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Roger C. Dower

Robert Repetto

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## Green Fees and the Need for Fiscal Restructuring: Opportunities and Challenges

ROGER C. DOWER\*  
ROBERT REPETTO\*\*

### I. Introduction

For over twenty years, environmental economists have dreamed of using taxes and fees to incorporate the costs of environmental damages into the prices of goods and services. During this period, the primary rationale for pollution taxes or charges has been to help ensure cost-effective pollution control. Properly designed and implemented pollution taxes can result in achieving pollution control goals at the least possible cost to the economy. Environmental taxes, or "green fees," become extremely important as pollution control expenditures nationwide rise past the \$100 billion mark annually. In recent years, another distinct advantage of environmental taxes has also gained increased attention.

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\* Roger C. Dower is currently Director of the Climate, Energy and Pollution Program at the World Resources Institute, Washington, D.C. He is working on studies and analyses to investigate international and domestic policy options to address the environmental consequences related to energy production and use, public policies to encourage use of alternative energy sources and energy efficiency investments and economic strategies for reducing pollution.

\*\* Robert Repetto is Vice President and Director of the Program in Economics & Population at the World Resources Institute. Dr. Repetto is the author of numerous publications on economic development, population issues and natural resource management for sustainable development.

Pollution taxes are a far superior form of raising government revenue than most conventional sources of government funds. Green fees, however, still remain more of a theory than a reality.

The role of pollution taxes in supporting broad scale fiscal restructuring at the federal, state or local level has the potential for significant macroeconomic benefits. As a result, these economic benefits could form the basis for much wider acceptability of environmental tax-based policies. However, this new justification for pollution taxes does not eliminate the significant barriers to their implementation. This paper considers opportunities for the fiscal restructuring of green fees and challenges in overcoming other obstacles to achieve their economic and environmental benefits.

## II. The Case for Fiscal Restructuring

In the United States, as in other countries, the fiscal system has evolved without regard to the objectives of environmental sustainability. The United States tax and subsidy codes convey incentives to the private sector that are fundamentally at odds with those objectives. Most government revenues come from taxes on payrolls, profits, capital gains and incomes. Such taxes fall predominantly on "value added" — the value added to or created in a product or commodity by the manufacturing or marketing process, exclusive of the cost of materials. These taxes penalize those activities that allow for economic progress including work, savings, investment and entrepreneurship. The disincentive effects have created large economic burdens. Private incomes fall by considerably more than a dollar for every dollar collected in tax revenue. This excess burden has been as high as forty to sixty cents on the dollar at the margin, for additional tax revenues collected.

Taxes on value added ensure that government revenues rise with people's ability to pay. However, from a broad economic and ecological perspective, heavily penalizing value added is counter-productive. Value added is precisely what the United States is trying to increase, both in absolute terms

and relative to the materials and energy required to sustain the American standard of living. To protect the environment in a growing economy, producers must achieve progressively greater efficiency in the use of materials and energy while satisfying consumers' demands for goods and services.

In order to preserve environmental quality, raw materials use and waste generation per unit of product must be cut by fifty percent or more for each doubling in the national product. To increase efficiency at this rate, the economy must minimize the throughput of materials required to maintain living standards. In other words, the value added to each unit of resources used in production must be maximized. Yet, the United States fiscal structure typically *taxes* value added and *subsidizes* the use of natural resources.

Maximizing the value added to all materials used in the economy is the essence of "dematerialization," "eco-efficiency," or "pollution prevention." These similar concepts are recognized as the best long-term strategies for environmental protection. The traditional approaches of treating, diluting or segregating wastes are increasingly more costly and less effective in an economy of such vast scale. Much waste treatment amounts to shifting residuals from one medium to another at a substantial expense but with little true benefit. The conservation of matter ensures that virtually all of the twelve billion tons of crude materials that are drawn into the United States economy each year quickly becomes processed or post-consumer waste. At this scale, the environmental impacts regarded as "externalities" are not simply localized problems, but are increasingly regional or global in scale and cross-media in scope. An integrated strategy for waste reduction is essential, but cannot succeed without support from fiscal systems to provide appropriate market signals.

The burgeoning waste problem makes the economy less productive due to pollution damages, treatment and disposal costs, and the ecological disruption caused by raw material extraction, transport, and processing. Attempts to control these damages through regulation have become costly and cumbersome. The United States currently spends two percent of its gross domestic product (GDP) on environmental

control. This figure is projected to grow by almost twenty-five percent by the end of the decade while regulatory drags on investment and innovation further reduce future income. Yet estimated costs of remaining environmental damages exceed one percent of GDP. However, some important environmental problems, such as climate change, are still not being addressed effectively at all.

