

Environmental Information: The Toxics Release Inventory, Stakeholder Participation, and the Right to Know

PART 2: NONREGULATORY OPTIONS FOR ENVIRONMENTAL INFORMATION AND MANAGEMENT

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Executive Summary

Environmental-information initiatives, including “right-to-know” laws, currently enjoy widespread popularity. The U.S. Environmental Protection Agency (EPA) has expanded its Toxics Release Inventory (TRI), a database of chemical releases and some chemical uses, and further expansion of the TRI to include “materials accounting” is under consideration. The information generated by right-to-know laws, especially TRI data, has found many different uses. The federal government, and some state governments, use it to track their environmental progress. Journalists write about it; researchers analyze it; environmental groups lobby on the basis of it; and companies and industry groups discuss it in their annual reports. But in terms of securing greater environmental quality and communicating meaningful information about the environment, the TRI process has substantial limitations, as discussed in Part One of this two-part study. Some of the TRI limitations identified in part One of this study include:

- A focus on materials-use reduction, often irrespective of demonstrated risk-reduction or environmental quality gain;
- Inaccurate characterizations of the health and environmental effects of chemical use, often failing to distinguish between safer and riskier chemicals, and between chemical use that exposes people or communities to potential harm and chemical use that is safely managed;
- Overestimation of actual releases through double-counting reported releases, transfers, or waste;
- Inconsistent and incomplete coverage of chemicals and facilities;

- Creation of an open-ended right of citizens to sue over legal violations that may have no relation to personal harm, risk-reduction, or environmental quality;
- The potential to expose trade secrets to competitors, or facilitate industrial sabotage.

This study summarizes the current state of alternative environmental information and environmental management systems, and compares them with traditional environmental information and environmental management measures, such as the Emergency Planning and Community Right-to-Know Act, TRI and Proposition 65. Some of those alternative systems include:

- Environmental performance measures, such as those of EPA or the Florida Department of Environmental Protection, which measure environmental variables people find relevant and meaningful.
- Environmental-management systems, which make it easier for firms to adopt risk-reduction and source-reduction goals that fit their own local circumstances. These include private environmental-management codes (Responsible Care, The Coalition for Environmentally Responsible Economies Principles, The Global Environmental Management Initiative, ISO 14000), but they also include nonregulatory state programs that strive to reduce environmental risk or materials use for voluntarily participating companies through technical assistance, pollution-prevention incentives, or flexible compliance. They also include accident-management and accident-prevention programs which can be adopted through private insurance companies, through the action of Local Emergency Planning Committees, or through membership in an industry program such as Chemtrec.
- Mechanisms for stakeholder involvement, which increase the ability of relevant stakeholders to become informed about, and provide input regarding, relevant environmental impacts that affect them in their communities. These run the gamut from company communication policies, such as Good Neighbor Policies, to the formation of community groups to deal with well-established environmental procedures like brownfields redevelopment, to the formation of totally new coalitions of stakeholders to address emerging concerns such as watershed restoration.

After reviewing the available alternative environmental information and environmental management systems in development, this study concludes that government, at this point, cannot identify the optimal environmental information or environmental management systems that best address the needs of all the stakeholders. Government should, we conclude, allow and encourage the discovery process to continue, a process in which different reporting and participation mechanisms emerge and compete to provide useful information at reasonable cost. Companies and communities are constantly experimenting with different instruments to determine which ones best serve their needs.

Should government choose not to facilitate this process, they should at least refrain from foreclosing the development of such options by mandating a one-size-fits-all reporting scheme—such as a dramatically expanded TRI—that may offer information that is not always directed at disclosing potential harms to the public or ecosystems.

Chapter 1

Introduction

Environmental-information initiatives, including “right-to-know” laws, currently enjoy widespread popularity. The U.S. Environmental Protection Agency (EPA) has expanded its Toxics Release Inventory (TRI), a database of chemical releases and some chemical uses. Further expansion of the TRI to include “materials accounting” is a popular concept among some environmentalists. Some state laws, in Massachusetts and New Jersey, already embody the notion of materials accounting, requiring industrial companies to report their usage of listed chemicals, even when such usage does not result in releases to the surrounding community. California’s Proposition 65, mandating labeling on consumer products and in workplaces containing certain chemicals, has been implemented in California.

As a result of the Government Performance and Results Act, EPA planned to make comprehensive information-collection and dissemination a cornerstone of its regulatory and enforcement apparatus in 1999. Closely related to the right-to-know movement is a burgeoning “stakeholder-participation” movement, which seeks an increased presence of affected parties in internal company decisionmaking processes.

The information generated by right-to-know laws, especially TRI data, has found many different uses. The federal government, and some state governments, use it to track their environmental progress. Journalists write about it; researchers analyze it; environmental groups lobby on the basis of it; and companies and industry groups discuss it in their annual reports.

