consequently, so are the areas saved. Karl Ziegler, who has just completed a study of debt-for-nature swaps for Friends of the Earth, is proposing a $50-billion debt swap with Brazil. (ABI/INFORM)

DEBT-FOR-NATURE SWAPS: THE TIME HAS COME
REILLY WILLIAM K. EPA, WASHINGTON, DC
INTL ENV AFFAIRS, SPRING 90, V2, N2, P134(6)

DEBT-FOR-NATURE AGREEMENTS ARE PART OF A NEW WAVE OF THINKING ABOUT THE LINKS BETWEEN DEVELOPMENT AND THE ENVIRONMENT AND DEBT. ONE WAY TO BEGIN TO ESTABLISH A POSITIVE RELATIONSHIP BETWEEN DEBT AND THE ENVIRONMENT IS TO AVOID REPEATING PAST MISTAKES; IT IS ESSENTIAL THAT THESE AGREEMENTS BE ON SOUND FINANCIAL FOOTING BY THINKING THROUGH THOROUGHLY THE SHORT- AND LONG-TERM ENVIRONMENTAL EFFECTS OF THE PROJECTS. BUT THEY CAN WORK. TO DATE THESE SWAPS HAVE REDUCED FOREIGN DEBTS BY OVER $85 MILLION, AND THEY HAVE HELPED POOR COUNTRIES IN LATIN AMERICA, ASIA, AND AFRICA PROTECT ONE OF THE FEW RESOURCES IN WHICH THEY ARE VERY RICH: FORESTS AND WILDLIFE. SIX GENERAL PROPOSITIONS ARE SUGGESTED TO HELP ACHIEVE AN ORDER-OF-MAGNITUDE INCREASE IN THE RESOURCES COMMITTED TO CONSERVATION THROUGH DEBT-FOR-NATURE TRADES. (ENVIROLINE)

DEBT, CONSERVATION, AND INNOVATING SUSTAINABLE REGIONAL DEVELOPMENT
JAEGER CARLO SWISS FEDERAL INST OF TECHNOLOGY
INTL ENV AFFAIRS, SPRING 90, V2, N2, P166(8)

RECENT ATTEMPTS TO LINK DEBT AND CONSERVATION HAVE INNOVATION POTENTIAL. IN THE AREA OF DEBT-FOR-NATURE SWAPS, THE FOCUS IS NOT ON A FIXED FINANCIAL TECHNIQUE, BUT ON AN ONGOING SERIES OF INNOVATIVE STEPS. WAYS IN WHICH THESE SWAPS COULD BE WIDENED ARE DISCUSSED. DEBT-FOR-NATURE SWAPS COULD BE USED TO REORIENT INTERNATIONAL FINANCIAL FLOW ACCORDING TO THE REQUIREMENTS OF SUSTAINABLE DEVELOPMENT. NEW FINANCIAL INSTRUMENTS COULD THEN BE USED IN A FRAMEWORK OF ECOLOGICAL CONDITIONALITY BY VARIOUS AGENTS RANGING FROM NONGOVERNMENTAL ORGANIZATIONS TO GOVERNMENTS, FROM INTERNATIONAL ORGANIZATIONS TO PRIVATE FIRMS. THE POINT WOULD BE TO INVEST THE MONEY SO AS TO FOSTER INNOVATIVE REGIONAL MILIEUS WHICH DIRECT THEIR INVENTIVENESS TO THE DEFINITION OF SUSTAINABLE DEVELOPMENT ON A REGIONAL SCALE. (ENVIROLINE)

DOING MORE WITH DEBT-FOR-NATURE SWAPS
WAGNER RODNEY B. MORGAN GUARANTY TRUST CO OF NEW YORK
INTL ENV AFFAIRS, SPRING 90, V2, N2, P160(6)

DEBT-FOR-NATURE SWAPS HAVE BECOME UNPOPULAR IN MANY LESS-DEVELOPED COUNTRIES (LDC) AND HAVE BEEN LIMITED OR STOPPED COMPLETELY,DUE OFTENTIMES TO INFLATION OR OPPOSITION TO FOREIGN PRIVATE INVESTMENT. AN ANALYSIS OF THE LDC DEBT PROBLEM IS PRESENTED. DEBT-FOR-NATURE PROJECTS MUST BE DEVELOPED, DISCUSSED WITH THE HOST GOVERNMENT, DISCOUNTS ESTABLISHED, AND PAYMENT METHODS FOR LOCAL CURRENCY PUT INTO PLACE. DONATING DEBT IN THE US IS HINDERED BY TWO REASONS: TAX LAWS ARE RIGOROUS ABOUT WHAT KIND OF ORGANIZATION RECEIVES DONATIONS, AND DONATING DEBT IS NOT AS ATTRACTIVE AS SELLING DEBT FOR CASH. BUT EVEN WITHOUT A TAX-LAW CHANGE, DEBT-FOR-NATURE SWAPS ARE AN IDEA WORTH PURSUING; THESE SWAPS ARE NOT INFLATIONARY, AND HAVE THE POTENTIAL TO CREATE JOBS AND GET ECONOMIES MOVING. WHILE DEBT-FOR-NATURE SWAPS WON'T SOLVE THE LDC'S DEBT PROBLEM, THEY HAVE THE POTENTIAL TO DEMONSTRATE TO THE WORLD THAT WE ARE DEFENSELESS IN THE FACE OF PROBLEMS THAT ARE LARGER THAN OURSELVES. (ENVIROLINE)

