BEYOND DETERRENCE: COMPLIANCE AND ENFORCEMENT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

PADDOCK, LEROY C.

Associate Dean for Environmental Law Studies, The George Washington University Law School, 2000 H Street, NW, Washington, DC 20052, USA, lpaddock@law.gwu.edu.

SUMMARY

Regulation is the most direct and predictable mechanism for controlling environmental behavior. Strong compliance and enforcement programs that punish violators and deter violations by others are, of course, essential to any successful regulatory system. It is increasingly clear, though, that regulation cannot by itself produce the behavioral changes needed to achieve sustainable environmental outcomes. The nature of environmental challenges has undergone such a fundamental change that the existing regulatory-focused system of environmental governance cannot ensure healthy air, clean water, a stable climate, safe drinking water, vital ecosystems, and continuing biodiversity. Rather, sustainability will also require better alignment of economic drivers with environmental goals and changes in societal values.¹

Internal economic drivers have an increasing impact on company environmental performance. These internal business economic drivers include reputation, customer demand, investor pressure, supply chain requirements, the ability to attract and retain employees, insurance availability, license to operate, lender concerns, government and public relations, access to markets, product differentiation, green procurement standards, industry codes of conduct, international environmental standards such as ISO 14000, and operational efficiency.

Similarly, whether viewed in terms of individual responsibility or ethics or stewardship, values must play a growing role in environmental governance. The Aspen Institute in its work on resource stewardship observed, “[w]ithout personal and collective commitment, without an ethic based on acceptance of personal responsibility, efforts to sustain natural resources protection and environmental quality cannot succeed.”²

The need to achieve environmental outcomes well beyond those mandated by law, the growing role of internal economic drivers in organizational environmental behavior and the importance of values in making progress on environmental issues point to the need to rethink compliance and enforcement strategies. While enforcement programs still must punish wrongdoing and deter others from violating the law, government agencies must also consider, as a strategic matter, how compliance and enforcement resources can have an impact on internal economic drivers of environmental behavior and how the resources can influence
societal values more generally. Although compliance and enforcement managers have, for some time, considered economic and values in designing programs, these efforts must be expanded to meet environmental objectives.

This section suggests several ways that compliance and enforcement program managers might be able to better leverage their assets to influence internal economic drivers and help build public values that support more sustainable environmental outcomes. These approaches include:

- employing a full range of compliance and enforcement tools to solve important environmental problems;
- designing compliance and enforcement programs that better align with market-based incentives;
- promoting learning and self-evaluation;
- enabling the public to directly influence environmental decision making;
- encouraging collaborative problem solving;
- supporting private sector enforcement through supply chain management;
- recognizing superior environmental performance.

1 INTRODUCTION

Klaus Bosselmann and David Grinlinton observe in their book *Environmental Law for a Sustainable Society*, “The notion of ‘sustainability’ is more than a catchy phrase for an improved environmental protection strategy. Many commentators have linked sustainability to fundamental concepts such as freedom, justice and equity. There is a widespread perception today that sustainability must inform future development of society in much the same way as freedom and equity informed its present development. Only a sustainable society, capable of working with nature, not against it, will have a chance of survival.”

Professor John Dernbach in “Agenda for a Sustainable America” notes, “sustainable development requires action by governments at all levels but cannot be achieved by government alone. All segments of American society—individuals, nongovernmental organizations, businesses, the scientific and technological community, educational institutions, religious organizations and families—need to play an active and constructive role.”

This will require continuing efforts to create stronger economic signals supporting more sustainable behavior and to build societal values supporting sustainable outcomes.

Forty years after the dawn of the modern age of environmental law, the nature of environmental challenges has undergone such a fundamental change that the system of environmental governance must be re-imagined to ensure healthy air, clean water, a stable climate, safe drinking water, vital ecosystems, and continuing biodiversity. As Professor JB Ruhl has observed, “the environment operates in a state of highly complicated, organized disorder. Indeed, scientists are beginning to understand that the disorder—the chaos that is inherent in the environment—is its means of sustainability.” Based on this more sophisticated understanding of
the nature of complex environmental systems, Ruhl asks, "Is it an accident that sustainable development, adaptive management, and biodiversity were unheard of in the environmental policy debates of twenty [now thirty] years ago . . . ?" He answers, "I think not. Rather, the evolution of environmental law has led us to this point precisely because these three concepts are related and because they are consistent with the vision of law as a complex adaptive system." 

In many ways, existing environmental regulatory and enforcement programs are designed to function in exactly the opposite way. Our environmental laws tend to focus on specific pollutants discharged from specific facilities. These facilities are regulated through facility-specific permits and subject to facility-specific inspections and enforcement actions. Ruhl’s analysis supports the idea that relying solely on traditional regulatory approaches will not get us where we need to go. While compliance and enforcement programs are a necessary part of any effort to achieve sustainable environmental outcomes, simply enforcing regulations is not sufficient to achieve these outcomes.

However, compliance and enforcement programs may be able to play a role that extends beyond deterring violations. Certainly, we want our compliance programs to help organizations meet regulatory requirements and our enforcement programs to deter as many violations as possible. But because compliance with existing environmental regulations is not sufficient to achieve the larger goal of sustainability, it is important for those working on compliance and enforcement programs to think about how they might leverage their work to influence “internal” economic drivers of environmental behavior and help build societal values that help achieve results beyond compliance. Enforcement programs have, for some time, supported efforts that are designed to prevent pollution, encourage the development of better environmental management systems, and promote environmental auditing, all of which can have an impact on internal economics and on values. But enforcement officials typically have not assessed the extent to which their programs can and should strategically take into account internal economics and societal values as part of the larger effort of environmental agencies to achieve sustainable outcomes.

2  DETERRENCE THEORY

The most prominent theory of general deterrence posits that those subject to regulation are “amoral calculators.” Under this theory, a regulated entity will comply only when the entity believes that violations are likely to be detected and a significant penalty would be imposed. The amoral calculator or “profit-maximizer” theory is consistent with the deterrence approach many regulators have historically relied upon in developing their enforcement programs. This view typically leads to the use of traditional enforcement techniques such as government monitoring and inspections coupled with penalties.

Empirical studies, however, indicate that classic deterrence theory does not reflect the real world. Gunningham, Thornton & Kagan found in a study of electroplating
and chemical companies that neither specific nor general deterrence played a major role in shaping corporate environmental behavior. Deterrence did play a role in “reminding” the companies of their environmental obligation, but the authors found “[o]f far greater importance in motivating management was what we term ‘implicit general deterrence.’” They concluded, “Regulation works through a complex mixture of pressures, fear, and normative duty.”

