4 Employing Strategic Planning in Environmental Regulation*

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In the past decade we have heard a good deal of political, popular, and scholarly discussion of the concept of regulation. Regulation is criticized for harming the economy, stifling entrepreneurial initiative, discouraging technological advances and for being insufficiently cost effective. Economists criticize lawyers for being overly formalistic and not understanding how firms behave. Policymakers criticize economists for proposing policies that seem sensible but are not politically feasible. In my view, however, the most competitive economies of the twenty-first century are likely to be those that protect the environment at the least possible cost. This will require the development of patterns of institutional interaction that are far more cooperative than those of industry and environmental agencies in the United States. If an ecologically sustainable economy is to be achieved in the United States, industry must become convinced of the economic advantages of pollution prevention and resource conservation.

This chapter addresses the issues surrounding effective regulation. Understanding the procedures involved in the development and implementation of regulation is the first step. I then describe the tools of strategic regulation. Next, criticisms of different modes of regulation are discussed. The chapter concludes with a summary of the strategic approach to regulation.

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DEFINING REGULATION

Kenneth Meir has defined regulation as "any attempt by the government to control the behavior of citizens, corporations, or subgovernments" (Meir 1985, p.1). Regulation is a set of rules or directives intended to cause specific behaviors in target populations. Modifying his definition slightly, I would substitute the word "influence" for "control." Regulated behaviors in my view represent tendencies and incremental actions rather than goal-seeking, rationally controlled behaviors. Control is simply too strong a term. Organizations for the most part do not truly control their own actions; instead, these actions are the result of a variety of internal exchange relationships and influence evidenced by explicit and implicit bargains and the deployment of potential and actual incentives.

The goal of regulation is to influence individual or organizational behavior. To provide a graphic example, consider the case of automobiles converging at a corner traffic light. The behavior of the driver is hopefully influenced by the color of the traffic light. The signal is relatively clear, although when the light turns amber the driver is faced with the need to make a quick decision (slow down or speed up?). What factors affect the driver's decision to slow down, speed up, or stop? Certainly, the following factors come into play:

1. Is the signal working?
2. Does the driver see and understand the signal?
3. Is the driver willing to adhere to the signal?
4. Is the car mechanically capable of stopping and/or accelerating?

Are the regulated parties, in this case the drivers, capable of changing behavior in the desired direction and are they willing to do so? The goal of regulation is to influence the variables that enter into a regulated party's calculus of the costs and benefits of compliance. What are the incentives and disincentives to stopping at a red light?

1. An incentive to stop might be the presence of a fully loaded trailer truck that will hit the driver if he/she does not stop.
2. A second incentive to stop might be the ticket the highway patrol officer could give the driver if he/she goes through the light.

3. A third incentive to stop might be the driver's belief in the rule of law.
4. Another incentive to stop may be a pre-patterned behavior which causes the driver to see a red light and move his/her foot toward the brake.
5. A disincentive to stop might arise if the driver has a severely ill child sitting in the back seat, and the driver is on the way to a hospital.
6. A second disincentive to stop might arise if there were no traffic visible and the driver was in a hurry.

The goal of traffic regulation is to reinforce the incentives to comply so that they outweigh the potential motivation to pass the red light. The goal of regulation is to influence the perceptions and behaviors of regulated parties. Therefore, each regulatory program must be based on a strategy that seeks to understand the motivations of regulated parties and to influence their behavior.

HOW TO DEVELOP AND IMPLEMENT A REGULATORY STRATEGY

Strategic regulatory planning is an effort by government to develop a comprehensive strategy or tactic for influencing behavior. There are two components to this plan. The first is the formal regulation itself. The second part is the manner in which the regulatory plan is implemented. Extra-regulatory elements that can be manipulated to encourage compliance include funding, technical assistance, exhortation, and publicity. The goal of this type of regulation is not to alter the behavior of the implementing agencies, as with many government programs, but to modify the behavior of private parties. Therefore, a carefully considered strategy and tactical thinking are important in accomplishing compliance.

In earlier work on regulation, Cohen and Kamieniecki (1991) developed a seven-step model for strategic regulatory planning. The model built on the work of those in the field of business strategy formulation and included the following steps:

1. Problem recognition: What is at issue?
2. Identification of parties: Who is involved?

THE TOOLS OF STRATEGIC REGULATION

The term command and control has been used to describe a process where government commands a regulated party to act in a certain way and then uses the legal system to control behaviors that are not in compliance with the rules. As Cohen and Kamieniecki (1991) write, the traditional notion of command and control is a very simplistic view of regulation. In their view, regulation involves all government policies and programs deployed to influence the behavior of regulated parties. Their definition of regulation includes command and control regulation, the use of market mechanisms, and a wide variety of other techniques of influence.