DEBT-FOR-NATURE CONVERSION: WHAT LIMITS THEIR FURTHER GROWTH?
TAMMES GERRIT J. MNB BANK, AMSTERDAM, NETH.
INTL ENV AFFAIRS, SPRING 90, V2, N2, P153(7)

THE WORLD BANK HAS CALCULATED THAT BY APPLYING ALL OF THE OTHER TYPES OF TRANSACTIONS IN WHICH BANKS ARE ACTIVE, THE AGGREGATE EXTERNAL DEBT OF THE DEVELOPING NATIONS DIMINISHED BY $11 BILLION IN 1988 COMPARED TO THE $100 MILLION USED FOR DEBT-FOR-NATURE CONVERSIONS. THE QUESTION ARISES OF HOW MUCH LARGER CAN THE AMOUNTS BE MADE AVAILABLE FOR FURTHER SWAPS. DUE TO THE FACT THAT RESTRUCTURED BANK LOANS ARE BEING TRADED IN THE SECONDARY

MARKET, A MAJOR PART OF THE DEBTOR-COUNTRY DEBT REMAINS UNSUITABLE FOR DEBT CONVERSION. CALCULATIONS BY THE WORD RESOUCES INST SHOW THAT, FOR NATURE CONSERVATION PROJECTS IN DEVELOPING COUNTRIES ALONE, $20-50 BILLION ARE REQUIRED EACH YEAR. A WAY TO OVERCOME THIS IS TO GET PRIVATE INVESTORS TO INVEST IN COMMERCIAL PROJECTS THROUGH DEBT-EQUITY CONVERSIONS, OR HAVE NONGOVERNMENTAL ORGANIZATIONS AND A PRIVATE INVESTOR PROVIDE PART OF THE FOREIGN EXCHANGE. NUMEROUS COMBINATIONS ARE POSSIBLE BETWEEN THE BANKS, CONSERVATION ORGANIZATIONS, AND THE CREDITOR COUNTRIES WHO ARE GIVING DEBT RELIEF TO POOR COUNTRIES. (ENVIROLINE)

BANKS, DEBT, AND DEVELOPMENT-I
QUESADA ALVARO UMANA MINISTRY OF NATURAL RESOURCES ENERGY & MINES, COSTA RICA
INTL ENV AFFAIRS, SPRING 90, V2, N2, P140(10)

APPROPRIATE ECONOMIC INCENTIVES TO TROPICAL DEVELOPING COUNTRIES COULD SIGNIFICANTLY REDUCE DEFORESTATION AND SUPPORT A MASSIVE BIOMASS BUILDUP ON A GLOBAL SCALE. DEBT-FOR-NATURE SWAPS HAVE PROVEN TO BE ONE OF THE MOST INNOVATIVE AND EFFECTIVE ALTERNATIVES TO CREATE VALUE IN THE FORM OF LOCAL CURRENCY BONDS, WHICH YIELD RESOURCES THAT CAN BE UTILIZED TO TRANSFORM THE DEBT PROBLEM INTO NEW OPPORTUNITIES TO SUPPORT CONSERVATION, RESOURCE MANAGEMENT, AND REFORESTATION. THE DEBT-FOR-NATURE SWAPS IN COSTA RICA ARE PROFILED, BY ASSESSING THE INDIVIDUAL PROJECTS AND THE EFFECTS ON INFLATION. ALSO DISCUSSED ARE BILATERIAL DEBT OBLIGATIONS AND THE ROLE OF DEVELOPMENT BANKS. EFFORTS TO NEGOTIATE URGENT GLOBAL TREATIES RECOGNIZING AS COMMON RESOURCES OUR SHARED ELEMENTS SHOULD BE ENCOURAGED AND EXPEDITED.
(ENVIROLINE)

BANKS, DEBT, AND DEVELOPMENT-II
SEVILLA ROQUE FUNDACION NATURA, ECUADOR
INTL ENV AFFAIRS, SPRING 90, V2, N2, P150(3)