The availability of such information has affected the reputation of reporting companies and may affect their stock prices. Moreover, in response to negative publicity and stock-price drops, companies have taken steps to reduce their releases of TRI-listed substances. However, the effects of TRI reporting are difficult to gauge, because of changes in the list of chemicals, changes in reporting guidance and estimation methods, and other competing variables. The evidence of the effects of materials-accounting laws is even less clear.

Part I of this paper suggested that while the current structure of environmental-information laws has not come under the same level of scrutiny as traditional command-and-control regulation, it should. Though disclosure laws are often described as “voluntary” and “market-based,” such a characterization is misleading.¹

¹ Alexander Volokh, Lynn Scarlett, and Kenneth Green, “Environmental Information: The Toxics Release Inventory, Stakeholder Participation and the Right to Know, Part I: Shortcomings of the Current Right-to-Know Structure, Reason Public Policy Institute, Los Angeles, California, 1998, forthcoming.

An analysis of the right to know should answer the following four questions: Should information be made public in the first place? If it is made public, how should it be presented in order to be meaningful? To whom should it be revealed? What legal rights should this information give its recipient? Part I of this paper argued that:

- Given that information is often expensive to generate and valuable to have, companies' privacy with respect to their chemical use should be maintained unless the information requirements are narrowly tailored toward preventing, or informing people about, actual risks or harms. The mere use of chemicals by a company should not be enough to trigger a disclosure requirement, since materials-use reduction per se, whether laudable or not, is not directly related to reducing risk or harm to the outside world. Moreover, market competition already provides many incentives for reductions in materials use.
- Current disclosure requirements often do not distinguish between safer and riskier chemicals, nor between chemical use that exposes people or communities to potential harm and chemical use that is safely managed. They often double-count releases, transfers, or waste; and they do not cover the majority of chemicals or facilities. These shortcomings are difficult to correct under the current system, and more ambitious and more comprehensive data-reporting requirements will do little to alleviate these problems.
- Environmental information, even if revealed to regulators, need not be revealed to the world at large. Information that may disclose sensitive business secrets to competitors, or, if publicly disclosed, could make acts of industrial sabotage significantly easier, may be best kept in the confidential files of regulators.
- Environmental information, even if revealed to the world at large, should not create an expansive, open-ended right of citizens to sue over any violation of any law that is revealed by the disclosure requirement. Citizen plaintiffs should be required to show they have suffered harm or the probability of harm before they can have standing to sue.

Environmental information is important to help individuals and communities understand potential risks they face. But if current or proposed environmental-information systems are limited, what other options are available? Alternative, nonregulatory environmental-information and environmental-management systems are already evolving or in place nationwide. This paper explores some of those options, including:

- Environmental performance measures, such as those of EPA or the Florida Department of Environmental Protection, which measure environmental variables people find relevant and meaningful.
- Environmental-management systems, which make it easier for firms to adopt risk-reduction and source-reduction goals that fit their own local circumstances. These include private environmental-management codes (Responsible Care, CERES, GEMI, ISO 14000), but they also include nonregulatory state programs that strive to reduce environmental risk or materials use for voluntarily participating companies through technical assistance, pollution-prevention incentives, or flexible compliance. They also include accident-management and accident-prevention programs which can be adopted through private insurance companies, through the action of Local Emergency Planning Committees, or through membership in an industry program such as Chemtrec.
- Mechanisms for stakeholder involvement, which increase the ability of relevant stakeholders to become informed about, and provide input regarding, relevant environmental impacts that affect them in their communities. These run the gamut from company communication policies, such as Good Neighbor

Policies, to the formation of community groups to deal with well-established environmental procedures like brownfields redevelopment, to the formation of totally new coalitions of stakeholders to address emerging concerns such as watershed restoration.

Given the proliferation of performance measurements, environmental-management systems, reporting, auditing, and stakeholder-participation methods currently under development, the government should not foreclose the development of such options by mandating a one-size-fits-all reporting scheme, especially one that may offer information that is not always directed at disclosing potential harms to the public or ecosystems.

Chapter 2

Nonregulatory Options For Environmental Information And Management

If the current environmental-information structure is limited, how can we fulfill the multiple environmental goals of (1) providing good information on risks and chemical use and (2) encourage good environmental performance with regard to risks and chemical use without directly regulating production?

The following section is designed to give the reader a taste of various nonregulatory environmental-information and environmental-management options. These options segregate into three types:

- *new measures of environmental performance* that alleviate the problems posed by the potentially misleading reporting requirements of current right-to-know laws;
- *emerging environmental-management systems* that encourage companies to exceed mere compliance with environmental laws and continuously improve their environmental performance (many of which include provisions for third-party auditing, disclosure, and stakeholder involvement); and
- *mechanisms for stakeholder involvement* that encourage companies to identify *relevant, affected* communities and seek their input in decisionmaking processes.

