

Will “voluntary” initiatives by business and regulators improve the environment?

‘Green’ Firms Bearing Gifts

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CORPORATE ENVIRONMENTALISM — environmental improvement not required by law — has become increasingly prominent in recent years. From McDonalds’ voluntary switch to paper for sandwich packaging to the chemical industry’s “Responsible Care” program, corporate environmental initiatives have become a familiar phenomenon. At the same time, governments have shown great interest in “voluntary” programs for environmental protection, which invite pollution abatement rather than demanding it. Both the Clinton and Bush administrations, for example, have emphasized voluntary programs for coping with climate change.

The new emphasis on voluntarism makes little sense within conventional paradigms for understanding environmental policy. Because pollution abatement is costly, firms are expected to avoid it whenever possible, and governments must impose penalties severe enough to compel compliance. Even from the public choice perspective, voluntary programs are anomalous: While some firms or industries may prefer to become regulated to protect themselves against competition, the strategy works by invoking the coercive power of the state to raise rivals’ costs, not by voluntarily raising one’s own costs. A sudden shift to a world of cooperation and voluntary environmental protection seems strange, if not downright suspicious.

Several rationales have been offered for the recent surge of corporate environmental activity. Perhaps pollution is symptomatic of broader production inefficiencies, and pollution reduction and cost reduction go hand-in-hand to create “win/win” opportunities in today’s economy. Perhaps a new

generation of “green” consumers is willing to pay higher prices for clean products, and firms are simply responding to that shift. Both explanations offer hope that markets are gradually supplanting regulation as the driver of environmental improvement. Alternatively, perhaps business has simply become savvier about the workings of the political system, taking pro-active steps to avert political conflict rather than reacting to public pressure after the fact.

Each of those theories has some merit, but the evidence suggests the roles of cost-reduction and green marketing are modest. Instead, it is the opportunity to influence regulation that makes corporate environmentalism profitable.

View from the summit The value of the political-economy perspective came into sharp relief at the World Resources Institute’s Sixth Annual Sustainable Enterprise Summit, held last March in Washington, D.C. The event brought together leaders from business, government, academia, and non-governmental organizations, all of whom shared a passionate interest in how business can bring about environmental improvement. Yet many participants were puzzled by the challenges facing businesses that aspire to sustainability. Linda Greer of the Natural Resources Defense Council shared her experience working with Dow Chemical to identify opportunities for cost-effective reductions of toxic chemical emissions from Dow’s plant in Midland, Michigan. Despite the success of her work with Dow — which cut toxic emissions by 37 percent and saved \$5.6 million per year — she was clearly disheartened that none of the 65 other firms that NRDC subsequently contacted accepted the invitation to participate in similar projects. In a session on “Building the Green Power Market Place,” speakers lamented the slow growth of renewable electricity sources. For example, David Rappaport of Northern Power Systems admitted that, at present, tax credits are still necessary to make most wind power projects economically viable.

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In contrast to those sobering accounts of the challenges facing sustainable businesses, Katherine DiMatteo reported at the summit on the long but ultimately successful efforts of the Organic Trade Association to legislate federal standards certifying what qualifies as organic produce. She forecast rapid growth for organic dairy and soy products carrying the U.S. Department of Agriculture's new organic seal. Keynote speaker Randy Overbey, president of Alcoa's Energy Division, enthusiastically described his firm's decision to testify in favor of mandatory climate change legislation. It is of particular importance, he explained, for legislation allocating greenhouse gas emissions permits to take into account past progress, such as Alcoa's 22.5 percent reduction in greenhouse gas emissions relative to a 1990 benchmark. It was not hard to see the link between Alcoa's voluntary emissions reductions and its political strategy.

Those vignettes underline an important message: While cost-reduction and green consumers have a role to play, most of the action in corporate environmentalism is mediated through regulatory policy.