A BRIEF ASSESSMENT OF DEBT-FOR-NATURE SWAPS IS GIVEN BY THE PRESIDENT OF THE FUNDACION NATURA, ECUADOR. IN THE DEBT FIELD, INDUSTRIALIZED NATIONS MUST HELP IMPROVE THE STANDARD OF LIVING AND EDUCATION OF THOSE LESS FORTUNATE LIVING IN THE DEVELOPING NATIONS. BANKERS MUST UNDERSTAND THAT THEY HAVE AN ETHICAL RESPONSIBILITY TO SOLVE THESE LONG-TERM PROBLEMS, AND NOT EXPECT A QUICK RETURN ON THEIR INVESTMENT. AND CONTRIBUTIONS MUST COME FROM ALL SIDES: DEVELOPING NATIONS MUST BEGIN TO DEAL WITH OVERPOPULATION AND DEFORESTATION, WHILE INDUSTRIALIZED NATIONS MUST REDUCE THEIR TOXIC EMISSIONS. (ENVIROLINE)

THIRD WORLD DEBT: ARE THERE OPPORTUNITIES FOR FORESTRY?
PRESTEMON, JEFFREY P. (NORTH CAROLINA STATE UNIV, RALEIGH) AND; LAMPMAN, SCOTT E. (INTL COMPUTERS & TELECOMMUNICATIONS INC, ARLINGTON, VA)
J FORESTRY, FEB 90, V88, N2, P12(5)

DEVELOPING COUNTRIES OWED MORE THAN $1.2 TRILLION TO OTHER COUNTRIES BY 1988. TO REPAY THESE LOANS, DEBTOR COUNTRIES HAVE BEGUN TO LIQUIDATE NATURAL RESOURCES, OFTEN WITH DISASTROUS ENVIRONMENTAL CONSEQUENCES. ALTERNATIVE DEBT-EQUITY AND DEBT-FOR-NATURE SWAPPING OPPORTUNITIES, IN WHICH FOREIGN DEBT IS EXCHANGED FOR LOCAL COMMERCIAL OR NON-COMMERCIAL INVESTMENT, REQUIRE THE COOPERATION OF DEBTOR COUNTRIES, THE WILLINGNESS OF A BANK OWNING DEBT OF THAT COUNTRY TO SELL AT A DISCOUNT, MULTINATIONAL CORPORATIONS OR PRIVATE VOLUNTEER ORGANIZATIONS THAT PURCHASE THE DEBT, AND A FINANCIAL INTERMEDIARY. THE ADVANTAGES AND DISADVANTAGES TO THESE PARTIES ARE OUTLINED, AND OPPORTUNITIES FOR FORESTRY ARE DESCRIBED. (ENVIROLINE)

DEBT-FOR-NATURE SWAPS
FULLER KATHRYN S. PRESIDENT, WORLD WILDLIFE FUND
ENV SCIENCE & TECHNOLOGY, DEC 89, V23, N12, P1450(2)

THE DEBT-FOR-NATURE SWAP IS AN INNOVATIVE FINANCIAL MECHANISM AIMED AT LEVERAGING CONSERVATION DOLLARS IN THE DEVELOPING WORLD. THE SWAPS INVOLVE THE ACQUISITION OF A DEVELOPING NATION'S DEBT BY CONSERVATION ORGANIZATIONS AT A DISCOUNT, ITS REDEMPTION IN LOCAL CURRENCY, AND ITS USE FOR CONSERVATION PURPOSES. SUCCESSFUL DEBT-FOR-NATURE SWAP EFFORTS HAVE SERVED TO PROTECT TROPICAL FORESTS AROUND AN EXISTING RESERVE IN BOLIVIA AND TO EXPAND THE PARK SYSTEM IN COSTA RICA. WITH THE IMPLEMENTATION OF SIX PRIVATE DEBT SWAPS TO DATE, WORLDWIDE ACCEPTANCE FOR THESE DEALS HAS GROWN AND THE CONCEPT IS RIPE FOR EXPANSION IN LIGHT OF THE CONTINUING DEBT CRISIS AND INCREASING CONCERN OVER THE STATE OF THE GLOBAL ENVIRONMENT. (ENVIROLINE)

DEBT-FOR-NATURE SWAPS: EXPERIENCE GAINED, LESSONS LEARNED
PAGE DIANA WORLD RESOURCES INST, WASHINGTON, DC
INTL ENV AFFAIRS, FALL 89, V1, N4, P275(14)

DEBT-FOR-NATURE PROGRAMS WERE FIRST INITIATED IN LATIN AMERICA IN THE LATE 1980S. THE PROGRAM INVOLVES CANCELLING A CERTAIN AMOUNT OF FOREIGN DEBT IN EXCHANGE FOR LOCAL CURRENCY INVESTMENTS IN PROGRAMS THAT WILL IMPROVE NATURAL RESOURCE MANAGEMENT IN THE DEBTOR COUNTRY. RESULTS OF THE PROGRAM ARE ASSESSED FOR BOLIVIA, COSTA RICA, ECUADOR, AND THE PHILIPPINES. IT IS STILL TOO EARLY TO EVALUATE WHETHER OR NOT THE PROGRAM IS WORKING. ASSESSMENTS OF THE PROGRAM IN GENERAL INCLUDE TERMS OF THE SWAPS AND THE NATURE PROGRAM TARGETED. WHILE NOT ALL GOVERNMENTS ARE WILLING TO DELEGATE MAJOR RESPONSIBILITY OF AN INTERNATIONALLY FUNDED ENVIRONMENTAL