If one lesson emerges from this wealth of options, it is that different information and participation mechanisms seem important to different sorts of companies in different communities. One-size-fits-all reporting requirements do not seem to serve a useful environmental purpose. Most of these mechanisms are in their infancy. It is not yet known which elements are crucial, which are simply useful, which are redundant, which are useless, or which are destructive. Their evolution allows companies and communities to discover which reporting and participation processes add social value and which do not. Policies that inhibit rather than encourage this discovery process may result in unnecessarily high costs while limiting potential environmental benefits.

A. Beyond Data Dumping: New Measures Of Environmental Performance

Developing valid environmental performance measures is an important step in the quest for valid environmental information. Most environmental information produced by companies and governments is not comparable; definitions, reporting frequencies, and measurement units vary. It is not yet clear whether consistent environmental measures are possible for different nations, or even whether they are desirable; different nations have different environmental needs and goals, and place different values on noneconomic goals as well, such as food, clothing, education, and living conditions.² While the International Standards Organization (ISO) has a subcommittee on environmental-performance evaluation, the Organization for Economic Cooperation and Development, the United Nations, and North American regional trade bodies are also developing more uniform measures to permit cross-firm and cross-country comparisons. The World Bank is also developing an Industrial Pollution Projection System, which is not a set of performance measures but rather allows regulators to estimate the environmental effect of a particular industry as a whole, in the absence of actual performance measures. This section focuses on two sets of performance measures: the performance measures designed by EPA and by the Florida Department of Environmental Protection (DEP).

1. EPA's Emerging Environmental-Performance Measures

EPA started developing environment-performance measures in 1997 due to the Government Performance and Results Act, which required federal agencies to formulate strategic plans and measure their performance.³ The drive for performance measures resulted from EPA's previous focus on counting enforcement statistics. EPA literature regularly referred to increasing the "output" of its criminal program, where "output" was "the number of defendants charged with criminal environmental violations, the amount of criminal months sentenced in cases successfully prosecuted, and the amount of fines resulting from prosecutions."⁴ The act of primarily focusing on enforcement statistics fostered a mentality holding that more enforcement is inherently better than less.⁵ For example, EPA describes its criminal enforcement program for fiscal year 1994, as follows:

EPA's criminal enforcement program set new records in several categories, including 220 referrals to the Department of Justice (36 percent more than the record of 140 set in FY 93), criminal charges brought against 250 individual and corporate defendants (40 percent more than the record of 161 set in FY 93), and 99 years worth of jail sentences imposed (25 percent more than the 74.3 years of incarceration imposed in FY 93).⁶

² Alfred F. David Gidi, Procuraduría Federal de Protección al Ambiente de México, *Aplicación Efectiva de la Legislación Ambiental y su Evaluación*, paper presented at the Commission for Environmental Cooperation's conference on Indicators of Effective Environmental Enforcement, Puebla, Mexico, May 6–7, 1998.

³ 31 U.S.C. 1101 *et seq.*

⁴ U.S. EPA, *Enforcement Accomplishments Report: FY 1992*, EPA #230–R–93–001, p. 2–2.

⁵ Charles L. Grizzle, "EPA—An Agency in Need of Strategic Realignment," *Corporate Environmental Strategy*, vol. 2 (1994), p. 51.

⁶ U.S. EPA, *Enforcement and Compliance Assurance Accomplishments Report: FY 1994*, EPA #300–R–95–004, p. 4–2.

In its new performance measures, EPA did not eliminate enforcement outputs, but rather supplemented them with “outcomes,” or “quantitative or qualitative measures of changes in the behavior of the public or regulated entities caused, at least in part, by actions of government,” and with “environmental indicators,” or “quantitative or qualitative measures over time of progress toward achieving environmental or human health objectives.”⁷ The new performance measures, which were to be implemented through 1998 and 1999, are shown in Table 1.

Table 1: EPA’s Proposed New Performance Measures
<u>Impact on Environmental or Human Health Problems</u>
<i>Annual evaluation studies of selected EPA objectives.</i>
<u>Effects on Behavior of Regulated Populations</u>
<i>Levels of Compliance in Regulated Populations</i>
Set 1. Rates of noncompliance for—
a) fully inspected populations
b) self-reported compliance information
c) populations targeted for special initiatives
d) priority industry sectors
<i>Environmental or Human-Health Improvements by Regulated Entities</i>
Set 2. Improvements resulting from EPA enforcement actions
Set 3. Improvements resulting from compliance-assistance tools and initiatives
Set 4. Improvement resulting from integrated initiatives
Set 5. Self-policing efforts by using compliance-incentive policies
<i>Responses of Significant Violators</i>
Set 6. Average number of days for significant violators to return to compliance or enter enforceable plans or agreements
Set 7. Percentage of significant violators with new or recurrent significant violations within two years of receiving previous enforcement action
<u>Enforcement and Compliance-Assurance Activities</u>
<i>Monitoring Compliance</i>
Set 8. Number of inspections, record reviews, responses to citizen complaints, and investigations conducted
<i>Enforcing the Law</i>
Set 9. Number of notices issued, civil and criminal actions initiated and concluded, and self-policing settlements concluded
<i>Providing Assistance and Information</i>
Set 10. Facilities/entities reached through—
a) compliance-assistance tools and initiatives
b) distribution of compliance information
<i>Building Capacity</i>
Set 11. Capacity-building efforts provided to state, local, or tribal programs

Source: *Measuring the Performance of EPA’s Enforcement and Compliance Assurance Program*, final report of the National Performance Measures Strategy, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, December 22, 1997, Table IV–2, p. 15.