A second view of compliance behavior is that of a “good faith complier.” Under this view, compliance “flows from the firm’s drive to obey the law.” This view of compliance is based on a view that legitimate laws should, as a matter of societal norms, be followed. The normative view of compliance suggests strategies more reliant on education and cooperation.

Professor Malloy suggests a third factor in compliance decisionmaking—“firm routine.” He observes that noncompliance under this view may be related to a management failure to track and correct problems that may lead to violations. Management problems can be addressed through training and the adoption of better management systems.

3 BEYOND COMPLIANCE BEHAVIOR

A study entitled “General Deterrence of Environmental Violations” by the Oregon Department of Environmental Quality found that behaviors that go beyond compliance are likely more motivated by a pro-environment philosophy, by employee and customer relations, and by financial advantages of the improvement [than by deterrence]. It is not reasonable to assume that companies would be compelled to do more than required simply because they heard that other companies failed to meet minimum requirements.

A critical question for compliance and enforcement program managers is whether their programs are restricted in scope to assuring that regulatory drivers function at their highest level or whether compliance and enforcement programs also play a role in shaping the economic and values drivers that are critical to achieving more sustainable environmental outcomes.

These somewhat larger strategic goals for compliance and enforcement are more than theoretical. By better understanding and leveraging the growing number of internal economic drivers such as reputation, supply chain requirements, and consumer preferences that push companies to go beyond minimum regulatory standards to reduce their environmental footprint in ways not required by law, compliance and enforcement programs may be able to stimulate more sustainable environmental actions. Similarly, compliance and enforcement programs can be designed in ways that help make sustainability a societal norm.

The Oregon study indicated that existing enforcement strategies have already had an impact on internal economic incentives and public values in addition to
regulatory compliance. However, one of the key challenges in achieving beyond deterrence objectives is how to transform what are often incidental impacts of existing compliance and enforcement strategies into an intentional policy that achieves wider societal objectives. The Oregon study observed,

By integrating a variety of regulatory tools—each consciously chosen for its effectiveness in a particular application—an agency can create a system that both pushes and pulls regulated entities toward environmentally protective behavior. Such a holistic approach can work to decrease direct compliance costs (through information sharing, assistance and incentives), increase direct cost to noncompliance (through penalties and sanctions) and increase the probability that non-complying companies will experience further direct and indirect costs (through customer and community pressure) or additional government interventions (through inspections and monitoring).\(^{21}\)

### 4 INTERNAL ECONOMIC DRIVERS

An increasing number of companies are setting and achieving environmental standards that exceed those required by law or that involve environmental issues for which few or no environmental regulations exist. These actions result from a wide range of what might be best described as “internal” economic drivers. These internal business economic drivers include reputation, customer demand, investor pressure, supply chain requirements, the ability to attract and retain employees, insurance availability, license to operate, lender concerns, government and public relations, access to markets, product differentiation, green procurement standards, industry codes of conduct, international environmental standards such as ISO 14000, and operational efficiency. These drivers can produce extremely important results, although the results are likely to be less predictable than those achieved through regulatory programs. However, given the limits of regulatory programs discussed above, these environmental results are important to achieving more sustainable environmental outcomes. Marc Allen Eisner pointed out, “Future gains in environmental quality may be impossible without a fundamental reconsideration of regulatory design. This reconsideration must take the form of incorporating advances in corporate self-regulation, associational regulation, and standards into the regulatory system and thinking creatively about how public policies can be used to reinforce incentives or compensate for their absence.”\(^{22}\)

Research suggests at least five reasons a company might voluntarily regulate its environmental practices to gain a competitive advantage:

1. Shrinking waste output and production inefficiencies can reduce environmental impacts and overall costs and increase competitiveness.
2. Environmentally responsible companies attract and retain a higher-quality workforce and increased worker satisfaction leads to increased productivity.
3. Environmentally responsible companies have a better reputation in the community, which can lead to more brand loyalty. These companies also have a decreased risk of being targeted by environmental activists, which can tarnish the brand reputation.
4. Environmental responsibility reduces the risk of being exposed to risks like new regulations, pressure from investors to change policies, and increasing business costs.

5. Environmentalism may provide access to or create a completely new market with the potential for significant revenue growth.

In short, “being more responsible may help corporations out compete rivals by staying ahead of tightening regulations, reducing usage of increasingly costly inputs, and attracting investment dollars from concerned consumers.”

Other researchers agree that a company can gain a serious advantage when they start taking the environment into consideration. In their four years of research, Daniel Esty and Andrew Winston found that companies who are successfully and profitably implementing environmental initiatives understand the interface between environmentalism and business. These companies started out implementing environmental management plans because they had to, but now see business opportunities in going beyond compliance. They have “evolved to the point where environmental management is second nature and their focus is now on mining the gold in environmental strategy.” This is in stark contrast to companies that “have not evolved in their thinking since the 1970’s . . . and are still grousing about legislation and complying with it grudgingly.”

Another factor in the evolution some companies have undergone is pressure from stakeholders, although the decision to implement environmental initiatives is ultimately linked to the bottom-line. The growing push from stakeholders has caused companies to consider building their reputation for corporate responsibility. Esty and Winston were surprised at how often executives said the reason for launching an environmental initiative was because it was the “right thing to do.” However, building a good reputation is not just the right thing to do, it is also a point of competitive advantage because “doing the right thing attracts the best people, enhances brand value, and builds trust with customers and other stakeholders.” Esty and Winston conclude: “The logic of corporate environmental stewardship need not stem from a personal belief that caring for the natural world is the right thing to do. If critical stakeholders believe the environment matters, then it’s the right thing to do for your business.” Perhaps the most important new set of stakeholders are banks and insurance companies because they may require environmental assessments for major loans and give lower lending rates to companies with carefully constructed environmental management plans.

Community pressure is also an important force to be reckoned with. In their research on the pulp and paper industry, Gunningham, Kagan, and Thorton found firms were motivated to go beyond compliance because of pressures from the “social license.” Firms are so motivated because the social license can be enforced in very real ways. It can be enforced by an enhancement or destruction of the firm’s reputation, by putting pressure on regulators to more vigilantly enforce existing regulations, by the filing of citizen suits, by lobbying for tighter regulations, and by
market pressures such as boycotts. The authors found that pulp and paper mill firms were generally highly motivated to stay ahead of environmental regulations so that they could remain in the public’s good graces.