PROGRAM, THE PROTECTION OF BIOLOGICAL DIVERSITY, REFORESTATION, AND ENVIRONMENTAL EDUCATION ARE NOW RECEIVING MORE FUNDS THAN WOULD HAVE BEEN POSSIBLE WITHOUT THE DEBT-FOR-NATURE SWAPS. (ENVIROLINE)

Doing It Naturally: The Greening of International Finance
Burand, Deborah
International Financial Law Review (UK) v8n9 PP: 37-39 Sep 1989

Faced with a growing need for financial resources, conservationists working in developing countries have initiated a new finance mechanism -debt-for-nature exchange - for turning their dollars into local currency investments in conservation. In these exchanges, the conservation organization acquires a debt and agrees to extinquish it in return for the host country's commitment of additional local resources to conservation programs. The first debt-for-nature exchange occurred in Bolivia in July 1987, and many countries have followed suit. Three factors make these transactions a viable means of supporting ecosystem conservation in less developed countries (LDC): 1. an increasing number of commercial debt holders are disposing of their Third World loan portfolios, 2. the price of Third World loans in the secondary market is dropping, and 3. many LDC governments recognize that debt exchanges for nonprofit purposes are of equal or greater importance than many other profit-oriented investments. However, these exchanges illuminate many of the difficulties confronting those involved in the LDC conservation and debt crises. (ABI/INFORM)

Debt-for-nature swaps: debt relief and biosphere preservation?
Winthrop, Stephen VanR.
SAIS (School Advanced Internat Studies) R 9:129-49 Summer/Fall '89

Programs, similar to debt-equity swaps, designed to conserve tropical rain forests in Central and South America. Experiences in Bolivia, Costa Rica, and Ecuador since 1987. (PAIS)

USING RED INK TO KEEP TROPICAL FORESTS GREEN
WORK CLEMENS P. AND ; SMITH GERI
US NEWS & WORLD REPORT, MAR 6, 89, V106, N9, P48(2)

DEBT-FOR-NATURE SWAPS HELP RESCUE FRAGILE ECOSYSTEMS FROM DEVELOPMENT WHILE REDUCING ECONOMICALLY STRESSED COUNTRIES' ECONOMIC DEBT. NEGOTATIONS ARE CURRENTLY UNDERWAY TO SAVE THE REMAINING FORESTS OF THE MATA ATLANTICA COASTAL FOREST OF BRAZIL. THE ECONOMICS OF THE SWAPS CALL FOR SALE OF A COUNTRY'S DEBT AT A DEEP DISCOUNT TO A CONSERVATION ORGANIZATION. THE COUNTRY'S CENTRAL BANK THEN REDEEMS THE DEBT AND ISSUES LOCAL-CURRENCY BONDS WHICH PROVIDE INTEREST TO FINANCE LOCAL ENVIRONMENTAL PROTECTION PROJECTS. THIS ARRANGEMENT TENDS TO EXACERBATE LOCAL INFLATION, AND OFTEN DOES NOT SIGNIFICANTLY REDUCE OVERALL DEBT. SWAPS HAVE

BEEN SUCCESSFUL IN BOLIVIA, ECUADOR, COSTA RICA, AND THE PHILLIPINES. (ENVIROLINE)

DEBT FOR NATURE SWAPS: OVERVIEW AND DISCUSSION OF KEY ISSUES
HANSEN STEIN ORNEVEIEN, BEKKESTUA, NORWAY,
ECOLOGICAL ECONOMICS, FEB 89, V1, N1, P77(17)

THE PRESENT DEBT SITUATION OF MANY DEVELOPING NATIONS POSSESSING TROPICAL FORESTS IS VIEWED AS AN OPPORTUNITY TO TRADE OFF BAD DEBTS AGAINST HABITAT PRESERVATION. IN THE DEBT FOR NATURE SWAP CONCEPT, A DEVELOPING NATION'S DEBT IS PURCHASED AT A DISCOUNT VALUE IN THE SECONDARY DEBT MARKET AND CANCELLED IN RETURN FOR ENVIRONMENT-RELATED ACTION N THE PART OF THE DEBTOR NATION. IF THE AMOUNTS AT STAKE ARE MARGINAL RELATIVE TO A NATION'S DEBT BURDEN, SUCH ARRANGEMENTS MAY PROVE BENEFICIAL BECAUSE THE OPPORTUNITY COSTS OF THE FREED FUNDS ARE VERY LOW. THE MOST IMPORTANT CONTRIBUTION OF AGGRESSIVE PROMOTION OF SUCH SWAPS WILL BE THE REALIZATION BY POLICY MAKERS OF THE MANY CONSEQUENCES OF ACCELERATING ENVIRONMENTAL DEGRADATION OF MANY FRAGILE TROPICAL HABITATS ALONG WITH INCREASED AWARENESS OF THE OPPORTUNITY COST OF DIMINISHING RENEWABLE RESOURCES. (ENVIROLINE)

