1 *Introduction*

THIS book studies collective action via non-governmental institutions to address environmental problems. Individually rational behavior can sometimes produce outcomes that are harmful to society as a whole. While people can seek to design institutions to structure collective action in more desirable ways, there is no guarantee that these institutions will always succeed in harmonizing individual goals with social outcomes. This challenge is particularly severe in the environmental policy area. Looking to increase profits, a firm may emit toxic pollutants into the atmosphere, causing harm to its neighbors. While the firm's profits may increase, from a broader perspective, the harm to the society caused by its emissions all too often outweighs the higher profits the firm enjoys. How can the firm be persuaded to take into account the costs it has imposed on others and reduce its pollution emissions? During the twentieth century, governments have sought to mitigate pollution's harms through command and control regulations that set standards for firms' environmental performance, prescribe pollution-control technologies firms must adopt, monitor whether firms are adhering to governmental prescriptions, and sanction those that do not. The assumption is that without detailed orders from the government, backed by coercive enforcement, firms are likely to sacrifice a cleaner environment for their own profits.

Many question whether such government regulation is a panacea for solving pollution problems (Coase, 1960; Ostrom, 1990). After all, governments themselves are sometimes apt to fail (Wolf, 1979), clearing the way for unscrupulous firms to pollute at the public's expense. There is no assurance that politicians or bureaucrats will craft the perfect law that serves a broader social good. And there is the question of whether governments have the resources to enforce complicated and detailed laws. For those who see government regulation as an imperfect solution to ameliorate environmental problems, voluntary

programs are a way to encourage firms to serve broader public interests in ways that counter government regulation's weaknesses. By and large, voluntary programs are most often viewed as complements to public regulation, building on the foundation of government standards and laws, a perspective we adopt here. In some ways, voluntary regulatory programs have become a political desideratum of our times, a centrist, "Third Way" formula for achieving the goals of the left (promoting the general welfare by encouraging firms to produce public goods) through the means of the right (using mechanisms that harness private interests for public ends).

While voluntary regulatory systems for businesses and industry have existed for several centuries (Webb, 2004), over the last twenty years or so, governments, industry associations and even environmental groups have launched a wide array of voluntary environmental programs. By joining a voluntary environmental program, a firm pledges to take progressive environmental action beyond what its government regulations mandate. Such programs challenge the assumption that if left to their own devices, firms always choose higher pollution over more socially responsible environmental stewardship. But voluntary programs vary in their effectiveness; some have even been shown to be mere public relations exercises that do little to improve their members' environmental behavior. Recent accounting scandals pose serious questions about whether businesses can voluntarily regulate themselves.

In this book, we submit voluntary environmental programs to theoretical and empirical scrutiny. Our theoretical inquiry analyzes voluntary programs as clubs, in an economic sense of the term (Buchanan, 1965). A club provides members with a shared group benefit from which non-members are excluded. Effective voluntary programs, or "green clubs" as we refer to them, are like clubs in that they offer an excludable benefit to their members in the form of goodwill that firms receive from stakeholders because the firms have taken the progressive environmental action codified in the club's membership rules. In other words, in return for taking on the costs of joining the club and thereby producing public goods such as a cleaner environment, members enjoy the rewards of affiliating with the club's brand reputation. Firms decide whether or not to join the club based on their perceptions of the club's benefits and costs. Firms' perceptions are likely to be contingent on the economic and policy

contexts in which they operate, as well as their firm-level characteristics. Once they join a program, firms also decide whether to adhere to club rules or shirk their membership responsibilities. This decision is likely to be influenced by whether the club has a monitoring and enforcement program in place.

To empirically test our theoretical ideas about voluntary programs, we examine ISO 14001, the most widely adopted voluntary environmental program in the world today. Although launched only in 1996, nearly 50,000 facilities in 118 countries have joined this green club. Our analyses focus on two questions:

- What factors shape firms' perceptions about ISO 14001's reputational value, and therefore their decisions about joining the program?
- Do ISO 14001's members improve their environmental and regulatory performance beyond what they would have achieved had they not joined the program?