The attitude of company managers can play an important role in determining whether a company will be motivated to go beyond compliance. In a study of fourteen pulp and paper manufacturing mills in British Columbia, Canada, Australia, New Zealand, and the states of Georgia and Washington, the researchers were focused on trying to understand the reasons for the wide variations in environmental performance. One of the interesting observations of their work is that “the influence of social pressures on environmental performance depends on an ‘intervening variable’ – managerial attitudes.” In fact, in their analysis, “environmental management style was a much more powerful predictor of mill-level environmental performance than regulatory regime or corporate size and earnings.”

The factors that motivate large firms to go beyond compliance may not, however, have the same impact on smaller businesses. David Williamson and Gary Lynch-Wood found that the social license does not inspire small firms to go beyond compliance because the main motivations of the social license, stakeholder pressure and reputation, do not affect them in the same way they affect large firms and these factors therefore do not produce a response from them. The authors identify five factors that influence a firm’s environmental behavior: 1) the environmental impact of the firm’s products and processes; 2) customer power; 3) customer interest; 4) corporate/brand visibility; and 5) community pressure. They found that two or more factors must have a “high pull rating” before a firm would be motivated to go beyond compliance. These factors often are not significant enough to drive the behavior of smaller firms. Thus, it is important for government, in looking at the factors that motivate corporate behavior, to be thoughtful about whether particular companies or particular industries are more or less likely to be motivated to perform beyond what the law requires. The research suggests that it may be more important to target enforcement on companies that do not have a high public profile while using other tools such as recognition to encourage companies with a higher public profile to maintain or expand their beyond compliance activities. The research also indicates that supporting companies that have strong supply chain requirements may help address potential problems among smaller, less publicly visible companies.

In order to achieve optimum results with the limited resources available to them, government agencies must continue to develop their understanding of how these internal economic factors affect corporate environmental decision making and take the factors in to account in designing management systems and setting priorities.

5 VALUES

Whether viewed in terms of individual responsibility or ethics or stewardship, values must play a growing role in environmental governance. The Aspen Institute in its work on resource stewardship observed,
Continued prosperity depends on our ability to protect natural heritage and learn to use it in ways that do not diminish it. Stewardship is at the core of this obligation. It calls upon everyone in society to assume responsibility for protecting the integrity of natural resources and ecosystems and, in so doing, safeguarding the interests of future generations. Without personal and collective commitment, without an ethic based on acceptance of personal responsibility, efforts to sustain natural resources protection and environmental quality cannot succeed.\textsuperscript{43}

Similarly, the President’s Council on Sustainable Development found, “Stewardship is an essential concept that helps define appropriate human interaction with the natural world.”\textsuperscript{44} And, in a recent report, the EPA’s National Advisory Committee for Environmental Policy and Technology (NACEPT) recommended that the Agency incorporate the concept of stewardship into its core mission, defining stewardship as individuals and institutions taking responsibility to protect and enhance the environment and human health. As an ethic, environmental stewardship is rooted in both individual values and organizational cultures. As a practice, environmental stewardship embodies the understanding that compliance with environmental regulations is fundamental, that voluntary efforts are important but not a replacement for compliance, and that individuals and organizations should systematically and continuously work to reduce or avoid the adverse environmental and health impacts of their activities. Stewardship as both an ethic and a practice requires the fair treatment of all communities.\textsuperscript{45}

Based on this definition, the National Advisory Committee for Environmental Policy and Technology report suggested,

As our vision indicates, we believe that stewardship can make meaningful contributions to achieving significant environmental outcomes. EPA’s work is, of course, driven primarily by regulatory mandates from Congress and is limited by resources. Strong regulatory and enforcement programs play a significant role in motivating stewardship actions…. However, the complex environmental challenges the country and the world face often stretch beyond the borders of the law and frequently outstrip the resources available to the Agency. Addressing big environmental problems requires the Agency to leverage other resources (such as private sources of funding, citizen action, and corporate actions like supply chain requirements) and sources of knowledge and experience. We believe that stewardship activities can make important contributions to leveraging these external resources.\textsuperscript{46}

Values are one of the key drivers of environmental behavior. People tend to act in pro-environmental ways when a situation activates a feeling of moral obligation to do so – simply put, pro-environmental behaviors are more likely when people feel morally responsible to undertake them. People will engage in pro-environmental actions when situations activate personal norms.\textsuperscript{47} Personal norms, which are feelings of an obligation to act in a particular way,\textsuperscript{48} can be a potent influence on environmental behavior because people try to avoid the guilt of breaking personal norms. Personal norms are deeper than social norms, which are rules for expected behavior based on the behavior of others. A person acting on a personal norm will behave more consistently than a person acting out of extrinsically created social norms.
norms because the feeling of obligation and guilt exist whether or not other people disapprove. When norms become very deeply internalized, they give rise to identity, which is a sense of oneself.

The Norm-Activation Theory of Altruism was developed by S.H. Schwartz. Schwartz was interested in the question of why people help others when there is no benefit to them. The Norm-Activation Theory of Altruism posits that people help others when situations illicit their feeling of personal obligation – that is, when something activates a personal norm. Building on the Norm-Activation Theory of Altruism, the Values-Beliefs-Norms Theory posits that activation of a personal norm stems from one’s values. The Values-Beliefs-Norms suggests that values underlie and affect everything, from how a person interprets information, to what they are aware of, to what they think humans are responsible for, to what they do about it. According to Values-Beliefs-Norms theory, values affect and shape one’s beliefs, beliefs then affect and shape one’s norms, and one’s norms lead to behavior. A person will choose environmentally preferred behavior when the choice triggers a feeling of moral obligation to do so. But what that feeling of obligation is will depend on the person’s values, because the norm of moral obligation is shaped by values. Stern et. al (1999) have found that Values-Beliefs-Norms theory offers the best account for non-activist support of the environmental movement.

Eckersley (1992), Grendstad & Wollebaek (1998), and Thompson & Barton (1994) describe values in terms of anthropocentrism (the belief that the environment needs protection because of its contribution to human welfare) versus eco-centrism (the belief that the ecosystem has an intrinsic value and therefore should be protected). Stern et. al describe three value orientations: self-interest, altruism towards others, and altruism toward other species and the biosphere. These can be referred to as egoistic values, altruistic values, and biospheric values. An individual with egoistic values cares about the environment when there is a direct and personal impact on the individual. An individual with altruistic values cares about the environment because of its relevance to other human beings. An individual with biospheric values cares about the environment and ecological systems themselves, beyond the impact on human survival and personal comforts.