There is no need to choose between command and control and market mechanisms. Neither is necessarily better than the other. Rather, each target of regulation must be assessed to determine what mix of incentives and disincentives will result in the desired change in behavior. Alternative regulatory strategies include both coercive and relatively noncoercive actions. All things being equal, policymakers will prefer to use the least coercive methods that obtain the desired results at the least cost. The regulatory actions discussed below should be seen as a partial listing of activities typically available to regulators to influence the behavior of regulated parties. Some of the key regulatory techniques available to policymakers include:

- **Market solutions and economic incentives:** Government, for example, sells permits to pollute to firms who may only pollute to the level allowed in the permit and may sell these permits to other private parties. This encourages permit holders to reduce their own level of pollution and maximize the cost effectiveness of pollution control. The deposit/refund system is another example of market incentives. A surcharge or deposit is assessed on products that may cause environmental damage when they are disposed of incorrectly. The buyer returns the product to the seller for proper action and the deposit. Similar incentive programs include financial rewards, elimination of resource extraction subsidies, and post-consumer waste content requirements.
- **Insurance programs:** Government requires private parties to carry insurance in order to clean up unanticipated releases of pollution and compensate victims of negative environmental impacts. For example, the owner of a gasoline station might be required to carry insurance to pay for the cost of cleaning up any gasoline leaks, and to pay third party liability claims arising from these leaks.

- **Self-regulation:** Government permits an industry to regulate itself. The use of industry codes and professional ethics are examples of such self-regulation.
- **Taxes and fees:** Government charges regulated parties for each unit of pollution or waste created. Alternatively, a tax is placed on the raw material that eventually causes the pollution, as in Superfund's tax on petroleum and chemical feedstocks.
- **Education, information disclosure, and the use of the media:** Government informs the public about regulatory violations or about dangers, causing negative public relations for a company. An example is the warning label requirement on cigarettes. Government may also use the media to educate regulated parties about regulatory requirements and their purpose.
- **Reporting and formal compliance tracking:** Government requires regulated parties to report on their compliance with rules. This is less expensive than inspections and can begin the process of creating the institutional capacity in regulated firms to comply with a rule. Whoever fills out the form must at least pay some attention to the regulation.
- **Licensing:** Government certifies competent professionals who can assist with compliance. A good example of this method is the regulation of Certified Public Accountants, who assure compliance with tax regulations. In the environmental area it might be possible to certify environmental auditors and other professionals who could help a firm reduce and prevent pollution.
- **Permitting:** Government requires firms to obtain a permit in order to pollute legally. A permit can call for gradual reductions in pollution. The absence of a permit can result in a judicial order to close a factory.
- **Standard setting:** This is the traditional command part of command and control regulation. There are two basic types

of standards. The first type is the performance standard, which requires the accomplishment of specific goals but does not specify how one achieves those goals. A second type of standard specifies a process, technology, or practice that a regulated party must deploy to be in compliance with a rule. This simplifies compliance and oversight of regulatory compliance by requiring a specific, easily measurable activity. However, it also reduces the discretion a firm has to determine the most cost-effective mode of compliance.

- **Grants, training, and compliance assistance:** Many of the targets of regulation are individuals and small businesses that are willing to comply but lack the capability or resources to do so. Sometimes grants, loans, or even loan guarantees can help a small business obtain the capital needed to comply with a regulation. Training and consulting services can also have a large impact, especially in areas where regulation and technologies are new.
- **Assessing penalties:** Penalties are typically fines charged against violators. Penalties are particularly complex disincentives that must be used with great care. A penalty that is too low is simply absorbed into the cost of doing business. A penalty that is too high can result in extensive litigation and high transaction costs for the agency. It can also lead to illicit avoidance behavior and/or political opposition to the legitimacy of the regulation and even the regulator. Nevertheless, as the Internal Revenue Service (IRS) has learned, a well-targeted penalty with sufficient publicity can result in widespread compliance to an agency's rules.
- **Inspections:** Visits by regulators to regulated parties to determine compliance is an important part of the traditional command and control model. Inspections provide evidence that regulated parties are following the rules. A more important use of inspections, especially if they are random and unannounced, is to stimulate compliant behavior due to fear of an impending inspection. Many people keep careful tax records out of fear that one day they will be examined by an IRS tax auditor.
- **Adjudication:** Formal adjudication is an administrative or judicial trial to determine if a regulated party has violated a rule. The threat of adjudication can often promote compliant behavior.