These performance measures are still imperfect. For instance, they don’t give credit to voluntary actions; environmental or human-health improvements are only counted if “resulting from EPA enforcement actions,” “resulting from compliance-assistance tools and initiatives,” and so on. But environmental or human-health improvements resulting from EPA action include not only the *direct* change in the behavior of

⁷ *Measuring the Performance of EPA’s Enforcement and Compliance Assurance Program*, final report of the National Performance Measures Strategy, Office of Enforcement and Compliance Assurance, U.S. EPA, December 22, 1997, p. 2.

an inspected or punished firm, but also the *indirect, deterrent* effect of enforcement on other firms—an unmeasurable quantity. Also, some EPA critics have charged that, for instance, EPA’s self-auditing policy discourages firms from auditing and thus reduces environmental improvement because firms are afraid of auditing their environmental performance.⁸ This deterrent effect is also unobservable, so both “Improvements resulting from EPA enforcement actions” and “Self-policing efforts by using compliance-incentive policies” are somewhat miscounted. Moreover, “compliance” can often be a misleading concept, since “informal” regulations from environmental codes or other environment-management standards (described later in this paper) to simple community pressure exert a large influence on company behavior.⁹ Because these codes may be unknown to government and unenforceable by government, “compliance” statistics may not capture the entire story of corporate environmental performance.

Nor is “compliance” strictly necessary as an environmental performance measure. The goals of environmental regulation are environmental quality and risk minimization, not statutory compliance, which is only a proxy for environmental performance. Environmental agencies may still continue to measure both compliance and enforcement internally, to the extent that either of these are well correlated with environmental improvement—but this is quite different than considering compliance and enforcement to be “performance measures.” The statutes that EPA implements aim at air quality, water quality, and similar concepts; whether these are improving over time ought to be measured. Such a focus could also help reverse the public misconception that “things are bad and getting worse,” which an emphasis on enforcement actions fosters.

EPA’s use of an expanded set of environmental-performance measures, though evolving and imperfect, gives more accurate environmental information than either the TRI or enforcement-related tallies.

2. Environmental-Performance Measures In Florida

Florida has been developing environmental-performance measures for three years; the third quarterly performance report was released in May 1998.¹⁰ Like EPA’s performance measures, Florida’s are divided into three tiers—environmental and public-health outcome indicators, behavioral and cultural measures, and departmental outputs and activities. The first tier—environmental and public-health outcome indicators—is quite detailed, and is shown in Table 2.

Other categories in Tier 1 are Solid and Hazardous Waste Management and Habitat Conservation and Protection. Clearly, the variables measured here, which take into account many environmental characteristics that people value quite highly (such as public health and safety, or public recreational opportunities), are generally not the ones traditionally measured by environmental agencies, but are precisely what the public appears to care about.¹¹

The Tier 2 variables (behavioral and cultural measures) also go beyond mere compliance statistics. The compliance rates cover many areas of state permitting: air, asbestos, aquatic plant management, beaches and

⁸ Alexander Volokh, “Carrots over Sticks: The case for environmental self-audits,” *The Washington Monthly*, vol. 29, no. 6 (June 1997), p. 28.

⁹ See, for instance, Theodore Panayotou, Todd Schatzki, and Qwanruedee Limvorapitak, *Differential Industry Response to Formal and Informal Environmental Regulations in Newly Industrializing Economies: The Case of Thailand*, Harvard Institute for International Development, February 1997.

¹⁰ Florida Department of Environmental Protection (DEP), *Secretary’s Quarterly Performance Report*, vol. 1, no. 3 (May 1998).