HANDS ACROSS THE SEA (PLANET OF THE YEAR)
SANCTON THOMAS A.
TIME, JAN 2, 89, V133, N1, P54(3)

MULTINATIONAL COOPERATION IS ESSENTIAL TO EFFECTIVELY PROTECT THE EARTH'S ENVIRONMENT. RESEARCH, EDUCATION, AND CONCRETE ACTION ARE NEEDED TO PROPEL COMPREHENSIVE ENVIRONMENTAL TREATIES. THE LARGEST STUMBLING BLOCK TO SUCH INITIATIVES IS POVERTY AND FOREIGN DEBT. A GREATER SHARE OF THE WORLD'S CAPITAL WILL HAVE TO FLOW INTO DEVELOPING COUNTRIES FOR THE CORRECTION OF ENVIRONMENTAL IMBALANCES. ONE SOLUTION SCENARIO CALLS FOR REDUCED MILITARY SPENDING BY WORLD POWERS WHICH WOULD IN TURN FREE UP FUNDING FOR DOMESTIC AND FOREIGN ENVIRONMENTAL PROGRAMS. ADDITIONAL AGENDA INCLUDES RAISING GASOLINE TAXES, TIGHTER AUTO FUEL EFFICIENCY REQUIREMENTS, INCREASED WASTE RECYCLING, PROMOTION OF NATURAL GAS USAGE, EXPANSION OF FAMILY PLANNING PROGRAMS, RATIFICATION OF THE 1982 UN CONVENTION ON LAW OF THE SEA, ENCOURAGEMENT OF DEBT-FOR-NATURE SWAPS, AND MAKING THE ENVIRONMENT AN INTERNATIONAL PRIORITY. (ENVIROLINE)

DEBT-FOR-NATURE SWAPS: A NEW STRATEGY FOR PROTECTING ENVIRONMENTAL INTERESTS IN DEVELOPING NATIONS
HAMLIN TIMOTHY B.
ECOLOGY LAW QUARTERLY, 1989, V16, N4, P1065(24)

DEBT-FOR-NATURE SWAPS ATTEMPT TO CONTROL THE EXPLOITATION OF NATURAL RESOURCES WITHOUT IGNORING THE ECONOMIC NEEDS OF DEVELOPING

NATIONS. THE SWAPS RESTRUCTURE OR RETIRE SOME OF A DEVELOPING NATION'S DEBT IN RETURN FOR PROTECTION OF UNDEVELOPED AND ENVIRONMENTALLY SENSITIVE AREAS WITHIN THE COUNTRY. THE DEBT-FOR-NATURE SWAPS IN BOLIVIA, ECUADOR, COSTA RICA, AND THE PHILIPPINES ARE ASSESSED. CONSERVATION INTL INITIATED THE FIRST AGREEMENT WITH BOLIVIA IN 1987, FOLLOWED BY A SIMILAR AGREEMENT BETWEEN THE WORLD WILDLIFE FUND AND THE THREE OTHER COUNTRIES. DEBT-FOR-NATURE SWAPS HAVE NOT MET THEIR GOALS AS WELL AS WAS FIRST HOPED, BUT THEY REMAIN AN APPEALING SMALL-SCALE MEANS FOR PRIVATE ORGANIZATIONS TO PROTECT ENVIRONMENTAL INTERESTS ABROAD. IT IS NOT CLEAR THAT LARGE-SCALE SWAPS ARE ECONOMICALLY OR POLITICALLY FEASIBLE OR DESIRABLE AT PRESENT. AS TROPICAL FORESTS HAVE ONLY AS MUCH PROTECTION AS THE TROPICAL STATES DESIRE, IT IS HOPED THAT THESE COLLABORATIONS WILL CONTRIBUTE TO A CONSTRUCTIVE FRAMEWORK FOR FUTURE CONSERVATION EFFORTS. (ENVIROLINE)

Save a tree, donate some debt
(debt-for-nature swaps in developing countries)
Barrett, Scott
Multinational Business Wntr (end of year), 1988, p37(2)

Costa Rica, Ecuador, and Bolivia have improved their finances and protected their rain forests by trading debt purchased by conservation groups for promises to protect the rain forests. US conservation groups have contributed $3.2 million to the program in Costa Rica and $1 million in Ecuador. US tax changes have made it more attractive for banks to donate their foreign loans to conservation groups. Argentina, Chile, Brazil Mexico and the Philippines are also interested in trading debts for conservation. (MANAGEMENT CONTENTS)