REGULATION AND BUSINESS STRATEGY

Regulation is the result of interest group pressure within the context of particular political institutions — a policy “product” that reflects both the demand for and supply of regulation. Familiar tactics in this arena include media campaigns, direct lobbying, campaign contributions, logrolling, and the funding of grassroots groups. Previous authors have shown how special interests use the policy process to advantage themselves at the expense of their rivals and the public. For example, Bruce Ackerman and William Hassler's 1981 book *Clean Coal, Dirty Air* described in detail how a coalition of eastern high-sulfur coal producers and western environmentalists managed to influence the Clean Air Act Amendments of 1978. By requiring that scrubbers be used on all new coal-fired electric generating units regardless of the sulfur content of the coal used, the coalition disadvantaged western low-sulfur coal producers by undermining their cost advantage.

Corporate environmentalism is a new form of non-market strategy that is more subtle than traditional tools like making campaign contributions, hiring high-powered lobbyists, or creating artificial grassroots groups. It involves making real changes in environmental performance in order to shift the point from which traditional interest group competition departs. It can be deployed at various points in the policy life cycle, with a variety of strategic results. Though full coverage of the topic requires book-length treatment, a pair of examples will illustrate the range of possibilities. In the first, the Chemical Manufacturers Association (CMA) used corporate environmentalism as a tool to discourage new regulations that would have harmed overall industry cost structure. In the second, DuPont used corporate environmentalism to encourage new regulations that raised

rivals' costs. The two tales show there is a great difference between coordinated actions by industries seeking to protect themselves from regulatory threats, and actions by individual firms seeking competitive advantage.

Preempting regulatory threats In 1985, thousands of people died from exposure to toxic chemicals released from Union Carbide's plant in Bhopal, India. A survey by the CMA revealed the sobering news that Americans' trust of the chemical industry was in the same league with their trust of tobacco and nuclear power firms. Fearing an onslaught of public attacks, the industry created the Responsible Care program to improve its corporate image. All firms wishing to be members of the CMA (which has since changed its name to the American Chemistry Council) had to agree to comply with this program of voluntary initiatives to continuously improve performance on health, safety, and environmental issues.

The four key elements of the Responsible Care initiative are: a formal company commitment to the program's abiding principles, adoption of the prescribed Codes of Practice, creation of

a National Community Advisory Panel, and the use of certain environmental performance indicators. Countries with active participation in this program include the United Kingdom, Canada, Australia, and the United States. While the program has multiple aims, key among them are the goals of regaining society's trust and forestalling excessive government intervention in the industry's activities. In their 2000 book *Eco-Efficiency*, Livio DeSimone and Frank Popoff quote Fred Webber, past president of the CMA, as saying, "In my opinion, Responsible Care is more than a good initiative — it's the industry's franchise to operate."

Coordinated self-regulation by an industry can convince politicians and the public that the most urgent problems in a particular area have already been solved, and the effort required to address any remaining concerns would be better spent elsewhere. Preempting regulatory threats is widely seen as beneficial, for reasons that are easily understood. The political process is costly for all who participate in it, and often produces rules that are inflexible and fail to achieve results at least cost. Voluntary action avoids the transaction costs of the political process and leaves firms the flexibility to adopt technological solutions of their own choosing. Furthermore, as John Maxwell, Steven Hackett, and I argued in our 2000 journal article "Self-Regulation and Social Welfare," the public is unlikely to be harmed; should industry action be insufficient to satisfy public environmental concerns, citizen-activists retain the option to use the political resources they have conserved to press for further regulatory controls. Indeed, they may hope to obtain even stronger environmental controls by building on industry's voluntary efforts. It should not be surprising, then, that industry self-regulation generally receives positive reviews.

Raising rivals' costs Now, let us consider voluntary actions taken by individual firms rather than whole industries. In this context, there emerges the familiar possibility of regulations that raise rivals' costs. It turns out, however, that there is a big difference between leading by example (corporate environmentalism) and applying the traditional tools of interest-group pressure.