¹¹ *Ibid.*, pp. 74–75.

coastal systems, drinking water, domestic wastewater and pretreatment, environmental-resource permitting, fisheries management, hazardous waste, industrial wastewater, manatee mortality, mine reclamation, shellfish processing, solid waste, storage tanks, underground-injection control, and waterways safety. Some of these compliance rates are actually closer to Tier 1 environmental indicators—for instance, the percentage of manatee deaths caused by or attributed to human activity, total boat and personal-watercraft accidents, and total mortality and morbidity resulting from boating accidents. The behavioral measures also include “Beyond Compliance” statistics such as the voluntary adoption of alternative technologies by Florida corporations and participation in Pollution Prevention outreach programs (both of these measures were still under development at the time of the third quarterly report). They also include qualitative examples of the DEP’s “Common-Sense Regulation” initiatives, and measures of “environmental citizenship,” such as total volunteer hours donated to DEP efforts, average residential electricity consumption, per capita freshwater consumption, and average daily vehicle-miles traveled.¹²

Table 2: Some of Florida’s Performance Measures	
<u>Air Resources</u>	<ul style="list-style-type: none"> • Percentage of Florida’s population living in counties monitored for air quality • Percentage of time that the monitored population breathes air of good quality • Percentage of the monitored population that breathes air of moderate or unhealthful quality for more than 90 days per year • Total pounds and pounds per capita emitted to the atmosphere for four major pollutants from all sources in the state of Florida (SO₂, NO_x, VOCs, CO)
<u>Surface and Groundwater Protection and Management</u>	<ul style="list-style-type: none"> • Percentage of Florida surface waters (by type) that fully, partially, or do not support the designated use for each (Class I–Class V) • Percentage of petroleum storage tanks upgraded to include secondary containment in order to protect groundwater • Number of storage tank facilities with new confirmed discharge events • Total freshwater withdrawals from Florida’s surface and groundwater supplies • Percentage of Florida’s domestic wastewater being reused for beneficial purposes
<u>Living Aquatic and Marine Resource Conservation and Protection</u>	<ul style="list-style-type: none"> • Number of marine fisheries stocks that are increasing, decreasing, stable, or for which the current status is unknown • Population trends for the West Indian manatee as determined by annual synoptic survey • Percentage of time that approved shellfish-harvesting areas were open to harvest
<u>Public Health and Safety</u>	<ul style="list-style-type: none"> • Percentage of public water systems providing service without significant health-based water-quality problems • Percentage of visitors to Florida’s state parks who felt safe during their stay • Accident rate among boaters who have completed safety training vs. boaters who have not completed safety training (<i>under development</i>) • Number of Florida water bodies with mercury-related fish-consumption advisories
<u>Public Recreational Opportunities</u>	<ul style="list-style-type: none"> • Public recreational opportunities as determined by the number of properties under the jurisdiction of the Department • Total annual attendance at Florida state parks and recreation areas • Park user satisfaction as determined by one-time user survey

Source: Florida Department of Environmental Protection (DEP), *Secretary’s Quarterly Performance Report*, vol. 1, no. 3 (May 1998), pp. 74–75.

¹² *Ibid.*, pp. 75–77.

The Florida DEP has attempted to make compliance rates meaningful, which they often are not. Most environmental agencies target suspected problem companies in their inspections; therefore, compliance rates seem lower than they actually are. But if an agency makes inspections randomly, to produce unbiased compliance rates, it is probably not using its limited resources wisely. As a result of a partnership between EPA and the Florida DEP, a protocol for both random and targeted sampling will be implemented in Florida beginning in 1999. Under the Joint Compliance and Enforcement Plan, the Florida DEP will be able to develop both a “random” compliance rate and a “targeted” compliance rate. This will allow regulators not only to determine less biased compliance rates but also to compare the two compliance rates to determine whether companies that had problems in the past have higher rates of noncompliance.¹³

The Tier 3 variables (Departmental Outputs and Activities) are mainly the traditional enforcement-volume statistics that environmental agencies have historically collected—number of permits issued, inspections conducted, enforcement actions opened and closed, notices of violation issued, consent orders executed, complaints filed, total penalties assessed and collected, and so on. But the Tier 3 statistics also include numbers that are not simply related to tough enforcement. For instance, the average time it takes to issue or to process a permit is also one of the measures—in this case, the department looks better if the average time goes down. Moreover, the Tier 3 variables include measures of compliance assistance (total hours spent obtaining compliance through means other than inspections, total contacts with Florida aquaculture industry, etc.), research and monitoring (number of papers submitted for publication, total hours of technical advisory assistance provided to fisheries managers), resource management (total number of native plants planted on state lands, total documented sea-turtle strandings and percent necropsied), and land acquisition.¹⁴

Finally, the report also includes a fourth tier, titled “Resource Efficiency,” which discusses the department’s requested budget and the governor’s recommended budget, and discusses and gives anecdotes regarding the department’s implementation of Total Quality Leadership.¹⁵

Thus, especially in the highly developed set of environmental indicators, and even in the more traditionally compliance- and enforcement-oriented second and third tiers, the Florida DEP is taking the trouble to discuss not distant proxies of environmental quality, such as chemical use, chemical releases, or enforcement statistics, but rather *environmental quality* itself, which is the *raison d’être* of an environmental agency in the first place. After the release of the third report, Florida newspapers ran stories reporting actual environmental results, mainly reporting the result that air and water quality had decreased slightly since the previous year, but also reporting good news, such as increased manatee survival rates.¹⁶ The media seem to be paying more attention to these performance measures than to traditional TRI-like measures.¹⁷

¹³ Michael Phillips and Darryl Boudreau, Florida Department of Environmental Protection, *Compliance Rate Methodology*.