This list of regulatory activities is by no means exhaustive, but it provides a behavioral-based operational definition of regulation. Each of these techniques has benefits and limitations and is most effective when deployed as part of a carefully considered strategy for influencing regulated parties. While the attacks on *both* command and control *and* market-oriented regulation are misguided, and the result of a narrow view of regulation, a review of the debate can help illuminate the strengths and weaknesses of these forms of regulation. It may suggest the type of situations and the phases in program implementation where command and control and market mechanisms are most useful.

CRITICISMS OF COMMAND AND CONTROL REGULATION

The fundamental criticism of command and control regulation is that it is a wasteful way to produce a social good. While it has worked effectively in some situations, its successes often come at a high price. According to Maury Weidenbaum (1992), the start of the 1990s marked a shift of the pendulum back toward regulation. Weidenbaum believes that regulation is a burden on the American economy, and he cites the example of the 1990 Clean Air Act Amendments, which in his view created an administrative nightmare for business and government alike. A decade earlier, writing in a similar vein, Robert Litan and William Nordhaus noted that "a dispassionate observer may fairly conclude that the rise of increasingly stringent command-and-control techniques as a method of regulation has poorly served the American economy" (Litan and Nordhaus 1983, p. 98). While the 1994 mid-term elections may have indicated new widespread public support for this sentiment, there is in fact a longstanding, recurrent critique of government regulation as unwarranted interference in the private economy. Marshall Breger et al. (1991) observe that the experience of the 1970s and 1980s has caused a recognition of the limits of traditional command and control regulation. Command and control has inhibited technological progress when it has commanded the use of specific control technologies such as catalytic convertors and scrubbers. Such requirements tend to freeze technological progress in place, making it difficult for more effective technologies to gain acceptance in the

market place. Command and control has also tended to discourage cost-benefit analysis of regulatory programs.

While Cass Sunstein notes that command and control regulation has worked in the areas of air and water pollution as well as highway and occupational safety, he also observes that:

> . . . regulation has frequently failed. Sometimes it has imposed enormously high costs for speculative benefits; sometimes it has accomplished little or nothing; and sometimes it has aggravated the very problem it was designed to solve (Sunstein 1990, p.411).

Richard Stroup and Jane Shaw (1989) attack the concept of government regulation itself. They do not accept the argument that a clean environment is a public good that requires collective action to be maintained. They argue that the command and control system of regulation is "beset with difficulties" (Stroup and Shaw 1989, p.30). They maintain that environmental policies are determined by special interest politics, and are "often driven by groundless accusations [and] supported by public fear." In their view, "populist sentiment and pork-barrel politics, rather than actual environmental dangers, currently determine priorities" (Stroup and Shaw 1989, p. 31). Stroup and Shaw contend that the free market is capable of protecting the environment:

> Over the long run, private ownership is the most effective protector of the environment-provided ownership is transferable and backed by courts that make people liable when their pollutants invade the person or property of others. This system of private ownership would protect the environment for the same reason that it protects other kinds of property: because it encourages good stewardship (Stroup and Shaw 1989, p.31).

A principal argument against command and control regulation is that it places too much burden on administrative agencies to deal with an increasingly complicated economy. The effort to classify and regulate hazardous waste, toxics, and pesticides are examples of technological developments in the economy outstripping the capacity of administrative agencies to regulate them. Citing the complexity of regulating the vast number and types of solid wastes, William Pedersen (1991) argues that without a tax or other market oriented mechanism, it will be impossible to provide adequate regulation of these wastes.

Another argument against command and control is that, at times, overly stringent regulatory standards can be difficult to implement. Cass Sunstein maintains that:

> A stringent standard—one that forbids balancing or calls for regulation beyond the point of "feasibility"—makes regulators reluctant to act . . . Their inaction is not caused by venality or confusion. Instead, it reflects their quite plausible belief that the statute often requires them to regulate to an absurd point . . . a stringent standard will mobilize opposition to regulation . . . it will require agencies to obtain greater supporting information to survive political and judicial scrutiny, while at the same time making it less likely that such information will be forthcoming from regulated class members (Sunstein 1990, p. 416).