Pro-environmental actions (like other kinds of actions) are taken because a trigger activates a moral obligation. The moral obligation, in turn, depends on one’s value orientation, so that only a trigger within the value orientation will activate the moral norm to act. A person with an egocentric value orientation may not be triggered by a message to save the planet, but the person’s actions may be triggered by a message to save the lake that the person swims in every morning. Given that diffuse sources of pollution are a critical element of many of our major environmental problems, values are central to solving many of our environmental problems. Compliance and enforcement programs can play an important role in building personal and social norms that support more sustainable environmental outcomes by carefully considering how these programs can have an impact on educating individuals and organizations, reminding individuals and organizations of the importance
of environmental issues, activating egocentric, altruistic, or biocentric values, and demonstrating that those who comply with or, more importantly, go beyond what the law requires are assured that they will not be undermined by noncompliance.

6 BUILDING BEYOND DETERRENCE COMPLIANCE AND ENFORCEMENT PROGRAMS

The preceding discussion of the changing nature of environmental problems, the need to achieve environmental outcomes well beyond those mandated by law, the growing role of internal economic drivers in organizational environmental behavior and the importance of values in making progress on environmental issues point to the need to rethink compliance and enforcement strategies. While these programs still must punish wrongdoing and deter others from violating the law, the significant resources invested in compliance and enforcement programs suggests that program designers and managers must also consider, as a strategic matter, how these resources can impact internal economic drivers of environmental behavior and how the resources can influence societal values more generally. This section suggests for purposes of discussion several ways that compliance and enforcement program managers might be able to better leverage their assets to influence internal economic drivers and help build public values that support more sustainable environmental outcomes.

6.1. Employ a Full Range of Compliance and Enforcement Tools

Compliance and enforcement programs can achieve results that extend beyond deterrence by reminding the public of the need to comply with the law, by reflecting the fact that environmental issues are an important public value, and by reinforcing the need to act in conformity with those values. These reminding, reflecting and reinforcing functions are best accomplished when there is regular interaction between the regulators and the regulated community that occurs in settings that range from educational on one end of the spectrum to criminal penalties on the other. This approach is analogous to the concept of “community-based policing,” a widely used though sometimes controversial approach to crime reduction. Community-based policing is designed to prevent crime, not just deter crime. It accomplishes this task by using a problem solving approach that tailors the prevention tools to the nature of the specific community problem. Among the tools used in community policing are drug abuse education, enforcement of what might be seen as minor violations of health and safety regulations, community meetings, opening neighborhood offices, and conducting foot patrols in contrast to reliance primarily on catching criminals after the fact and punishing the violation. Community policing, among other things, is designed to strengthen community values that can help prevent crime.

Compliance and enforcement programs vary significantly in the range of tools available to deal with non-compliance. Some programs are very narrowly confined, leaving little room to innovate or solve problems in ways that might help build and reinforce environmental values and achieve goals that are more prevention
than deterrence oriented. In the United States, the narrowest state programs may have only limited compliance assistance programs, administrative order authority (which may be constrained by opportunities to challenge the order before it is issued), and civil judicial penalty authority. This situation severely constrains the choices government agencies have and the ability of compliance and enforcement programs to influence internal economics or values.

In contrast, the Federal government and some states have a much broader compliance and enforcement tool kit that allows room for innovation. This broad range of tools facilitates a problem-solving approach to compliance. As Professor Sparrow notes in his book *The Regulatory Craft*, “For regulators, continuing in a traditional, enforcement-centered mode—given the constraints of shrinking budgets, declining public tolerance for the use of regulatory authority, and clogged judicial systems—is now simply infeasible.” In the environmental context, this is all the more true when our environmental goals go well beyond simple compliance with existing regulations. Instead, Sparrow suggests the need for “the capacity to identify, prioritize, and fix significant risks, problems, and patterns of noncompliance. A problem-solving strategy picks the most important tasks and then selects appropriate tools in each case, rather than deciding on the important tools and picking the tasks to fit.”

Compliance and enforcement programs that are designed to support sustainability goals should provide agencies with the freedom to develop problem solving strategies, tools that can be adapted to address a wide range of problems, and create a more pervasive compliance and enforcement presence. This enforcement “presence” can influence values-based and economics-based behavioral drivers that can help prevent violations rather than simply deterring violations. Among the additional tools that can assist with this task are technical assistance programs, the use of field citations and administrative penalty orders, the authority for citizens to enforce violations, and the availability of strong criminal sanctions.

### 6.1.1 Technical Assistance

Technical assistance programs, in contrast to compliance assistance programs, often provide businesses with consulting services that can assist companies in understanding their environmental problems and implement changes in the processes or products that reduce the environmental impacts of their organizations. This type of assistance can have an impact on the internal economic drivers for companies (operating efficiency, reputation enhancement, employee morale, and insurance savings) as well as on the values of company managers and employees. The Minnesota Technical Assistance Program is an excellent example of how a high-functioning technical assistance program can be designed and funded. The Minnesota Technical Assistance Program, like many technical assistance programs, is university-based, and engages engineering students and other students with a technical background to assist companies redesign processes or take other steps to reduce hazards.
6.1.2 Field Citations

Field citations can also be an important part of the compliance arsenal. Like graffiti on buildings or minor crimes in the community policing context, littering including disposal of tires, appliances, and other items can degrade the public perception that environmental protection is an important value. Littering violations have traditionally been very difficult to enforce because of the time and expense associated with prosecuting what are often classified as misdemeanor criminal violations, and because of the lack of interest by prosecutors and judges in adjudicating these violations when they are overloaded with traditional crimes.

It is in this context that Minnesota introduced the use of filed citations in 1991. Research had indicated other means of enforcing relatively minor dumping violations were not effective. To make enforcement more efficient, the state legislature granted the Department of Natural Resources Conservation Officers (who are sworn law enforcement officers, carry firearms and are used to confronting people in the field) with the authority to write what are essentially environmental tickets. The legislation authorizing field citations includes a penalty schedule that ranges up to $2,000. Field citation programs typically have an expedited appeals process. Field citations help build values by reminding the public that environmental issues, even minor issues such as open dumping, are taken seriously and punished. Very few states have enacted field citation laws.