¹⁴ Florida DEP, *Secretary’s Quarterly Performance Report*, pp. 77–80

¹⁵ *Ibid.*, p. 80.

¹⁶ Katherine Bouma, “Florida’s air, water get worse,” *Orlando Sentinel*, May 30, 1998, p. 41; “Pollution curbs fishing in half of state’s lakes,” *Tampa Tribune*, May 31, 1998, p. 94; “Half of our waterways too dirty, report says,” *Ft. Lauderdale Sun Sentinel*, May 31, 1998, p. 6; “State says waterways too dirty,” *Palm Beach Post*, May 31, 1998; “Good air hard to come by in Florida,” *Florida Times Union*, May 30, 1998, p. 5.

¹⁷ Personal communication, Michael Phillips, director of the Office of Strategic Projects and Planning, Florida Department of Environmental Protection, June 4, 1998.

Table 3: Requirements of Major Reporting Initiatives Worldwide							
	CEFIC	CERES	Denmark	IRRC	VfU	WBCSD (metrics only)	WRI (metrics only)
Qualitative Information							
• Statement from the CEO	×						
• Corporate environmental policy	×	×		×			
• Company profile	×	×	×	×	×		
• New/modified product lines	×	×					
• New/modified production facilities	×	×					
• Plans, objectives, goals	×	×			×		
• Environmental management	×	×	×	×	×		
• Audits	×	×		×			
• Emergency preparedness	×	×					
• Employee recognition mechanism		×		×			
• Environmental justice activities		×					
• Materials policy		×					
• Worker Health and Safety	×	×					
• Product stewardship	×	×			×		
• Supplier relationships		×		×			
• Noncompliance and litigation	×	×		×			
• Stakeholder relations	×				×		
• Contact information	×	×			×		
• Certification process		×					
Quantitative indicators							
• Chemical releases	×	×	×	×		×	×
• Accidents		×		×			×
• Hazardous waste management	×	×	×	×			×
• Energy use	×	×	×	×	×	×	×
• Water use	×	×	×	×		×	×
• Non-hazardous waste management	×	×	×	×	×		×
• Materials use			×		×	×	×
• Non-product output							×
• Environmental expenditures	×	×		×			
• Normalization of metrics		×					
• Plans, objectives, goals		×		×	×		

Notes:

*The Danish government does not disclose this information to the public

CEFIC: European Chemical Industry Council

CERES: Coalition for Environmentally Responsible Economies

Denmark Danish government

IRRC: Investor Responsibility Research Center

VfU: Verein für Umweltmanagement in Banken, Sparkassen und Versicherungen

WBCSD World Business Council for Sustainable Development

WRI: World Resources Institute

Source: Allen White and Diana Zinkl, *Standardized Corporate Environmental Reporting: A Status Report*, Working Paper, submitted to CERES 1997 Annual Conference, Philadelphia, September 30–October 1, 1997, Table 4, p. 9.

B. Environmental-Management Systems

1. *Private Environmental-Management Codes*

Over the past decade, as the high costs of “command-and-control” regulation have become more apparent, private environmental management codes have become more widespread. These codes require companies to adopt environmental management systems and evaluate their progress toward environmental goals the companies set for themselves (none mandates specific environmental standards that firms must meet, though some do mandate compliance with relevant environmental regulations). Each involves, to some degree, outside groups, such as suppliers, customers, or community groups.¹⁸

Private codes shift certain environmental costs from the public to the private sector. While the EPA has a limited budget and cannot enforce environmental laws to their full extent or quickly enough to meet statutory deadlines, private codes are created and maintained by industry.¹⁹ Private codes often go beyond the scope of regulation; because private codes often focus on changing corporate policy and management systems, they are able to change corporate practice in more specific, individually tailored ways that have generally been beyond the reach of traditional regulation, with its generic character and emphasis on end-of-pipe control. Regulation typically lays out in fine detail what companies may *not* do; codes give companies a positive (if broad) agenda for environmental action. Private codes may also strengthen corporate legitimacy, by allowing environmental improvement to take place outside of the culture of “adversarial legalism” that too often characterizes relations between industry and regulatory agencies.²⁰ The following are some of the more widespread environmental-management codes (see Table 3 for a few others):

- ***Responsible Care.*** Responsible Care, an initiative of the Chemical Manufacturers Association, was designed in the wake of the chemical accidents at Bhopal, India, in 1984, and Institute, W. Va., in 1985. It is designed to continuously improve member companies’ environmental, health, and safety performance in response to public concern, and to help member companies demonstrate their improvements to critical public audiences.²¹
- ***The CERES Principles.*** The Coalition for Environmentally Responsible Economies (CERES) was formed by environmental advocates Joan Bavaria and Denis Hayes in 1988 to make data on corporate environmental management “consistent, comparable, and widely disseminated” to investors in the same way that financial data are. The ultimate goal was to change the relationship between firms and the public from an adversarial one to one of trust.²² The group’s core principles were hard to formulate, as its constituencies did not always agree with one another; the World Wildlife Federation has a 75 percent overlap in membership with the National Rifle Association and did not agree with some of the

¹⁸ Jennifer Nash and John Ehrenfeld, “Code green: business adopts voluntary environmental standards,” *Environment*, vol. 38, no. 1 (January 1996), p. 16.