Back to Nature -- The Financial Way
Burton, Jonathan
Banker (UK) v138n754 PP: 22-25 Dec 1988

Environmentalists have created debt-for-nature swap deals designed to retire a country's debt in exchange for cooperation on environnmental matters. For example, a debt-for-nature arrangement could involve a conservation group's purchase of debt in the secondary market at a steep discount. A government then can buy the debt in local currency at a premium but below face value, and the proceeds can be utilized by local conservationists to fund such efforts as land preservation, forestry projects, and environmental education. These deals apparently satisfy all parties: the bank rids itself of a troubled asset, the government reduces some of its debt burden, and conservationists help preserve nature. However, these conversions have totaled only about $10 million thus far, and they are having difficulty finding acceptance in mainstream debt solutions. Most banks initiating the debt-for-nature swaps have not been of the large money-center variety. (ABI/INFORM)

Conservation Groups Help to Bail Out the Big Banks
Anonymous
Business & Society Review n65 PP: 34-38 Spring 1988

Conservation groups have found a way to protect natural resources in developing nations while helping these countries meet their debts. "Debt-for-nature swapping" involves the acquisition of debt by conservation groups and its redemption in local currency to be used for conservation purposes. In July 1987, Bolivia entered into the first debt-for-nature swap with Conservation International (CI), a US organization. CI purchased $650,000 of Bolivia's commercial debt for $100,000, and, in exchange, Bolivia agreed to demarcate 3.7 million acres of tropical rain forest as protected area. The World Wildlife Fund (WWF) has entered a swap with Ecuador that converts external debt into local currency bonds to be held by Fundacion Natura, Ecuador's leading private conservation organization. The Treasury Department has recently adopted new rules giving banks a better tax break if they wish to donate debt for conservation purposes. (ABI/INFORM)

GUANACASTE: THE DAWN OF A PARK
MCLARNEY WILLIAM O.
ANAI, COSTA RICA,
NATURE CONSERVANCY, JAN-FEB 88, V38, N1, P11(5)

NOT ALL TROPICAL FORESTS ARE RAIN FORESTS. RARER ARE DECIDUOUS DRY FORESTS LIKE THAT OF GUANACASTE NATL PARK IN NORTHWEST COSTA RICA. THROUGH A PROGRAM OF LAND ACQUISITION, THE PARK IS EXPANDING. CREATIVE LAND MANAGEMENT IS ENCOURAGING EXPANSION OF THE FOREST ITSELF, EVENTUALLY ENCOMPASSING 280 SQUARE MI, FROM THE PACIFIC TO THE CORDILLERA DE GUANACASTE. MUCH OF THE SUCCESS OF THE PROGRAM SO FAR HAS BEEN DUE TO INTERNATIONAL INTEREST AND A ""DEBT PURCHASE'' PLAN. WHEN A DONOR PAYS OFF SOME OF COSTA RICA'S FOREIGN DEBT, THE COSTA RICA GOVERNMENT RELEASES MATCHING FUNDS AT A FOUR TO ONE RATIO. SINCE THE LAND BEING ACQUIRED BELONGS ON THE WHOLE TO A FEW FAMILIES, THE PARK MEANS JOB OPPORTUNITIES FOR THE LOCAL POPULACE, NOT DISPLACEMENT. FOR THE WILD POPULATION-AGOUTIS, WHITE-FACE MONKEYS, SATURNIID MOTHS, BOAT-BILLED HERONS AMONG THEM-IT MEANS THE PRESERVATION OF THEIR HABITAT. (ENVIROLINE)

DEBT-FOR-NATURE SWAPS: A NEW CONSERVATION TOOL
WORLD WILDLIFE FUND LETTER, 1988, N1, P1(9)

DEVELOPING NATIONS, PRIMARILY THOSE IN LATIN AMERICA, OWE NEARLY $1.2 TRILLION TO PUBLIC AND PRIVATE LENDING INSTITUTIONS. MANY NATIONS HAVE EXPERIENCED DIFFICULTY IN MEETING THEIR OBLIGATIONS, LEADING TO THE EVOLUTION OF DEBT EXCHANGE PROGRAMS. DEVELOPING NATIONS MAY NOT BE WILLING OR ABLE TO PROVIDE THE US DOLLARS NEEDED TO REPAY THEIR DEBTS, BUT THEY CAN OFFER CREDITORS SOMETHING ELSE INSTEAD. DEBT-FOR-NATURE SWAPS HELP REDUCE ENVIRONMENTAL PROBLEMS