Richard B. Stewart notes that command-and-control regulation was "an understandable, first generation response to environmental problems . . . When the Earth Day explosion of interest in environmental problems came along, there was a perception that urgent things needed to be done . . . and that the most effective and appropriate way was to require specific controls on emissions and later, specific practices for disposal of toxic wastes" (Stewart in Breger et al. 1991, p. 467). While it may have worked at first, ". . . it is often, from industry's viewpoint cheaper to invest in litigation and delay than to find innovative ways to comply" (Stewart in Breger et al. 1991, p. 468).

In summary, command and control regulation can impede innovation, slow down the economy, cost too much, and be administratively cumbersome. In addition, it often relies too much on politics to set environmental goals. Given these drawbacks, it seems that using the market to protect the environment ought to be a viable alternative. While the theory behind market mechanisms seems sound, unfortunately, political reality sometimes intervenes, making the elegant theory difficult to apply.

CRITICISMS OF MARKET MECHANISMS OF REGULATION

Without question, a relatively free economic market tends to be a powerful and reasonably predictable influence on corporate and individual behavior. When harnessed toward a social goal, the market can result in remarkable accomplishments. This is especially the case when an effort is made to regulate complex technical or production processes. As Stephen Breyer observes, ". . . the true virtue of a tax, fee or similar system lies in its power to provide incentives to direct behavior in a socially desirable direction, without freezing current technology and while preserving a degree of individual choice" (Breyer 1982, p. 270).

There is widespread support among economists and policy analysts for utilizing market-based regulatory approaches (e.g., Ackerman and Stewart 1988; Stroup and Shaw 1989; Levenson and Gordon 1990; Breger et al. 1991; Weidenbaum 1992). However, a number of scholars have noted that markets are difficult to establish and that market-oriented regulatory regimes must be developed with great care. Others have argued that market-oriented approaches may not be necessary and that the economic impact of regulation on the American economy is overstated (Daneke 1985).

Eugene Bardach and Robert Kagan (1982) distinguish between protective or social regulation and industry-inspired regulation to control or at least influence market conditions. Companies often advocate regulation to control entry into a market or constrain unfettered competition. Typically, the case for such nonprotective regulation is the advancement of a public goal, such as establishing an industry or stimulating private investment in capital-intensive infrastructure. Environmental regulation is a form of protective regulation, and Bardach and Kagan are skeptical about the possibility of creating markets for protective regulation:

> It is easy to believe that beneficent market forces will rush in spontaneously to perform *price-setting* functions that government regulators had hitherto performed, but it is a very different matter to believe that they will provide incentives for politically acceptable levels of pollution abatement, nondiscrimination, and control of waste disposal sites. After all, most protective regulation originally came into being because society's first line of defense—market pressures and privately activated lawsuits for damages—had not been effective in deterring certain harms (Bardach and Kagan 1982, p.7).

Even those supporting market approaches have noted that some market mechanisms, such as emission trading programs, have had a mixed record of success (Hahn and Hester 1989). Active markets were slower to begin than some economists predicted. In part this is because political considerations resulted in trading policies that were significantly different than those advocated by analysts. Under the 1990 Clean Air Act, emission allowances can be traded, but EPA has explicitly stated that these allowances are not permanent property rights and that government can reduce or eliminate these allowances (Johnston 1991). While this is not a criticism of the concept of market-oriented regulatory mechanisms, it does indicate that the ideal conceptual frameworks proposed by scholars may not survive the less

than ideal political process intact. Therefore, one attack on market mechanisms is their political feasibility. Other criticisms of market approaches include:

- The difficulty of pricing permits or of deciding how much pollution should be allowed.
- The information requirements placed on government to monitor whether firms are exceeding their emission allowances.
- The argument that tradeable pollution rights are a license to pollute.

A STRATEGIC APPROACH TO REGULATION

If it seems that proponents and opponents are talking past each other, it is probably because they are. In most cases, the scholars working in this field are working out of different paradigms. More likely, I suspect, we are seeing an ideological debate between advocates of the market and advocates of government intervention. Instead, the real challenge is to learn how and when to use market mechanisms and how and when to use direct regulation.