DuPont Corporation developed chlorofluorocarbons (CFCs) in the 1930s and held patents over various forms of the product until the late 1940s. Sold by the company under the brand name Freon, the chemicals were widely used for air conditioning, refrigeration, aerosol propellants, and other purposes. By the 1970s, DuPont's patents had expired and CFCs had become a commodity with relatively low profit margins, although DuPont maintained its position as the world's leading producer.

Beginning in 1974, scientific evidence found increasingly clear links between CFCs and damage to the earth's stratospheric ozone layer. An international regulatory standard, the Montreal Protocol, was established in 1987 and called for a 50 percent reduction in CFC production by 1999.

After substantial new evidence emerged in March 1988 linking CFCs to depletion of stratospheric ozone, DuPont volunteered to eliminate CFC production completely by 1999, and accelerated its research into alternative refrigerants. By June 1990, the Montreal Protocol had been amended to phase out CFC production completely by the year 2000. DuPont's voluntary action was widely credited with motivating the tighter

standards. Because the firm held a substantial lead in the production of CFC alternatives, it was the largest beneficiary from the revision to the Protocol, which accelerated the transition from a low-margin commodity market to a new-product market with substantial growth and healthy margins.

While DuPont's strategy served to raise its rivals' costs relative to its own, it is important to understand the mechanism through which that occurred. DuPont demonstrated the feasibility of CFC alternatives through its actions. In effect, the company sent a signal to regulators that the cost of achieving certain environmental goals was lower than expected. If one company could achieve a goal voluntarily, it implied, surely others could be compelled to do so at modest economic cost. This strategy is thus a sophisticated variant of raising rivals' costs through regulation. The new twist is that the firm's voluntary action sends a compelling signal about the cost of abatement, which may be more credible to politicians than any lobbying the company could undertake.

From a policy perspective, the crucial question is whether signaling could prompt new regulations that make society worse off. The answer depends upon the objectives pursued by legislators and regulators. If policymakers balance environmental quality, industry profits, and consumer prices in an even-handed manner, then better information will lead to better decisions, and signaling will provide a social benefit. If policymakers take a more parochial view, however, then better information could lead to worse decisions. For example, a regulator concerned primarily about the interests of a domestic firm might be encouraged to impose standards that reduce competition and harm consumers, yet produce few environmental benefits. In the case of CFCs, the environmental benefits of a phase-out were substantial, and probably outweighed any reduction of competition that occurred. However, there is no guarantee that signaling regulators to raise rivals' costs is beneficial in general.

GOVERNMENT-SPONSORED VOLUNTARY PROGRAMS

Business-led initiatives are only part of the emerging trend toward voluntary environmental protection. Government-sponsored voluntary programs also developed rapidly during the 1990s. In the United States, the Environmental Protection Agency and the Department of Energy created a host of voluntary programs designed to reduce the use of toxic chemicals, curb the disposal of packaging waste, and encourage energy efficiency. The programs generally offer technical information about pollution reduction and provide positive publicity for participating firms. They can be thought of as providing modest in-kind subsidies to firms that adopt certain environmentally friendly technologies.

Unlike industry self-regulation, which tends to emerge in the shadow of a strong regulatory threat, government voluntary programs in the United States tend to emerge in the absence of a regulatory threat. They are modest tools used when political resistance makes it impossible to impose stronger measures. Such resistance is especially likely when the costs to industry of a mandatory program are expected to be high, as would be likely, for example, under a carbon tax. Regulators create public voluntary programs because they allow an agency to make

modest strides toward environmental improvement even when it lacks statutory authority to impose mandatory controls. Such programs also assure an ongoing role for agency employees through such activities as data collection, information diffusion, and the facilitation of communication between firms about opportunities for abatement.