6.1.3 Administrative Penalty Orders

Administrative penalty authority can also be an important tool in creating a more pervasive enforcement presence in communities. All states in the U.S. have the authority to order a facility to correct violations of environmental laws, but just over half of the states have the authority to administratively assess penalties. Administrative Penalty Orders allow a state agency to assess a penalty for an environmental violation rather than pursue the more time consuming process of judicial enforcement of penalties. While most environmental violations at the state level are resolved by settlement agreements before a case is referred for judicial enforcement, settlement negotiations can be complex and can take months to complete. This may result in a decision not to pursue certain types of small violations because of the time and cost that would be needed to close the case.

Administrative penalty orders short cut this settlement or litigation process. In states like Minnesota, administrative penalties are not negotiated. Although the penalty orders can be appealed through an administrative process, the time in which an appeal must be filed may be as short as 30 days. This process allows enforcement actions to be concluded more quickly, making it more practical for agencies to pursue violations for which a smaller penalty would be appropriate.

A review conducted by the Minnesota Legislative Auditor about six years after the administrative penalty order process had been introduced in Minnesota found
Administrative penalty orders provide an actual penalty as opposed to a notice of violation or letter of warning, which violators have often ignored. (...staff told us that administrative penalties are also effective with large companies, which can easily afford a penalty under $10,000 [the ceiling under the Minnesota law], but are concerned about their environmental record and corporate image.) On the other hand compared with stipulation agreements [enforcement settlements] which may take years to negotiate and ultimately require the violator’s consent, administrative penalty orders are relatively easy to use. 66

Administrative Penalty Orders resulted in compliance with the environmental requirements in the order in about 90 percent of the cases within one month. Administrative Penalty Orders can help make visible the importance of environmental improvement and, as the Legislative Auditor noted, have an impact on internal economic drivers such as reputation.

6.1.4 Enabling Public Participation

Enabling the public to more directly influence environmental behavior can occur through a number of channels. The most direct enforcement related approach is through “citizen suits.” Many of the environmental laws in the United States authorize citizens to file civil law suits against organizations that violate the law. 67 States with delegated authority or the federal government can preempt citizen suits if one or the other government body begins an enforcement action within 60 days after the citizen suit notice of intent was filed. 68 A few states also have general environmental citizen suit provisions, referred to in some states as “Environmental Rights Acts.” 69 Organizations may engage in beyond compliance actions to avoid the possibility of a citizen suit that can have a significant impact on an organization’s reputation.

6.1.5 Criminal Enforcement

Finally, strong environmental programs should have the capacity to prosecute serious environmental violations such as those that may endanger public health or those that underpin the self-reporting system as major crimes. Historically, in the United States, all environmental violations were treated as minor crimes. This form of criminal sanction proved ineffective because prosecutors and judges were not interested in minor environmental criminal violations when their dockets were crowded with what they saw as more serious property or public safety crimes. Most states in the U.S. have turned to civil enforcement tools to address routine environmental violations, but most have also enacted felony criminal penalties for the most serious environmental violations. Criminal enforcement of serious environmental violations reinforces the fact that some environmental violations lie well outside acceptable societal values. They can also have a major impact on reputation and a number of other internal economic drivers.
6.2 Design Compliance Programs that Align with Markets

By integrating compliance systems into market mechanisms, compliance and enforcement officials can leverage economic drivers to achieve environmental results and help embed environmental values in organizations. Perhaps the best example of this situation in the United States is the sulfur dioxide trading system. The 1990 Clean Air Act authorized a new tradable allowance program for sulfur dioxide emitted from power plants. At the same time, the legislation required sulfur dioxide emissions to be reduced by approximately 50 percent. The program accomplished the statutory goal with many of the reductions coming earlier than anticipated and with very few enforcement actions. The near 100 percent compliance was facilitated by the requirement that all regulated facilities must install continuous emissions monitors on their stacks and report the results of the monitoring in real time to the EPA. Equally important, the penalty for non-compliance was $2,000 per ton of excess emissions and the loss of an emission allowance during the following year. Because an active market for allowances existed that priced allowances at about $150 per ton, there were strong incentives to comply.

Another important factor in the success of the acid rain compliance program was the fact that companies could make or save money by operating more efficiently or installing sulfur dioxide reducing technologies. This opportunity to make or save money drove innovation. This allowed compliance decisions to be incorporated into the business planning process and provided operators with a business opportunity in the resulting sulfur dioxide market. A 2001 study of the sulfur dioxide trading program found “the cap-and-trade approach allows firms to apply their entrepreneurial skills to innovate or reduce the costs of compliance and retain part of the economic gains that result from these efforts.”

6.3 Promote Learning and Self-Evaluation

Mechanisms that support compliance while also providing information about the environmental aspects of regulated entities’ operations can help produce results that go beyond deterrence. Environmental auditing programs are perhaps the most important of these learning and evaluation tools. The U.S. EPA and many states have, for over a decade, encouraged environmental auditing as part of their compliance programs. Typically, environmental auditing programs require a regulated entity to systematically review their operations using an environmental management system or a similar mechanism to identify noncompliance. If an entity finds a violation, it must promptly report the violation to the state environmental agency or the EPA, correct the violation, and take steps to prevent recurrence. Under the U.S. EPA program, gravity-based penalties can be forgiven and no criminal referral will be made should the violation be identified under the policy. This audit program has been expanded to include penalty forgiveness in the case of audits conducted as part of a merger or acquisition.

Operating under the audit policy allows participating companies a better opportunity to maintain their reputation, maintain employee morale and community relations,
reinforce relationships with government agencies, and perhaps reap other internal economic benefits. Audits can also have an impact on values by providing better information to managers about the nature of an organization’s environmental impacts and how those impacts can be reduced. At least for some companies, environmental audits are used to assess environmental performance beyond simple compliance with environmental laws.\textsuperscript{76}

Minnesota has used its auditing program to target smaller companies that often do not have the same reputational issues as larger companies by developing easy to use audit “checklists.”\textsuperscript{77} While these checklists focus on compliance issues, they also serve an important reminder of the value the state places on environmental protection.