### III. The Role of Pollution Taxes

Public finance economists realize that corrective taxes on activities that distort market incentives raise revenue with a much lower economic burden than taxes that introduce market distortions. Thus, taxing activities that generate environmental damages is more efficient than taxing value added<sup>1</sup> or

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1. A value added tax (VAT) is levied on a firm's sales, with tax credits granted to the firm for taxes already paid on goods and services purchased from other firms. Thus, the VAT is effectively levied only on a product's value added, the sum of wage and salary payments, profits, and payments to other factors of production used at various stages of manufacture. If value added were added up across all firms and enterprises in the economy, it would be approximately equal to national income, which is the total of all payments to factors of production.

This raises an important point. National income, or total value added, is precisely what the United States is trying to increase. In order to improve living standards, we want national income to grow as fast as possible. Economically, value added is a good thing. For this reason, it is generally thought that the tax rates on value added should be kept as low as possible while achieving the revenue goal. This implies broadening the tax base to include as many sectors and enterprises as possible. However, broadening the tax base in this way may conflict with equity goals, which would be served by exempting sectors, such as food industries, which produce items important in low income household budgets.

It seems clear that a VAT has some advantages over a tax levied on just a component of value added, such as payroll. A payroll tax, since it has a narrower base, must have higher rates to achieve the same revenues. Therefore, a payroll tax has stronger disincentive effects to workers. A tax levied on just some component of value added, such as payrolls, also may distort employers' decisions regarding the choice of factor inputs (labor and capital) they employ. By inducing employers to automate labor-intensive operations or move them abroad, a tax levied just on the payroll component of value added can cost jobs. A similar case could be made for a tax levied just on the profits component of value added.

Many think that a broadly-based VAT with a uniform rate avoids economic distortions. Such a tax would avoid the kinds of gross distortions that might arise if some sectors were heavily taxed and others were totally exempted.

income. Creating a fiscal structure to support sustainable economic progress is consistent with better environmental quality and more rapid gains in living standards.

Further, shifting some of the tax burden away from work, savings and other "goods" onto waste generation, pollution, congestion and other "bads" would be an important step toward "full-cost pricing" that would capture the total environmental costs of the manufacturing and use of a product. Environmentalists, government officials and businesspersons are approaching consensus on the concept that greater reliance on market-based instruments can be less costly than regulations that deal with environmental problems. If environmental costs are adequately reflected in market prices, then the dynamic virtues of the market economy will help solve environmental problems without heavy-handed administrative regulation. When waste generation has a price, then it becomes not only a cost item that polluters seek to reduce, but also a revenue opportunity for innovative firms with technologies that reduce wastes at low cost. Policies that incorporate the ecological and environmental costs of materials and energy transformation into the profit-and-loss calculus of enterprises and households are necessary for the long-run prosperity of the market economy.

#### IV. Prospects for State and Local Governments

Much of the literature on the fiscal advantages of environmental taxes has focused by design or implication on economic benefits at the federal level. Yet the economic gains from pollution taxes is likely to be even greater at the state or local level. For example, state and local tax systems that rely heavily on income or payrolls impose similar economic burdens as federal taxes on the same sources. While these governments face many of the same budgetary pressures and environmental spending requirements as the federal govern-

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There will be distortions even with a uniform rate, because the pattern of production and consumption in the economy will shift as a result of the tax. Firms and industries differ substantially in their abilities to pass the tax along to consumers. Therefore, even a uniform VAT results in some economic distortion.

ment, they must cope with several additional institutional and economic forces that result in higher returns from increased reliance on pollution taxes.

While budgetary gaps at the state level have grown over the last ten years, mimicking the performance at the federal level, most states have also enacted legislation that requires annual balanced budgets. By removing the option available to the federal government of carrying fiscal deficits, states are forced to look for spending cuts or revenue increases. In 1992, thirty-five states were forced to raise almost \$15 billion in new taxes. Pollution taxes offer the opportunity to meet these revenue goals without imposing the economic burden of taxing income or savings.

States and local governments also face an additional cost if they rely on traditional tax sources for new revenues to meet budget gaps or to fund their existing tax base. In competing for their share of national economic activity, states that rely too heavily on personal income or investment taxes will be at a distinct disadvantage to other states with lower marginal rates. While industries and economic activities choose locations on the basis of many different variables, studies have shown that state and local personal income taxes have significant, negative impacts on employment growth. Pollution taxes, as a substitute for higher income taxes, can avoid the investment disincentive of traditional taxes. Notably, they can also help create a cleaner environment which is an increasingly important component of industrial location decisions.