¹⁹ Paul R. Portney, “The Evolution of Federal Regulation,” in Paul R. Portney ed., *Public Policies for Environmental Protection* (Washington, D.C.: Resources for the Future, 1990), pp. 7–25.

²⁰ Robert Kagan, “Adversarial Legalism and American Government,” *Journal of Policy Analysis and Management*, vol. 10, no. 3 (1991), pp. 369–406.

²¹ Nash and Ehrenfeld, “Code green,” p. 16, citing CMA, *Improving Responsible Care Implementation: Enhancing Performance and Credibility* (Washington, D.C., 1993), tab 2.

²² *Ibid.*, p. 16, citing Joan Bavaria and J. S. Dodson, “Valdez Principles Picking Up Steam,” *Business and Society Review*, March 22, 1992, p. 2; and Bavaria, address to the Environmental Law Institute, Boston, Mass., February 21, 1995.

environmental views of some of the other organizations.²³ Currently, 46 organizations have endorsed the CERES principles. The best-known among such companies include BankAmerica Corp., Ben & Jerry's Homemade Ice Cream Products, Bethlehem Steel Corp., Coca-Cola, General Motors Corp., ITT Industries, and Polaroid Corp.²⁴ CERES' ten principles are presented in Table 4.

Table 4: The CERES Principles	
1.	Protection of the Biosphere: We will reduce and make continual progress toward eliminating the release of any substance that may cause environmental damage to the air, water, or the earth or its inhabitants. We will safeguard all habitats affected by our operations and will protect open spaces and wilderness, while preserving biodiversity.
2.	Sustainable Use of Natural Resources: We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve non-renewable natural resources through efficient use and careful planning.
3.	Reduction and Disposal of Wastes: We will reduce and where possible eliminate waste through source reduction and recycling. All waste will be handled and disposed of through safe and responsible methods.
4.	Energy Conservation: We will conserve energy and improve the energy efficiency of our internal operations and of the goods and services we sell. We will make every effort to use environmentally safe and sustainable energy sources.
5.	Risk Reduction: We will strive to minimize the environmental, health and safety risks to our employees and the communities in which we operate through safe technologies, facilities and operating procedures, and by being prepared for emergencies.
6.	Safe Products and Services: We will reduce and where possible eliminate the use, manufacture or sale of products and services that cause environmental damage or health or safety hazards. We will inform our customers of the environmental impacts of our products or services and try to correct unsafe use.
7.	Environmental Restoration: We will promptly and responsibly correct conditions we have caused that endanger health, safety or the environment. To the extent feasible, we will redress injuries we have caused to persons or damage we have caused to the environment and will restore the environment.
8.	Informing the Public: We will inform in a timely manner everyone who may be affected by conditions caused by our company that might endanger health, safety or the environment. We will regularly seek advice and counsel through dialogue with persons in communities near our facilities. We will not take any action against employees for reporting dangerous incidents or conditions to management or to appropriate authorities.
9.	Management Commitment: We will implement these Principles and sustain a process that ensures that the Board of Directors and Chief Executive Officer are fully informed about pertinent environmental issues and are fully responsible for environmental policy. In selecting our Board of Directors, we will consider demonstrated environmental commitment as a factor.
10.	Audits and Reports: We will conduct an annual self-evaluation of our progress in implementing these Principles. We will support the timely creation of generally accepted environmental audit procedures. We will annually complete the CERES Report, which will be made available to the public.

Source: www.ceres.org.

Table 5: The GEMI Principles	
1.	Corporate Priority: To recognize environmental management as among the highest corporate priorities and

²³ *Ibid.*, p. 16, citing A. J. Hoffman, *The Environmental Transformation of American Industry: An Institutional Account of Organizational Evolution in the Chemical and Petroleum Industries (1960-1993)* (Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge, Mass., February 1995), p. 273.

