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## **Harnessing Market Forces to Protect the Environment**

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### **Description of Change**

Public concern over environmental issues has risen dramatically over the last two decades. As a result, governments are increasingly pressured to develop reasoned responses to a variety of environmental problems. These problems include localized issues, such as contamination of potable water supplies and clean-up of toxic waste dumps, and environmental problems that transcend political boundaries, such as acid rain, stratospheric ozone depletion, and global climate change.

Until recently, the predominant approach to environmental protection by governments around the world has been "command-and-control" regulations—technology standards and performance standards—that tell private firms how much pollution to control and how to control it. Although these approaches have sometimes been effective, they have been exceptionally costly. For example, a law may require that power plants use scrubbers to reduce air pollution, regardless of whether another technology or a process change might more cheaply achieve the same level of air quality. Now, the incremental cost of environmental protection is mounting at an ever faster rate around the world.

Beginning about four to five years ago and accelerating internationally is a growing recognition of an alternative approach to environmental protection. This approach would enable us to achieve our goals at significantly lower aggregate costs by harnessing market forces to protect the environment. By providing incentives for firms and individuals to "do the right thing environmentally," environmental protection can be achieved without sacrificing desired public goods, such as education, health care, and national security, or private goods, such as a reasonably priced food supply.

Thus, the environment can be effectively protected by giving firms and individuals a direct and daily interest in doing so. In this way, market-based policy instruments will strengthen environmental protection by changing the financial incentives that millions of people face when deciding what to consume, how to produce, and where to dispose of their wastes. As a result, market-based policies, which include green

charges, tradable permit systems, and a range of other approaches, offer many important advantages. They enable private industry to comply with environmental protection policies at a lower cost to themselves and, thereby, to consumers. They also give firms a constant incentive to find new and better technologies for combating pollution, rather than locking one kind of pollution control technology into place. They make the incremental costs of environmental protection more visible, and thus can focus public debate on the most efficient ways to protect the environment, rather than simply on the evils of pollution. Finally, because some market-based approaches such as pollution charges raise substantial revenues, they can enable governments to reduce "distortionary" taxes—those that reduce market efficiency by taxing desirable activities, such as investment and labor—and replace them with levies that discourage socially undesirable behavior, such as pollution and degradation of natural resources.

Several industrialized nations have enacted laws and regulations that utilize these market-based instruments, and there is increasing interest from the emerging market economies and developing countries as well. In the United States, a tradable-permit system was used in the 1980s to phase out leaded gasoline; the estimated savings was \$250 million per year. In 1990, a similar approach was adopted for limiting acid rain. It could save society as much as \$1 billion annually when compared with a conventional command-and-control approach. Several European nations, including France, the Netherlands, and Germany, currently use water pollution charge systems. And a frequently discussed potential application in many countries is a tax on the carbon content of fossil fuels to help address global climate change.

## Reasons for Change

These changes have been brought about by a variety of factors, including the increasing costs of environmental protection that have made cost effectiveness an important criterion of new policies; the new economic climate in which the burdens of regulation are increasingly important; a more favorable view, in general, of using the market to address a variety of social problems; and a new set of environmental problems that cannot be adequately addressed with yesterday's policy approaches.

## Probable Consequences

Although it is too soon to tell, the result may well be a major shift in the way we address environmental problems around the world, particularly as more and more nations recognize that market-based policy instruments

ought to be within their overall portfolio of potential approaches. The result will be more environmental protection with less sacrifice of other legitimate social and private goals. Eventually, this will mean that environmental protection can be provided without the rancor and divisiveness that is part of the adversarial system that dominates this area today.

## Proposed Actions

The United Nations through its environmental program should begin to provide technical assistance to emerging market economies and developing nations. They can then decide which, if any, of this new set of environmental policy approaches is appropriate for them. Each country should not have to reinvent the wheel of environmental policy reform. Rather, through the clearinghouse of the UN, countries can learn from each other.

In many nations, governments should consider the application of market-based approaches to a variety of environmental challenges, including municipal solid waste, recycling, hazardous waste disposal, air and water pollution, and international environmental threats, such as global warming and the loss of biodiversity. Specific policies that may merit serious consideration, depending on the economic, political, and cultural context, include:

- National deposit-refund systems for lead-acid batteries and some solvents. By applying this approach, which is already used by a number of countries for beverage containers, to the health threat posed by the illegal disposal of lead-acid batteries, we can reduce significantly and cost effectively the number of batteries that wind up in landfills and incinerators.
- "Unit pricing" for trash pickup at the local level. By charging households more if they produce more trash, municipalities can reduce solid waste disposal costs, encourage recycling, and reduce the use of virgin materials, while preserving a high degree of individual choice.
- Tradable permit systems to promote solid waste recycling and to reduce water pollution and other environmental challenges. Generally, by using this policy instrument to allocate the pollution-control burden among firms, the total costs of control can be reduced dramatically.
- Carbon charges enacted at the national level, with revenues recycled to consumers by lowering other taxes, if needed to achieve internationally established and enforceable long-term goals for controlling greenhouse gases.

These economically rational policies do not represent a laissez-faire, free-market approach. They recognize that market failures are at the core of environmental degradation. At the same time, incentive-based policies reject the notion that such market failures justify scrapping the market and dictating the behavior of firms or consumers. Instead, they provide freedom of choice to businesses and consumers in determining the best way to reduce pollution. By ensuring that society's environmental costs are factored into each firm's or individual's decision-making, incentive-based policies harness rather than impede market forces and channel them to achieve environmental goals at the lowest possible cost to society at large. No single policy mechanism can be an environmental panacea, but market-based instruments can provide more cost-effective solutions for some pressing environmental problems.