After President Bill Clinton was elected in November of 1992, one of his early actions was to announce support for stronger measures to prevent climate change. In the early months of 1993, his administration floated a variety of proposals to tax energy, including a carbon tax and a broader "BTU tax" based on the energy content of fuels as measured in British Thermal Units. The political resistance was fast and powerful, and by June the administration had decided to abandon its efforts at passing the tax. When the administration presented its Climate Change Action Plan (CCAP) later in the year, the focus shifted from mandatory regulations to subsidies (including \$200 million per year to stimulate the adoption of more energy-efficient technologies) and voluntary programs.

The CCAP spawned many public voluntary programs including Green Lights, Climate Wise, Motor Challenge, and Energy Star Buildings among many others, most of which attempt to increase investments in energy efficiency. Energy efficiency has been supported by the U.S. government through a variety of programs since the 1970s. The chief factors motivating firms to participate in such programs are the implicit subsidies to participants, including free access to case studies of energy efficiency successes and subsidized access to outside consulting firms.

The programs have a dark side, however: They strengthen incentives for industry rent-seeking behavior. If industry believes a government assistance program will be forthcoming should a regulatory proposal be defeated, it has incentives to spend more to fight the proposal and to back the creation of a government voluntary program. Furthermore, the prospect of a government subsidy reduces industry incentives to undertake beneficial self-regulatory actions. Thus, the prospect of a voluntary program encourages rent seeking, reduces the chance of passing effective legislation, and reduces incentives for industry self-regulation. While government voluntary programs may offer short-run benefits, they may have significant costs in the long run.

VOLUNTARY ACTION ON CLIMATE CHANGE

Corporate environmentalism and government voluntary programs are central to U.S. responses to global warming. A growing number of firms — including Alcoa, BP Amoco, Dow Chemical, DuPont, and Ford — have pledged voluntary reductions of greenhouse gas emissions. The Chicago Climate Exchange provides a market through which firms can buy and sell greenhouse gas reductions in order to achieve their pledges at least cost. Furthermore, U.S. policy on climate change throughout the Clinton and Bush administrations has relied on voluntary programs. President Clinton proposed a carbon tax upon taking office, but domestic political resistance to it, as well as to the Kyoto Protocol, proved overwhelming. Instead of mandatory measures, Clinton's Climate Change Action Pro-

gram put forward a wide range of voluntary programs. President Bush's presidential campaign spoke favorably of regulating carbon dioxide emissions, but that option was abandoned when he took office in favor of a mix of voluntary pledges from industry, research funding, tax credits, and a system of early reduction credits for firms that can credibly demonstrate reductions in greenhouse gas emissions. How should this flurry of voluntary activities be understood?

Corporate initiatives There is no unified movement by U.S. industry to preempt impending threats of climate regulation. Most energy-intensive industries are divided between firms that believe the time has come for serious action to curb global warming and other firms that vehemently oppose such action. The oil, automobile, aluminum, and electricity industries harbor widely varying views about the wisdom of voluntary action. It is hard to argue that we are witnessing unilateral industry action designed to preempt emerging regulations.

Instead, corporations are attempting to achieve competitive advantage. Firms like Alcoa, which see themselves as low-cost sources of emission reductions, stand to profit from mandatory greenhouse gas regulations, especially if there is a viable trading system for emission reductions. The recent formation of the Chicago Climate Exchange sends a signal to regulators that there are firms ready and willing to reduce greenhouse emissions at reasonable cost should new laws be passed. Multinational firms preparing to comply with the Kyoto Protocol in its signatory nations seek first-mover advantages if and when the United States finally imposes regulations.

Government initiatives The Clinton administration's Climate Change Action Plan comprised a set of modest measures designed to make some progress while waiting for the political demand for stronger action to emerge. The Bush administration's approach has been somewhat complicated. On one hand, the administration has pressed industries for voluntary commitments that will reduce the political demand for mandatory action. On the other hand, the administration has promised that firms that undertake early emissions reductions will receive credit for those actions if mandatory requirements are ever passed. A consequence, perhaps unintended, is that low-cost sources of reductions have begun to jockey for what they expect will be a limited supply of emissions credits. A growing group of firms thus has a stake in the creation of a mandatory greenhouse gas reduction policy, further reducing the prospect of a unified industry position toward climate change.