To investigate these questions, we employ several techniques, including cross-national case studies, large-sample analyses of ISO 14001 adoption rates across countries, a large-sample facility-level study of US industrial facilities, and analytical interviews with US government regulators and facility environmental managers. Our results show that the value of ISO 14001's reputation varies across policy and economic contexts (local, national, and international) and is an important factor in inducing firms to join the program. Our analyses also indicate that, at least in the US, joining ISO 14001 reduces the amount of time members spend out of compliance with government regulations and reduces the amount of toxic pollutants they release into the atmosphere. While this does not mean that every ISO 14001 certified facility improved its environmental and regulatory performance, our analyses suggest that, on average, ISO 14001 improves the alignment of firms' private motives with societal benefits. Furthermore, the appeal of ISO 14001 (the reputational value of joining this club) is highest for firms that, have mid-range environmental and regulatory performance. Neither the environmental leaders nor the environmental laggards are as excited about joining ISO 14001 as mid-range firms, which typically constitute the largest proportion of a population. As a result, ISO 14001 is potentially a policy tool with a wide appeal rather than appealing only to a small niche.

These empirical inquiries, coupled with our theoretical analysis, suggest conditions under which voluntary programs can serve as effective policy tools. First, clubs must require behavior from their members that, at least in the eyes of members' stakeholders (such as their regulators, suppliers, and customers), leads to desirable environmental outcomes. Only then will stakeholders offer the goodwill benefits that serve as the reward members receive for joining a club. The size and scope of these rewards are likely to vary with the credibility of the sponsoring organization, the stringency of the requirements the club imposes on its members, the level of stakeholders' involvement in developing the club standards, and the firms' location in policy and economic contexts. Second, clubs need credible monitoring and enforcement mechanisms to ensure that members do not shirk and instead adhere to club standards after they join the program. These mechanisms might include third-party auditing, mandatory information disclosures of audit findings, and sanctioning of those who shirk. By mitigating shirking, effective monitoring and enforcement leads to improved environmental performance and strengthens the club's brand reputation among firms' stakeholders. In the next section of this chapter, we briefly survey the recent history of environmental governance, focusing mostly on the US. We then describe new tools of environmental governance and how green clubs are important components of the emerging environmental governance paradigm.

Can businesses be trusted? Regulating for environmental protection

Horror visited the US Steel company-town of Donora on Halloween night, 1948, when a temperature inversion descended on the town. Fumes from US Steel's smelting plants blanketed the town for four days, and crept murderously into the citizens' homes. If the smog had lasted another evening "the casualty list would have been 1,000 instead of 20," said local doctor William Rongaus at the time . . . The "Donora Death Fog," as it became known, spawned numerous angry lawsuits and the first calls for national legislation to protect the public from industrial air pollution.

A PHS report released in 1949 reported that "no single substance" was responsible for the Donora deaths and laid major blame for the tragedy on the temperature inversion. But according to industry consultant Philip

Sadtler, in an interview taped shortly before his 1996 death, that report was a whitewash. "It was murder," said Sadtler about Donora. "The directors of US Steel should have gone to jail for killing people." . . . For giant fluoride emitters such as US Steel and the Aluminum Company of America (Alcoa), the cost of a national fluoride clean-up "would certainly have been in the billions," said Sadtler. So concealing the true cause of the Donora accident was vital. "It would have complicated things enormously for them if the public had been alerted to [the dangers of] fluoride. (Bryson, 1998)