A related mechanism for reaching small business is through “environmental results programs.” These programs originated in Massachusetts as a way of dealing with the very large number of small facilities (such as dry cleaners, auto body shops, printers, and auto salvage yards) that are subject to environmental regulation. Environmental results programs typically require facilities to audit their operations to assure they are in compliance and to self-certify that fact. The certifications are reviewed for accuracy and some inspections may occur to validate the certifications if there is reason to believe the certification may not be accurate. Today 20 states have environmental results programs, many of which were adopted with the encouragement and support of the U.S. EPA.\textsuperscript{78} One study found, “Sectors where [an environmental results program] is applied generally show improved performance - sometimes substantial - after the first round of compliance assistance and self-certification has been completed.”\textsuperscript{79} Like environmental audits, environmental results programs can lead to greater awareness of the environmental impact of an organization’s operations.

Non-regulatory environmental management programs can also support both compliance and activities that go beyond compliance. The U.S. EPA has long supported the use of environmental management systems either based on the ISO 14001\textsuperscript{80} system or on other systems such as the American Chemistry Council’s Responsible Care\textsuperscript{©81} program.\textsuperscript{82}

\subsection*{6.4 Enable the Public to Directly Influence Environmental Decision Making}

Public engagement in environmental decisionmaking can help reinforce community norms and have an impact on economic drivers such as community relations and reputation. The challenge for government is to increasingly make public engagement a part of a strategic approach to governance that helps produce better environmental results. To do this, agencies must view public engagement not simply as a method of complying with legal requirements in environmental laws and under state or federal administrative procedures acts, but as a mechanism for creating pressure on sources of pollution to improve their conduct.
The EPA’s 2003 Public Involvement Policy is an important advance in engaging the public in a more substantive way in environmental decision-making. The 2003 Policy notes that “[t]o achieve . . . [EPA’s] mission, EPA needs to continue to integrate, in a meaningful way, the knowledge and opinions of others into its decision-making processes. Effective public involvement can both improve the content of the Agency’s decisions and enhance the deliberative process.” While significant progress has been made in expanding public involvement, some agencies still resist the idea since it departs from the classic model in which government personnel are seen as the experts who are in the best position to make decisions about what actions are in the public interest. Further, public engagement is often viewed relatively narrowly as the opportunity to comment on agency decisions rather than more broadly as an opportunity to engage the public to directly influence the conduct of sources of pollution.

Public engagement can have a significant impact on environmental outcomes by, among other things:

• creating pressure on a project proposer to produce more information about the environmental impacts of a project;
• generating information about a project based on local knowledge and expertise that may result in modifications of a project or improved operation;
• driving modifications in a project to address environmental concerns that may not be subject to direct regulation such as wetlands preservation, habitat protection, noise, traffic, or hours of operation;
• creating ongoing consultative relationships between members of the public and the facility proposer;
• pushing government agencies to more carefully consider aspects of a proposed permit that may not be obvious on the face of a permit application including environmental justice concerns;
• making a regulatory decision more acceptable to a community leading to fewer operational issues and facilitating future modifications or expansions;
• raising issues about past oversight of a facility owned by a project proposer that may drive improved compliance.

Unfortunately, the principal public participation methods historically used by government agencies—public hearings, public meetings, and notice and comment rulemaking procedures—frequently do not serve well as methods of true public engagement in government decision making. They do not create conditions necessary for effective or “authentic” public participation. King, et al, found that

[a]lthough there is theoretical and practical recognition that the public must be more involved in public decisions, many administrators are, at best, ambivalent about public involvement or, at worst, they find it problematic. As a result, although many public administrators view close relationships with citizens as both necessary and desirable, most of them do not actively seek public involvement. If they do seek it, they do not use public input in making administrative decisions (as indicated by a 1989 study conducted by the Kettering Foundation). These administrators believe that greater citizen participation creates delays and increases red tape.
Citizens are increasingly reluctant to defer to expert administrators. Instead, as part of a broader movement toward “popular” democracy, they increasingly want earlier access to the decision-making process, more opportunities to be heard and to bring local knowledge to the table, and a clearer role in decision-making. This is a salutary trend and should be embraced by the government as another strategic tool in pressuring sources of pollution to improve their performance.

### 6.5 Encourage Collaborative Problem Solving

Collaborative approaches to designing environmental programs can, in some cases, produce environmental results that would be difficult to achieve absent support from a broad set of stakeholders. These approaches may address a problem for which regulation is unlikely, deal with a problem before it reaches the point where regulations come into effect, or create an atmosphere in which new statutory authority and new regulations can be enacted without intense opposition. In each of these cases, the potential burden on compliance and enforcement programs can be reduced, and solutions can be found that rely on internal economic drivers or on values rather than solely on regulatory drivers.

In Minnesota, collaborative efforts have produced a number of important pollution reduction initiatives. Two of these initiatives are particularly instructive. The first program is Clean Air Minnesota, which is a voluntary collaboration among the government, environmental organizations, and business. It was launched to find ways to prevent the Twin Cities region from slipping into non-attainment for ozone and particulates, avoiding regulatory costs associated with non-attainment that were estimated at over $200 million per year. The program has achieved significant reductions in ozone precursors. Even though the context will change, the collaboration will likely continue even should the region fall into non-attainment under the stricter standards that are now in effect.

Of particular note, Clean Air Minnesota launched a diesel reduction to focus on the health risks associated with diesel particulate emissions. Project Green Fleet has retrofitted hundreds of school buses and other vehicles throughout the state even though no diesel emission retrofit requirements were likely to be enacted in the state.

The second Minnesota program involved an area where national legislation required regulation, but which has proven very difficult to manage: state water quality standards. Minnesota has a lot of “impaired waters;” water bodies that do not meet national clean water standards. Its 2008 list included over 2,500 water bodies, many of them impaired by mercury as well as nutrients. For several years, interest groups had fought over the need for additional regulation, with some groups advocating a role back of existing standards because of the cost of compliance. Despite the controversy, lakes and rivers are important to Minnesotans in the “Land of Ten Thousand Lakes.” Clean water is an important value for Minnesotans and important to the state’s tourist industry. A facilitated stakeholder process aimed at collaborative problem solving was able to break the deadlock.
In 2006, the Minnesota legislature enacted the Clean Water Legacy Act by wide bipartisan margins to deal with this problem. The Act is designed to “protect, restore, and preserve the quality of Minnesota’s surface waters by providing authority, direction, and resources to achieve and maintain water quality standards for surface waters as required by section 303(d) of the federal Clean Water Act, United States Code, title 33, section 1313(d), and applicable federal regulations.” It does this through several innovative tools including a goal of assessing waters in all of the major watersheds in the state within 10 years, providing funding for MPCA staff or third parties to develop Total Maximum Daily Loadings for waters that are identified as impaired, using citizen monitoring, creating financial and other incentives to avoid impairment or to restore impaired waters, and creating a stakeholder-based Clean Water Advisory Counsel to advise agencies and to track progress. The state also created a Clean Water Legacy Account that is funded through a constitutional amendment that increased sales tax by 0.375 percent (raising the sales tax from 6.5 percent to 6.875 percent), one third of which (about $80 million per year) goes to the state Clean Water Fund, with the remainder going to conservation and arts projects. These collaborative problem solving efforts built on both internal economic-based and values-based behavioral drivers. The result, among others, is a more cooperative approach to compliance and significant pollution reduction without the need to call upon as many compliance and enforcement resources. This experience indicates that compliance and enforcement programs should, in the right circumstances, encourage and participate in collaborative problem solving efforts.