We have evidence that sometimes market approaches work and sometimes they do not. We need to ask why this is the case. One team of scholars asked that question and concluded that a carefully designed trading system could be implemented. James Tripp and Daniel Dudek (1989) developed the following guidelines for successful trading programs: (1) clear legal authority, (2) technical capability, (3) evasion-proof program, (4) clearly specified objectives, (5) problems of regional significance, (6) measurable economic value of tradeable rights, (7) equitable and administratively simple method for allocating rights, and (8) minimal transaction costs for buying and selling the use rights.

To develop these principles, Tripp and Dudek examined four programs, two successful ones—New Jersey's Pinelands Plan and EPA's CFC program, and two unsuccessful ones—the Los Angeles air pollution bubble program of the 1980s and a local water pollution control program in Fox River, Wisconsin. Trading programs that followed the principles listed above produced workable markets and achieved sufficient political support to be implemented. The

unsuccessful programs were not able to incorporate the guiding principles effectively.

The choice between command and control and market-based regulation is a false one. All regulation involves gradual, strategic calculation and bargaining. Command and control results in regulations that adjust the law to reality, permits that interpret regulations in the light of real-world constraints, and judicial and administrative bargains on how permits should actually be implemented. Donald Elliot, former EPA General Counsel, notes that:

> It is important to recognize that we don't have to have—and we don't have—an all or nothing system in which we have either an incentive-based system or a health-based system of command and control regulations. Many of our environmental problems, like many of our other legal problems, involve a complex coming together of different goals and different moral norms. The system cannot simply optimize any single value-like controlling the total amount of pollution at the least cost—but must be responsive to multiple values .... Thus a combination of health-based standards and market-based incentives may be preferable to either standing alone (Elliot in Breger et al. 1991, p. 479).

A broader framework is needed that provides policymakers with a menu of devices depending on what and who is being regulated. Some substances are so toxic that command and control is needed. Some regulated parties are so weak that they will need to be paid to comply or driven out of business. In other cases a market can be created and environmental improvement can be accomplished through this mechanism.

Where possible, market mechanisms can be used to encourage compliant behavior and avoid the legal and administrative costs of direct regulation. Where necessary, government should provide subsidies and training and consulting services for organizations that do not have the capacity to comply with regulation. On occasion, government may decide that the costs of subsidizing regulation are so high and the benefits of regulation so important that a business should be allowed to die in order to protect the environment. These instances should be as infrequent as possible or the political support for protecting the environment will erode.

There is no reason to look for a magic bullet, a conceptual framework appropriate to all environmental problems. The proper policy

tool should be determined by the situation. Sometimes a market device will work, sometimes command and control is required, and sometimes a blend of the two is needed.

Policy analysts often lament the fact that environmental goals are sold to the public with fear and inadequate risk assessment, and to politicians for their value as "pork." They argue that the goals of legislation and regulation should be based on careful scientific consideration of risks. Similarly, economists frequently argue that policy designs should reflect a careful assessment of costs and benefits, and should seek to achieve the maximum possible bang for the minimum possible buck. These ideas seem rational and attractive, but unfortunately they are not always feasible in the messy, pluralistic, federal political system in which we operate. Sometimes cost-benefit analysis is difficult to conduct. One problem is that the distribution of costs and benefits can be unpredictable and distribution effects can be more politically salient than overall costs and benefits. Another problem is that some costs and benefits cannot be compared without questionable assumptions about the relative weights assigned to specific cost and benefit factors.

There are no short cuts. Each regulatory program must be based on a strategy that seeks to understand the motivations of regulated parties and seeks to influence their behavior. Whether we decide to employ direct regulation, indirect market mechanisms, or direct subsidies, none of these approaches will work without a profound understanding of the parties and technologies being regulated. Developing the administrative capacity in government to make these assessments is far more important than making decisions on which regulatory mechanism is superior. With this knowledge in hand, environmental regulators can then develop flexible, dynamic strategies to reduce and prevent pollution in the real world. In turn, development of sustainable societies will become more feasible. More attention needs to be paid to the firms that create pollution and less attention to elegant but unworkable economic models and cumbersome legalistic formulations.

I am not suggesting that strategic planning is always easy or problem free. Some argue that it can only work in a politically calm climate. Admittedly, in times of turmoil and upheaval, implementing strategic planning will become more challenging. I believe that the potential results from successful strategic planning are worth the struggle.

NOTE

1. I served as staff director on that project and Sheldon Kamieniecki was the project's senior research fellow.

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