The "Donora Death Fog" became a rallying cry for members of the fledgling US environmental movement in the 1950s. In 1962, Rachel Carson (1962), a former marine biologist with the US Fish and Wildlife Service, published her book *Silent Spring*, further exposing the hazards of the pesticide DDT.[1] In the face of such drastic examples of corporate environmental malfeasance, strong government regulation seemed to be the only way to prevent businesses from causing large-scale environmental harm and human suffering. Public concern for the environment mounted through the 1960s, leading President Nixon in 1970 to sign the National Environmental Policy Act, establish the Environmental Protection Agency, and thereby lay the foundation for federal government's approach to environmental regulation that continues today. The wave of 1970s environmental laws that followed – the Clean Air Act,[2] the Clean Water Act and the Resources Conservation and Recovery Act – targeted the largest and most visible pollution problems, the "big fish" of industrial pollution. These laws codified the command and control regulatory approach: comprehensive government regulations to govern firms' environmental practices and pollution releases, strict government-run monitoring programs to detect firms' violations, and sufficiently severe penalties

[1] Carlson's critics tried to smear the book and its author. An executive of the American Cyanamid Company noted: "if man were to faithfully follow the teachings of Miss Carson, we would return to the Dark Ages, and the insects and diseases and vermin would once again inherit the earth." Monsanto published and distributed a brochure parodying *Silent Spring*. This brochure, *The Desolate Year*, invoked the horrors of famine and disease because chemical pesticides had been banned (NRDC, 1997).

[2] Though the Clean Air Act was originally passed in 1963, the command and control thrust of a national air-pollution program emerged in 1970. This Clean Air Act underwent significant revisions, first in 1977 and then in 1990.

for non-compliance to compel firms' compliance with regulatory standards.[3] Underlying the command and control approach was the assumption that businesses would protect the environment only when laws compelled them to do so.

Command and control was a strong initial policy response to the big environmental problems of the 1970s. It successfully harvested the low-hanging fruit – the large, concentrated and visible pollution problems that were relatively easy to identify and ameliorate, if not clean up. Detailed regulations governing pollution-control technologies and emissions made explicit what businesses were required to do. Expansive state and federal monitoring and enforcement programs were established to ensure firms complied with all the new environmental standards. All in all, few would contest that command and control laws have dramatically reduced industrial pollution and improved the quality of the natural environment (Cole and Grossman, 1999). The environment is generally, although perhaps unevenly, cleaner, thanks in large part to command and control regulations. In the US, for example, states with stronger command and control regulatory regimes saw greater pollution reductions between 1973–1975 and 1985–1987 (Ringquist, 1993). Indeed, "Cleveland's Cuyahoga river, which once caught fire, now features cruise boats" (Kettl, 2002: vii).

Yet by the 1980s and 1990s, command and control regulation had started to come under critical scrutiny in the US and abroad. Businesses complained that the requirements of command and control, such as obtaining complex permits and maintaining paper-trails to document their environmental operations, created high compliance costs that hurt productivity and profits (Jaffe *et al.*, 1995; Walley and Whitehead, 1994). Because different agencies administer different permit programs, a large US facility might need 100 different government permits to comply with different federal and state regulatory statutes (Rabe, 2002). According to the US Office of Management and Budget (2002), complying with environmental regulations cost US

[3] Under the 1990 amendments to the Clean Air Act, the US Congress required the EPA to establish national ambient air-quality standards for specified hazardous pollutants. The states are required to develop state-level implementation plans and have them approved by the EPA. Facilities are subjected to some version of the best available technology requirement, depending on factors including whether they are in an "attainment area."

businesses $144 billion in 1997 (in 1996 dollars). By prescribing the technology firms must use to control pollution during production, command and control constrains firms' operational flexibility and thereby undermines efficiency, creating both static and dynamic inefficiencies in terms of impeding industry innovation (Jaffe *et al.*, 1995; Kettl, 2002; Eisner, 2004).[4] Command and control also focuses attention on end-of-pipe pollution reductions rather than on preventing pollution in the first place. In addition, some have argued that command and control regulations are particularly prone to policy "capture." Complex environmental regulations may become eligibility standards that protect incumbent firms from new competitors (Zywicki, 1999).[5] Finally, command and control's media-focused laws may encourage firms to substitute pollutants across media (GAO, 1994).