### 6.6 Support Private Sector Enforcement through Supply Chain Management

Companies are increasingly imposing environmental requirements on their suppliers to protect the companies’ reputations, to aid with their own compliance, and to meet customer expectations, among other reasons. One study of 74 firms in eight sectors found that over half impose environmental requirements on suppliers, representing more than 78 percent of all of the sales of the top firms in the sectors. Clearly, supply chain requirements are playing an important role in environmental performance. These requirements act as both a private enforcement mechanism for supply chain requirements that are part of an environmental regulatory regime and as a means of driving beyond compliance behavior preferred by the company and its customers. Professor Michael Vandenbergh has observed,

In some cases this new form of private governance transfers pressures created by public entities, but in many cases it bypasses public entities altogether, transferring demands for social amenities directly from the citizens of one country to the firms operating in another. This private governance exists as a network of private standards and agreements that influence the behavior of firms on issues sovereign states are unwilling or unable to address....At least in theory, the growth in environmental private contracting provides a means to ameliorate the environmental harms from international trade. Private environmental contracting is not a panacea, and it is only one element of private governance.
He concluded,

government policymakers can include promotion of private contracting among the available options when they encounter environmental harms that are difficult to reach with the tools of public and public-private governance. A policymaker not only has traditional regulatory and economic tools at her disposal, she also can seek to stimulate private environmental contracting in supply-chain, credit, corporate asset, insurance, and other markets. To do so, policymakers can reduce information costs to firms by collecting and disseminating information regarding the adoption and implementation of private standards, and by supporting research on the costs and benefits of private environmental contracting. Policymakers also can foster the development of supply-chain contracting by creating settings in which firm cooperation is unlikely to lead to anticompetitive behavior.

6.7 Recognize Superior Performance

For many companies, reputation is one of the most important drivers of environmental behavior. As a result, government agencies can leverage this fact by recognizing companies that go beyond what the law requires and by encouraging other companies to follow this lead. Governments have for some time experimented with ways to recognize superior environmental performance through voluntary programs, leadership initiatives, and rating systems. In the United States, this effort began in earnest in the early 1990s with a voluntary toxics reduction program known as “33/50,” which challenged companies to reduce the use of 33 of the most toxic chemicals by 50 percent within a period of a few years. This program was followed by a program known as the “Common Sense Initiative” through which the EPA worked with various industrial sectors (for example, metal plating, electronics, and paper products) to find ways to improve environmental performance. The EPA then launched Project XL (“Excellence and Leadership”) to experiment with regulatory reform at 50 locations. All of these programs faded away by the end of the 1990s.

EPA began its most ambitious effort to recognize and support superior performance near the end of the 1990s with the “Performance Track Program.” EPA designed Performance Track to recognize facilities (and later companies) that exceeded environmental requirements in a variety of areas. Participants were expected to use an environmental management system to assess their environmental impacts, set “stretch goals” to reduce several of the impacts, and report regularly on the results they achieved. Performance Track companies were expected to have a good compliance record.

As the program neared its 10th anniversary, over 578 facilities from 240 organizations were Performance Track members, but controversy was growing quickly about the compliance record of some of the participants and about the significance of the environmental improvements achieved under the program. Soon after President Obama took office, the EPA terminated the Performance Track Program citing concerns about compliance among some of the participating companies, the cost of
running the program, and the extent of environmental gains achieved through the program. The EPA has indicated that the agency is uninterested in creating a new corporate leadership program. Although the EPA continues to operate a number of other voluntary programs, none of those programs, except the Energy Star program, had the public profile of the Performance Track.

Despite the problems with Performance Track, recognizing companies that substantially exceed the minimum standards required by law can produce important environmental outcomes driven by reputation and other internal economic drivers and can help strengthen environmental values. The Rand Corporation study of the Performance program and other voluntary environmental programs concluded the voluntary programs “can complement regulatory approaches to accelerate environmental improvement.”

In the case of Performance Track, its members reported changes that they felt do not occur under more-traditional regulatory approaches. For example, members reported that the application process taught them how to quantify the broad environmental impacts of their activities and set goals for continuous improvement. Performance Track’s members also reported a range of changes in corporate culture, including increased consideration of environmental issues in formal decisionmaking processes, greater employee awareness and engagement on environmental issues, the introduction of environmental considerations in problem-solving efforts, and improved recruiting results, employee retention, and employee morale.

While Performance Track was flawed, many of the flaws could be corrected by:

- including a broader range of stakeholders including NGOs in the process or developing and overseeing leadership programs;
- requiring that the environmental goal setting process focus on the most significant environmental problems;
- focusing more on organizations rather than individual facilities;
- providing the public with better information about the environmental outcomes that are achieved through the program;
- assuring that compliance data is accurate and up-to-date;
- setting out more clearly how violations by participating companies will be dealt with (for example, recognizing that while most companies will have some violations, companies that fail to promptly report and remedy a violation, that repeatedly violate the law, or that act negligently will be quickly removed from the program).

Programs like Performance Track may still be an important way of encouraging environmental performance that goes well beyond compliance.