Early reduction credits are a particularly interesting policy innovation. Their benefit is that they encourage emissions reductions sooner rather than later, which is potentially valuable because greenhouse gases accumulate in the atmosphere over time. However, creating a credible system of early reduction credits promises to be less effective and more costly to operate than an immediate emissions cap with tradable emission permits. A system of tradable emission permits creates a price for greenhouse emissions, allowing the price system to motivate market participants to reduce emissions. Operators of dirty, old coal-burning power plants have incentives to replace

them with cleaner-burning natural gas. Large electricity consumers have incentives to improve the efficiency with which they use energy. Drivers have incentives to drive less or switch to more fuel-efficient cars. A system of early reduction credits, however, primarily affects large energy consumers. Major sources of greenhouse gases such as coal plants (which have no good way to reduce emissions except by shutting down) and automobiles (which are too small and numerous to collect credits) are largely unaffected.

To make matters worse, the creation of a credit system involves substantial transaction costs that only produce a benefit if and when a mandatory system of controls is created. Participants have incentives to “game” the system, inflating their forecasts of business-as-usual emissions and claiming credit for “anyway” reductions, i.e., reductions that would have occurred without any additional action on the part of the source. Furthermore, firms that manufacture products that affect the energy consumption of end-users (such as tire makers) have incentives to jockey for claims to early reduction credits. Overall, the credit system promises to be relatively ineffective yet high in transaction costs.

In one sense, early reduction credits are just another modest public voluntary program that reflects political resistance to stronger mandatory measures. They differ from most such programs, however, in an important respect: Early reduction credits create a constituency for mandatory measures because the credits only pay off if regulations are imposed. Thus, while the president presses industry for voluntary pledges that will preempt legislation, early reduction credits work in the opposite direction. It is too early to tell whether the program is a sly attempt by the Bush administration to covertly encourage regulation, or simply a political miscalculation.

CONCLUSION

Voluntary approaches to environmental problems arguably have been the most prominent innovation in environmental regulation over the last decade. Both regulated firms and environmental regulators benefit from the growth of corporate environmentalism, but in quite different ways.

Well-coordinated industries can use self-regulation to fend off regulatory threats, thereby avoiding the costly political battles that accompany the passage of new laws. Alternatively, environmentally progressive firms with a comparative advantage in abatement can signal that new regulations would be affordable and should be imposed on the entire industry. Although preempting regulatory threats is likely to be socially beneficial, signaling regulators to raise rivals’ costs may be harmful if regulators’ objectives are not perfectly aligned with the overall public interest.

Public voluntary programs are created by EPA because they allow the agency to make modest strides toward environmental improvement even when it lacks statutory authority to impose mandatory controls. Such programs assure an ongoing role for EPA employees through such activities as data collection, information diffusion, and the facilitation of communication between firms about opportunities for abatement. Whether the public benefits from such programs in the long

run is less clear because the prospect of a voluntary program can encourage rent seeking by industry, reduce the chance of passing effective legislation, and reduce incentives for industry self-regulation.

Climate change has evoked a variety of voluntary responses in the United States, from both business and government. Most corporate actions to cut greenhouse gas emissions seem likely to encourage rather than preempt new regulations. Industry associations have had trouble adopting unified positions, but firms that can reduce greenhouse gas emissions at low cost are positioning themselves to gain from future regulations. Lacking legislative authority, EPA has created a variety of modest programs to reduce greenhouse gas emissions. Recent Bush administration initiatives present a mixed approach to the issue, pressuring industry for voluntary pledges that will preempt the threat of regulation while simultaneously crafting early reduction credits that build a constituency for future regulations. Overall, voluntary measures appear to be leading U.S. policy toward a more active role in dealing with climate change. **R**

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