Command and control's limitations are also apparent to government regulators (Fiorino, 1999). Because command and control regulations are enforcement-intensive, declining agency budgets (especially in the US) relative to regulatory mandates have undermined enforcement frequency and efficacy.[6] The EPA's enforcement staff fell 13 per cent from 2001 to 2002 and was projected to fall an additional

[4] Porter and Van der Linde (1995) suggest that stringent but properly designed command and control policies can create incentives for firms to innovate. Because firms are often unaware of profitable opportunities flowing from progressive environmental policies, the authors believe that stringent command and control regulations can focus firms' attention on such opportunities. For a critique, see Rugman and Verbeke (1998).

[5] Some command and control laws have led to litigation and created "rents" for lawyers. An often-mentioned example is the Superfund created under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. Some estimate that almost one-third of the Superfund expenditures incurred by companies are towards litigation and legal fees, and the EPA has incurred similar levels of legal costs (Sablatura, 1995).

[6] In accordance with deterrence-based regulation (Becker, 1968; Stigler, 1970), Regen *et al.* (1997) report that the EPA's enforcement budget critically influences the manufacturing industry's expenditures on pollution-control equipment. If declining enforcement budgets dilute the efficacy of the command and control approach, why would Congress make complex laws but undermine them by not providing enforcement budgets? Plausibly, enacting stringent laws allows politicians to claim that they are tough on polluters, while the political return on enforcement budgets (which compete with their other spending priorities) may be limited. Partisan control of Congress may influence enforcement budgets as well: slashing the EPA's budget has been an important item on the Republican agenda. In the glory days of the "Contract with America," (then) Majority Whip Tom DeLay (R-TX) noted that:

6 per cent in 2003 (Baltimore, 2002).[7] Even three decades after the enactment of the Clean Water Act, regulators have been able to assess water quality for only 4 per cent of the ocean shorelines and 23 per cent of river miles (Metzenbaum, 2002). Between 1996 and 1998, less than 1 per cent of the 122,226 large regulated facilities in the US were inspected for air, water and hazardous waste pollution (Hale, 1998).[8]

Finally, command and control has been criticized for contributing to the costly adversarial regulatory culture among business, regulators, and citizens (Vogel, 1986; Kagan, 1991; Kollman and Prakash, 2001). Command and control pits regulators and firms in a contentious stance, resulting in more lawsuits and larger societal costs (Reilly, 1999; but see Coglianese, 1996).[9] Rigidly enforcing regulations and "going by the book" (Bardach and Kagan, 1982) increases firms' compliance costs, and creates incentives for firms to evade regulations. In a vicious cycle, regulators may respond with more monitoring, stricter enforcement, and harsher penalties.[10] More promising is an enforcement approach where firms voluntarily improve their environmental performance and governments redirect enforcement resources

> The critical promise we made to the American people was to get the government off their backs, *and the EPA, the gestapo of government*, pure and simple has been one of the major "clawhose" that the government has maintained on the backs of our constituents. (Michels, 1995; italics not in the original)

[7] For most command and control environmental regulations in the US, the federal government delegates enforcement and even some policy standard responsibility to state governments. If states do not meet the minimum federal standards, the EPA can preempt the state policy and conduct enforcement or issue standards itself. State environmental protection agencies conduct the bulk of the monitoring and enforcement activities (Brown, 2001), although the EPA conducts some as well. While some states have developed regulatory standards more stringent than those that the federal standards require (Potoski, 2001) and preemption is uncommon, competition among states coupled with the threat of preemption constrains the degree of variation among states' environmental programs.

[8] In Teubner's (1983) conception of reflexive law, this represents the crisis of the "interventist state" while green clubs are a manifestations of reflexive law.

[9] Citizen lawsuits are explicitly permitted under some statutes, for example, Section 304 of the Clean Air Act. Fearing the capture of the environmental bureaucracy by the industry, Congress created the provision of "private attorney generals" where citizens can sue the government to enforce the law and recoup some of the legal costs.