Governments can also leverage the reputation driver, and other internal economic drivers, by rating the performance of companies. These performance ratings could also contribute to changes in values because of the public disclosure of the performance information. This approach has not been used a great deal in the
United States, but has played a larger role in Indonesia and in China. In the United States, the EPA Region 1 in Boston issued letter grades (A-F) for the Charles River as a means of providing the public with an easily understandable measure of progress in river restoration.97 The Chesapeake Bay Foundation issues a similar report card each year on several aspects of the Chesapeake Bay Restoration Project.98 Indonesia’s Proper Prokash system uses a color coded system to rate environmental performance with black indicating no environmental management efforts and the potential for serious harm, red indicating some effort, but not enough to comply with the law, yellow meaning full compliance with the law, green representing efforts that go beyond compliance with an emphasis on ISO 14001 compliance, and gold standing for factories or business activities that use the best available clean technology, promote zero discharge of pollutants, and conduct environmental impact management efforts with very satisfactory results.99 China uses a similar rating system referred to as Green Watch, although the system uses somewhat different color codes with the highest rating being green, followed by blue, yellow, red, and black. A recent study of that system suggests that “Green Watch has significantly reduced pollution from rated firms, with particularly strong impacts on firms with poor ratings.”100 The study also found that the rating system had “significant impacts for firms with good (green and blue) ratings.” The study noted that environmental performance by green rated firms in four cities may be related to the fact that firms are given additional benefits including 1) preference in the selection of enterprises with the best economic and social performance records, and 2) preferential status by provincial regulators for enterprises that achieve a green rating for three consecutive years.

7 CONCLUSION

Achieving more sustainable environmental outcomes will require a combination of regulatory, economic, and values-based drivers. Compliance and enforcement programs play a direct role in ensuring the integrity of regulatory systems. However, it is important for those managing compliance and enforcement programs to also think about how their work can influence the internal economic considerations of regulated entities and help shape environmental values. Among the possible leverage points are creating a more pervasive enforcement presence, designing compliance programs that better align with markets, promoting learning and self-evaluation, enabling the public to more directly influence environmental decisions by agencies, supporting collaborative problem solving, encouraging the use of private supply chain requirements, and recognizing superior performance. Compliance and enforcement program managers may find that engaging in these areas is difficult and complicated, but it will be essential if we are going to meet our goal of achieving more sustainable development.

8 REFERENCES

There are two primary types of economic drivers that affect organizational environmental behavior. External economic drivers include taxes, fees, and subsidies imposed or provided by government. “Internal” economic drivers, in contrast, encompass a wide range of monetized and non-monetized factors that may have an impact on the viability of an organization such as reputation, supply chain requirements, employee and community relations, access to markets, product differentiation, and government relations.


Motivating Management, supra note 9, p. 312.

Regulation, Compliance and the Firm, supra note 11, p. 127.


Id., pp. 574-575. GE provides the best example of this last reason. It launched “Ecomagination,” which among other things includes putting new green products on the market that are expected to generate $20 billion in revenues by 2010. Id.

Id., p. 21.

Id.

Id., p. 19.

Id.

Id., p. 13-14.

Id., p. 14.

Id.

Id., pp. 9, 11.


Id., p. 319-20.

Id.


Id.

Id., p. 73.


Id., p. 331-332.

Id., p. 332.


Id., p. 2.


The Psychology of Environmental Problems, supra note 47, p. 102.


A person with an anthropocentric value orientation is less likely to act to protect the environment if a human-centered value interfered.


Stern has found that mobilization is more successful when the problem is framed
in terms of avoiding harmful consequences to people and in ways that lead potential converts to see themselves as personally responsible


56 Skogan, *supra* note 53, p. 34.

57 Id., p. 27.

58 Id., p. 31.


60 Id., p. 130.

61 See generally http://www.mntap.umn.edu/.


63 Minn. Stat. § 116.073.

64 Id. at Minn. Stat. § 116.073, subd. 2. U.S. EPA has field citation authority under Section 113(d)(3) of the Clean Air Act, 42 U.S.C. 7413. This section authorizes EPA to implement a Federal program through regulations which establish appropriate minor violations and informal hearing procedures. Field citations assessing penalties of up to $5,000 per day of violation may be issued by EPA officers or employees. See Rasnic, J. and Engert, J., *United States Clean Air Act Field Citations Program: New Enforcement Authority to Address Minor Violations*, available at http://www.inece.org/3rdvol1/pdf/rasnic.pdf.


67 See, for example, 33 U.S.C. §1365 and 42 U.S.C. § 7604.

68 See, for example, 42 U.S.C. § 7604 (b).

69 See, for example, Minn. Stat. § 116B.03 which provides that “Any person residing within the state...may maintain a civil action in the district court for declaratory or equitable relief in the name of the state of Minnesota against any person, for the protection of the air, water, land, or other natural resources located within the state, whether publicly or privately owned, from pollution, impairment, or destruction....” In contrast to the citizen suit provisions in the Clean Water Act or the Clean Air Act, 60 day notice is not required under the Minnesota Environmental Rights Act.


71 Id., p. 391-392.

72 Id., pp. 390-391.

73 Id., p. 391.

74 See U.S. EPA, *Incentives for Self-Policing: Discovery, Disclosure, Correction and

75 Id., pp. 19,624-19,625.
76 See A. Prakash, Greening the Firm, 2000, p. 155.
78 See http://www.epa.gov/erp/index.htm. EPA notes “A typical ERP combines several interlocking policy tools in a cyclical process to address environmental problems in a sector.
79 See http://www.epa.gov/erp/results.htm.
80 See http://www.iso.org/iso/iso_14000_essentials.
82 EPA has said that it “will continue to encourage organizations to design and implement environmental management systems that improve compliance, prevent pollution, and integrate other means of improving environmental performance. EPA is also leading research designed to evaluate the effectiveness of environmental management systems in various settings and integrating environmental management systems into more of its own programs. We are evaluating which EMS elements and applications are most effective and how these management systems might be used to strengthen environmental programs and policies. This includes the ongoing efforts to assess the potential financial benefits of environmental management systems adoption and to assess whether environmental management systems should play any role in the design of regulatory and permitting programs.” See http://www.epa.gov/ems/position/position.htm.
84 Id., p. 1.
86 “Authentic” public participation “implies more than finding the right tools and techniques for increasing public involvement in public decisions.” King, C., et al., The Question of Participation: Toward Authentic Public Participation in Public Administration, 58 Pub. Admin. Rev. 1998, p. 317. Rather it is participation that “works for all parties and stimulates interest and investment in both administrators and citizens.” Id.
87 Id., p. 319.
88 Environmental Law Institute, Building Capacity To Participate in Environmental Protection Agency Activities: A Needs Assessment And Analysis, 1999, p. 2.
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90 Minn. Stat. §114D.10.
92 Id., p. 970.
93 Id., p. 968.

95 Id., p. xiii.

96 Id., p. 88

97 See http://yosemite.epa.gov/opa/admpress.nsf/6d651d23f5a91b768525735900400c28/b3380e8da0da4642852574b0005daf83!OpenDocument.


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