Finally, the trend under most federal environmental laws is to pass greater and greater responsibility on to state and local governments. Increasingly, these requirements are not matched by additional funds, leaving states and local governments in the position of failing to comply or exacerbating already difficult budgetary conditions. Pollution taxes can create incentive mechanisms for achieving environmental obligations and reducing the impact on "unfunded requirements" on the economic and fiscal condition of the state or local jurisdiction.

## V. Identifying the Obstacles

Taxing “bads” rather than “goods” implies a major shift in the direction of fiscal policy in this country. The need for such a shift is slowly becoming part of the political discussion and debate on tax policy. Much of this, however, has focused on the possible introduction of VATs. Public finance specialists extol the merits of VATs — neutrality, inclusiveness and ease of administration — but overlook their fundamental flaw. Yet for all their economic and environmental merit in comparison, pollution taxes remain a relatively undiscussed, untested and untapped fiscal and policy tool. There are a number of reasons why this is the case, but three broad categories of obstacles stand out as the primary constraints to a tax reform initiative around pollution taxes. Each category suggests certain analytical, institutional and political needs that must be met if these constraints are to be eliminated or overcome.

### A. Who Bears the Burden: Competitiveness And Regressivity

Any significant fiscal restructuring creates winners and losers, even if the overall effect is to produce a large net improvement in income and productivity. Potential losers typically resist shifts in tax and subsidy policy more vigorously than potential gainers promote them, which presents an obstacle to change. Among the potential losers from a fiscal restructuring involving environmental taxes are highly polluting or resource-intensive firms and industries. The recent debate on the Clinton Administration deficit reduction program indicates the political strength and intransigence of these interests.

The potential winners under a system of pollution taxes would include high technology, high value added industries — such as finance, information and communications, pharmaceuticals, biotechnology and a range of other service sectors — as well as environmental and energy service industries. Traditionally, there has been little political support for environmental taxes from any industry sector, including po-



tential winners. Without hearing from the winners, it is difficult to offset or neutralize opposition from short-term losers. Part of the problem is an analytical one. Most economic models readily show the losers but are not as adept in picking out the winners. Thus, even on a revenue neutral basis, economic studies of various environmental taxes tend to highlight the losers and give little detail on the winners. More specific and accurate estimates of economic and employment gains in the winner category could help mobilize those industry segments that stand to gain.

At the same time, it is clearly a political mistake to dismiss the transitional costs that may be incurred by industries or firms that end up in the losers column under a fiscal restructuring scheme. While pollution taxes and fiscal restructuring may assist in mitigating the costs of macroeconomic transitions and many of the losers under a pollution tax are likely to be losers in the long run anyway, it is simplistic to assume that this will make the problem or costs disappear. A recent report on carbon taxes discusses various approaches for compensating industries adversely affected by higher energy prices.<sup>2</sup> Various alternative tax design options could also be considered, such as phasing in taxes or rebating some portions. In any case, much more work on practical approaches to compensating losers needs to be undertaken.

Although fiscal systems have not been effective instruments for redistributing income toward low-income segments of the population, opposition to fiscal measures is often expressed in terms of their regressivity or unfairness. The perceived regressivity of taxes on energy, materials or wastes is therefore a potent political obstacle, even though many common alternative taxes are themselves regressive. Nonetheless, demonstrating that fiscal restructuring addresses broad concerns of social justice and fairness is a significant hurdle to overcome.

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2. ROGER C. DOWER & MARY BETH ZIMMERMAN, WORLD RESOURCE INSTITUTE, *THE RIGHT CLIMATE FOR CARBON TAXES: CREATING THE ECONOMIC INCENTIVES TO PROTECT THE ATMOSPHERE* 26-28 (Aug. 1992).

Heavy reliance on social security and other payroll taxes makes the overall fiscal structure quite regressive, and it would not be difficult to design a fiscal restructuring that would help low-income segments of the population. Moreover, the offsetting impacts are enhanced by the effects of such a restructuring on economic growth and labor demand. Finally, it is important to consider the distribution of environmental costs and damages prior to the pollution tax. Increasingly, the United States recognizes that lower income groups bear the brunt of the health and welfare damages associated with many forms of pollution. Thus, they can be expected to receive greater benefits from environmental clean-up.

No matter how fully these effects and results of fiscal restructuring might, in theory or practice, offset the regressivity of pollution taxes, they are unlikely to be enough to eliminate all equity concerns. There appears to be little public faith in the ability of governments to raise one set of taxes and lower another. Promises of offsetting impacts from other tax reductions is unlikely to be accepted as full payment. In addition, the fact that low income groups may benefit in an environmental sense from pollution taxes does not address the income issue. While it may be true that reduced environmental damages have significant value to these groups, they may still be worse off in terms of their ability to meet other basic needs.