[10] This point is developed in chapter 2. We term it the "regulation dilemma," and examine how green clubs may help in overcoming it.

to more valuable tasks (Majumdar and Marcus, 2001). Some even blame command and control laws (though incorrectly in all likelihood) for the job losses in the manufacturing sector in the 1980s and the 1990s (Palmer *et al.*, 1995; for a recent review of the trade–environment debate, see Frankel, 2003).

With command and control having focused on the large, concentrated and stationary pollution sources (Gunningham and Sinclair, 2002), the next generation of environmental problem centers on the dispersed and often invisible sources that add up to large problems (Fiorino, 1999). Such problems exacerbate command and control's weaknesses: writing regulations finely nuanced for pollution problems that are highly variable, technical and diffuse is quite burdensome and monitoring and inspecting these dispersed sources is yet more expensive and onerous. Command and control regulations *alone* may be ill-equipped to take the steps to address the next generation of environmental challenges.

On a more general level the diminishing returns to command and control regulations are indicative of "government failures" (Wolf, 1979). Solving environmental problems would be simpler if government officials had perfect information, there were no "agency conflicts" (Berle and Means, 1932), and there were no transaction costs associated with developing, monitoring, and enforcing policy decisions. Unfortunately, real-world policy complexities and uncertainties in social interaction exceed the government's ability to perfectly predict future events, specify policies for all circumstances, and devise low-cost mechanisms to ensure that the policy outcomes match specified objectives. Like any organization, governments and policymakers are "boundedly rational" (Simon, 1957; Jones, 2001) and constrained by limited resources such as time, information, expertise, and finances. Governments, especially in developing countries, often lack information and expertise to correctly design policies. Monitoring and enforcement is expensive and more complex regulations carry higher monitoring and enforcement costs. Governments can be "captured" by the very industries they were designed to regulate (Stigler, 1971) and bureaucratic infighting might impede policy development (Allison, 1971).

By highlighting the governmental failures that can plague command and control regulation we are not advocating dismantling government and rolling back command and control regulations. Our intention is to

show that every policy approach has vulnerabilities, including voluntary regulations. Both scholars and analysts should be aware of the costs and benefits of different policy approaches and look for ways to balance one's weaknesses against others' strengths. Like command and control, voluntary governance approaches are neither a curse nor a panacea. Our approach is to view command and control as a baseline and think of new approaches that would complement command and control in ways that enhance its positives and ameliorate its deficiencies.

New tools for environmental governance

While command and control regulation is more effective than no regulation,[11] its high costs and limitations suggest the opportunity for a new breed of regulatory tools.[12] Through the 1980s and 1990s, environmental scholars, analysts and regulators began to propose several new approaches to addressing environmental problems. These approaches promise to safeguard better the natural environment by complementing command and control and addressing its weaknesses. The assumption underlying these tools is that, contrary to the command and control's assumed hostility, businesses, governments and perhaps moderate environmental groups can work cooperatively to improve environmental conditions. Some commentators (somewhat skeptically) term this policy shift as "weak ecological modernization" (Hajer, 1995; Mol and Sonnenfeld, 2000) where economic growth and environmental sustainability are viewed as mutually supportive. Thus, a central theme underlying the new environmental governance tools is

[11] Arguably, a complete absence of federal regulations may spur firms and citizens to use courts to settle environmental disputes. For example, in common-law countries, a tort-based approach to environmental governance may provide an alternative to federal regulation-based environmental governance system. Because in contemporary times such examples cannot be found, it is difficult to comment on the relative efficacy of a tort-based approach in relation to command and control.

[12] Fiorino (2001) highlights the need to foster "social learning" in the environmental governance system. Although existing and future environmental challenges require regulatory institutions to adopt a "social learning" approach (of which flexible regulation is an important element), their policies and their regulatory cultures remain rooted in the "technical learning" (command and control regulation) mode. On reflexive law, see Teubner (1983).