SUCH AS TROPICAL DEFORESTATION WHILE RELIEVING DEBT BURDENS AND ALLOWING CONTINUED ECONOMIC GROWTH. THE SUCCESS OF SEVERAL SUCH SWAPS TO DATE IS NOTED, AND RECOMMENDATIONS FOR IMPROVING SUCH DEBT EXCHANGE EFFORTS AND FOR LINKING CONSERVATION WITH DEVELOPMENT ARE OFFERED. (ENVIROLINE)

VI. POLLUTION PREVENTION

"PLASTIC IS BAD" AND OTHER MYTHS
TOMPKINS DAVID HIMONT,
INNOVATION, SUMMER 90, V9, N2, P11(4)

PLASTICS COMPRISE 7% BY WEIGHT OF AMERICAN SOLID WASTES GENERATED ANNUALLY. THE SOLUTION TO SOLID WASTE REDUCTION IS REUSE AND RECYCLING. APPROXIMATELY 200 MILLION LB OF PLASTIC SOFT DRINK BOTTLES ARE CURRENTLY RECYCLED; THIS TOTAL MAY REACH 700 MILLION LB BY 1993. FACED WITH REGULATIONS RESTRICTING OR BANNING PLASTIC-BASED PRODUCTS, MANUFACTURERS AND THEIR CUSTOMERS ARE DEVISING TRASH RECOVERY SYSTEMS AND IDENTIFYING APPLICATIONS FOR RECYCLED PLASTIC. VERSATILE, COMPATIBLE FAMILIES OF PLASTICS SUCH AS POLYPROPYLENE ARE BEING DESIGNED FOR USE IN VARIED APPLICATIONS AND FOR EFFICIENT RECYCLING. INDUSTRIAL DESIGNERS NEED TO TAKE A PRIMARY ROLE ON BEHALF OF ENVIRONMENTALLY RESPONSIBLE DESIGN. (ENVIROLINE)

TAKING OUT AMERICA'S TRASH
EHRBAR TOMMY
PITT MAGAZINE, JUN 90, V5, N3, P30(6)

ABOUT 10% OF US TRASH IS RECYCLED, ANOTHER 10% IS INCINERATED, AND THE REMAINING 80% IS SENT TO LANDFILLS. BETTER DUMPING, BETTER BURNING, AND RECYCLING CAN ALL HELP MANAGE OUR SOLID WASTE PROBLEM, BUT SOURCE MINIMIZATION IS BECOMING THE MOST SIGNIFICANT DEVELOPMENT IN THIS FIELD. THE STATE OF OUR SOLID WASTE PROBLEM TODAY IS ASSESSED, AND FUTURE DIRECTIONS ARE PROPOSED. UNIV OF PITTSBURGH'S NATL ENV TECHNOLOGY APPLICATIONS CORP, A CENTER SET UP FOR THE COMMERCIALIZATION OF ENVIRONMENTAL TECHNOLOGY, IS PROFILED. (ENVIROLINE)

AFTER 20 YEARS: THE CRISIS OF ENVIRONMENTAL REGULATION
COMMONER BARRY
NEW SOLUTIONS, SPRING 90, V1, N1, P22(8)

A MAJOR REORIENTATION OF THE ENVIRONMENTAL EFFORT, WHICH FOR THE LAST 20 YEARS HAS BEEN BASED ON CONTROL ONLY AFTER POLLUTANTS HAVE BEEN PRODUCED, IS NECESSARY; POLLUTION PREVENTION IS REQUIRED.

POLLUTION PREVENTION MEANS ELIMINATING A POLLUTING PRODUCTION PROCESS BY SUBSTITUTING A MORE ENVIRONMENTALLY BENIGN METHOD OF PRODUCTION. EXAMPLES ARE PRESENTED OF HOW POLLUTION CAN BE ATTACKED AT ITS SOURCE AND THEREBY PREVENTED. THE IDEA THAT A SPECIFIC POLLUTANT HAS AN ACCEPTABLE HEALTH RISK IS THE INVERSE OF THE PREVENTIVE PUBLIC HEALTH APPROACH. THE MOST SERIOUS HINDRANCE TO THE PREVENTION STRATEGY IS IMPLEMENTATION. CURRENT METHODS OF PRODUCTION ARE THE PRESUMABLY PROFIT-MAXIMIZING RESPONSES TO ECONOMIC FORCES, AND THERE WILL BE MUCH RESISTANCE TO CHANGING THEM. THIS HURDLE CAN ONLY BE SURMOUNTED BY CONCERTED GOVERNMENTAL ACTION. (ENVIROLINE)

AMERICA'S ENERGY FUTURE: CONSERVATION AND RENEWABLES ARE THE PATH TO TAKE
ROSS JEFFREY S.
BEYOND EARTH DAY (SCIENCE FOR THE PEOPLE), MAY 90, P1(2)