#### B. Public Attitudes: What Does The Public Really Want?

Public opinion polls continue to show substantial support for environmental programs and spending. In addition, most surveys also suggest that Americans are willing to pay directly for greater environmental quality. There also seems to be general support for using economic incentives to promote environmental quality. In focus groups sponsored by the World Resources Institute, two counterbalancing views have

surfaced that are extremely relevant to the prospects of pollution taxes.<sup>3</sup>

First, while the focus group participants liked the idea of using economic incentives, they also supported more reliance on “command and control” approaches. This is not the contradiction it seems. Economic incentives were viewed as a useful means of directing investments and helping firms meet pollution requirements. They were viewed as “rewarding the good guys” and not as being effective “sticks” which many participants felt were still necessary to ensure compliance. There was a strong sense that more traditional regulatory methods were more predictable and certain. These feelings undoubtedly explain some of the difficulty in attracting support for pollution or energy taxes from organizations with large grass root constituencies.

Second, while there was some intellectual appeal to the notion of shifting the tax burden from goods to bads, there was little active support for the concept. In essence, the focus group members did not believe that as one tax was raised another would be lowered. There was little faith expressed in the willingness or ability of governments to maintain revenue neutrality. Group members’ governments would be much more likely to spend any new tax revenue. This was most strongly felt at the national level — the focus group participants shared a sense of distrust concerning the ability of the federal government to do the right thing. In general, state and local governments were seen as more responsible.

These very tentative conclusions from one set of focus groups should not be treated as the final word. They do, however, help provide a partial explanation of why pollution tax policies have not garnered strong public support. A public that is distrustful of government and industry is likely to demand environmental programs that are centralized, visible and easily monitored. From this perspective, pollution taxes or other forms of economic incentives may be useful adjuncts

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3. The World Resources Institute sponsored four focus groups on the issue of energy taxes on June 24-25, 1992 in Chicago and Peoria, Illinois.

to command and control but are not perceived to be substitutes.

It was not clear from the focus group discussions how growing trade-offs between environmental quality and other economic or social objectives would affect the preference for command and control type programs. The focus groups were very aware of the potential tensions, but the role of pollution taxes in helping to reduce these trade-offs was not well understood. What was clear is that pollution taxes are still an "inside the beltway" concept. While appealing on several counts, the economic benefits and merits of pollution taxes have greater intellectual standing than political support.

### C. A Vicious Circle: The Need For Experience

Various user charges on natural resources and fees and charges related to waste generation or environmental pollution are nothing new. Almost every state has adopted some sort of environmental fee or charge, and the federal government routinely charges fees for recreational activities. However, much of our existing experience is in the form of administrative fees that are typically not large enough to affect behavior or constitute a significant tax base. There is almost no institutional experience with environmental charges as pollution taxes, and few examples of how they might really work in practice.

The lack of experience with pollution taxes creates a "chicken or the egg" problem. Successful applications and uses of pollution taxes can play a key role in convincing policy makers and the public of their credibility. Showing how one state or city has used a pollution tax strategy to successfully cope with a particular problem is an effective marketing device. No one wants to take the first step without the partial security of a proven track record.

Limited experience with true pollution taxes also makes it difficult to address the issues of administrative complexity that surround pollution taxes and, for that matter, most new tax proposals. There remains significant work concerning issues of pollution tax design. The literature and research on

the issue of pollution taxes has tended to focus on the theoretical and empirical case with much less attention to actual implementation questions. Technological advances in monitoring and information processing now make it possible to implement market-based policies that would have been administratively infeasible just a decade ago. Yet there is also the perception that the transaction costs associated with these taxes are large relative to the potential tax base, or that designing an administratively feasible pollution tax will require giving up some of its environmental impact. This latter concern was quite visible during the recent Btu tax debate.

Overcoming the fears concerning how easily pollution taxes can actually be implemented will require more experiments with green fees, probably at the state and local level. Closer working relationships will also be needed with experts from the public finance communities, such as economists and lawyers, staff and legislators from tax writing committees, as well as taxing authorities. The community that supports fiscal restructuring through pollution taxes has to be expanded beyond the fairly narrow constituents that exist today.

There is tremendous inertia in fiscal policy both at the intellectual policy and political levels. A sustained long-term effort will be required to influence the consensus of policy opinion concerning the economic and environmental benefits of fiscal restructuring through pollution taxes. Typically many years pass between the introduction of a new policy proposal and its adoption on any significant scale. Clearly, the obstacles briefly discussed here are not going to be overcome overnight. It is going to take sustained effort aimed at a wide range of audiences to move the debate on pollution taxes beyond the theoretical into reality.