THE FUTURE OF ENERGY USE IN THE US SHOULD INVOLVE CONSERVATION AND RENEWABLE SOURCES. THE GREATEST ENERGY CONSERVATION COULD BE ACHIEVED BY SIMPLY ELIMINATING PURE WASTE AND UTILIZING AVAILABLE, MORE EFFICIENT TECHNOLOGY. A 1985 NAS STUDY PREDICTED THAT US ENERGY CONSUMPTION COULD BE CUT IN HALF BY LEAK PLUGGING ALONE, WITH TECHNOLOGIES SUCH AS WEATHERSTRIPPING, HEAT EXCHANGERS, GREENHOUSES, SUPERWINDOWS AND OTHER INSULATION DEVICES. RENEWABLE ENERGY TECHNOLOGIES WORTH PURSUING INCLUDE BIOMASS, WIND POWER AND SOLAR ENERGY. BESIDES THE OBVIOUS ECONOMIC COSTS, MANY SOCIAL AND ENVIRONMENTAL COSTS COULD BE AVOIDED THROUGH THESE AVAILABLE ENERGY SOURCES. AS A NATION, WE MUST DEMAND THAT CONGRESS AND THE PRESIDENT CHANGE THE DIRECTION OF US ENERGY POLICY, SO THAT ENERGY EFFICIENCY AND RENEWABLES CAN ACHIEVE THE PROMINENCE THEY DESERVE. (ENVIROLINE)

SAVING AN ECOSYSTEM: FROM BUFFER ZONE TO PRIVATE INITIATIVES
LEAL DONALD
POLITICAL ECONOMY RESEARCH CENTER,
THE YELLOWSTONE PRIMER: LAND & RESOURCE MANAGEMENT IN THE GREATER YELLOWSTONE ECOSYSTEM (PACIFIC RESEARCH), 1990, P25(21)

MANY ENVIRONMENTALISTS FEEL THAT THE BEST WAY TO SLOW ABUSE IN THE GREATER YELLOWSTONE ECOSYSTEM IS TO CREATE A BUFFER ZONE AROUND YELLOWSTONE AND GRAND TETON NATL PARKS, WHICH WOULD LEGALLY PROTECT THE ECOSYSTEM FROM ACTIVITIES CONSIDERED THREATENING TO THE ENVIRONMENT. ARGUMENTS ARE PROPOSED TO REFORM THE AREA WITHOUT INCREASING GOVERNMENTAL INTERVENTION. RATHER THAN DEMANDING BUFFER ZONES TO PROTECT THE PARKS, ENVIRONMENTALISTS SHOULD WORK TO REFORM EXISTING GOVERNMENT INSTITUTIONS, SUCH AS THE USFS TIMBER PROGRAM THAT IS RUNNING A DEFICIT IN ALL OF THE NATIONAL FORESTS SURROUNDING YELLOWSTONE. AN END TO DEFICIT TIMBER SALES WOULD STOP OVERSTRESSING THE ENVIRONMENT AND SAVE TAXPAYERS MONEY. GREATER EFFICIENCY IS ULTIMATELY OBTAINED THROUGH PRIVATE STEWARDSHIP; ONLY

THROUGH PRIVATE OWNERSHIP IS AUTHORITY ALIGNED WITH RESPONSIBILITY. [Book chapter] (ENVIROLINE)

THE NEW RESOURCE ECONOMICS
COPELAND MICHAEL D.
MONTANA STATE UNIV, BOZEMAN
THE YELLOWSTONE PRIMER: LAND & RESOURCE MANAGEMENT IN THE GREATER YELLOWSTONE ECOSYSTEM (PACIFIC RESEARCH), 1990, P13(11)

NEW RESOURCE ECONOMICS (NRE) CRITICALLY EXAMINES THE PREVAILING ENVIRONMENTAL ORTHODOXY. NRE WAS DEVELOPED AT THE POLITICAL ECONOMY RESEARCH CENTER IN BOZEMAN, MT, FROM À CONCERN FOR THE ENVIRONMENT, WHICH WAS BEING COMPROMISED BY THE VERY GOVERNMENT AGENCIES ASSIGNED TO PROTECT IT. THIS PHILOSOPHY IS APPLIED TO THE PRESERVATION AND IMPROVEMENT OF YELLOWSTONE NATL PARK. BY ADVOCATING THE PRIVATE OWNERSHIP OF RESOURCES, NRE PROVIDES SOME ALTERNATIVES TO THE PRESENT COMMAND-AND-CONTROL MANAGEMENT TECHNIQUES. NRE WOULD CREATE PRIVATE INCENTIVES AND INSTITUTIONS WHENEVER POSSIBLE, AND WOULD UTILIZE THE MARKET SYSTEM TO GENERATE THE PRICE INFORMATION NEEDED TO MAKE GOOD DECISIONS. THUS, PRIVATE OWNERSHIP WOULD, IN MANY CASES, REPLACE GOVERNMENT OWNERSHIP. [Book chapter] (ENVIROLINE)

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