²⁴ See www.ceres.org.

as a key determinant to sustainable development; to establish policies, programs and practices for conducting operations in an environmentally sound manner.
2. Integrated Management: To integrate these policies, programs and practices fully into each business as an essential element of management in all its functions.
3. Process of Improvement: To continue to improve corporate policies, programs and environmental performance, taking into account technical developments, scientific understanding, consumer needs and community expectations, with legal regulations as a starting point; and to apply the same environmental criteria internationally.
4. Employee Education: To educate, train and motivate employees to conduct their activities in an environmentally responsible manner.
5. Prior Assessment: To assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site.
6. Products and Services: To develop and provide products or services that have no undue environmental impact and are safe in their intended use, that are efficient in their consumption of energy and natural resources, and that can be recycled, reused, or disposed of safely.
7. Customer Advice: To advise and, where relevant, educate, customers, distributors and the public in the safe use, transportation, storage and disposal of products provided; and to apply similar considerations to the provision of services.
8. Facilities and Operations: To develop, design and operate facilities and conduct activities taking into consideration the efficient use of energy and materials, the sustainable use of renewable resources, the minimization of adverse environmental impact and waste generation, and the safe and responsible disposal of wastes.
9. Research: To conduct or support research on the environmental impacts of raw materials, products, processes, emissions and wastes associated with the enterprise and on the means of minimizing such adverse impacts.
10. Precautionary Approach: To modify the manufacture, marketing or use of products or services or the conduct of activities, consistent with scientific and technical understanding, to prevent serious or irreversible environmental degradation.
11. Contractors and Suppliers: To promote the adoption of these principles by contractors acting on behalf of the enterprise, encouraging and, where appropriate, requiring improvements in their practices to make them consistent with those of the enterprise; and to encourage the wider adoption of these principles by suppliers.
12. Emergency Preparedness: To develop and maintain, where significant hazards exist, emergency preparedness plans in conjunction with the emergency services, relevant authorities and the local community, recognizing potential transboundary impacts.
13. Transfer of Technology: To contribute to the transfer of environmentally sound technology and management methods throughout the industrial and public sectors.
14. Contributing to the Common Effort: To contribute to the development of public policy and to business, governmental and intergovernmental programs and educational initiatives that will enhance environmental awareness and protection.
15. Openness to Concerns: To foster openness and dialogue with employees and the public, anticipating and responding to their concerns about the potential hazards and impacts of operations, products, wastes or services, including those of transboundary or global significance.
16. Compliance and Reporting: To measure environmental performance; to conduct regular environmental audits and assessments of compliance with company requirements, legal requirements and these principles; and periodically to provide appropriate information to the Board of Directors, shareholders, employees, the authorities and the public.

Source: *Environmental Self-Assessment Program*, Global Environmental Management Initiative, November 1994, pp. 3–4.

Table 6: GEMI's Environmental Self-Assessment Program

To illustrate how to fill out the ESAP, we show a company's score of 2.75 below on the fifth Element of Principle #1. The Company has also indicated that this element, "Implementation", had been given the highest priority in the organization.

ELEMENTS	PERFORMANCE LEVEL				ELEMENT IMPORTANCE	NOTES
	1	2	3	4		
IMPLEMENTATION 1.5	Regulatory compliance and environmental policy implemented on a case-by-case basis, as required.	System is developed to ensure that the Company's general environmental standards are implemented; these standards include regulatory and progressive environmental policies. Results are measured.	Environmental policies are integrated with explicit, program-specific operating practices and codes of business conduct. Systems measure and report effectiveness of policy implementation.	Operating practices, codes of conduct and business strategy are continually re-evaluated and updated, as new information and environmental results are identified. The implementation systems are also improved accordingly.	Please Assign an Importance Weighting to Each Element A = Greatest Importance B = Medium Importance C = Less Importance A B C	
NA	0	1	2	3	4	Score: 2.75

Sample scores on the scale indicate that ...

- ...Company meets the criteria of levels 1 and 2. It has developed formal environmental management systems.
- ...Company meets accepted standards
- The company's selected score
- ...Company meets criteria for levels 1 and 2, and most requirements of level 3. The company has integrated its environmental management systems throughout most of its operations.
- ...Company meets criteria of level 1, 2 & 3. It has formal environmental management systems throughout the entire organization.

Reproduce Environmental Self-Assessment Program, Global Environmental Management Initiative, November 1994, p. 12.

- ***GEMI and the ICC Charter.*** The Global Environmental Management Initiative (GEMI) was formally announced in April 1990. At first, it was a group of about ten corporate environmental managers from large firms in the chemical, electronics, consumer products, and pharmaceutical industries who met regularly to discuss environmental-management issues. By 1998, it had grown to 27 members representing large companies from many industries. GEMI members include AT&T, Anheuser-Busch, Bristol-Myers Squibb, Browning-Ferris, Coca-Cola, Colgate-Palmolive, Coors, Dow, DuPont, Eastman Kodak, Georgia-Pacific, Goodyear Tire and Rubber, Johnson & Johnson, Lockheed Martin, Merck, Motorola, Occidental Petroleum, Procter & Gamble, and Waste Management (before its acquisition by US Waste).²⁵ GEMI and the International Chamber of Commerce (ICC) drafted the Business Charter for Sustainable Development, which contains 16 principles tailored to large multinational corporations, reproduced in Table 5. GEMI is developing a database to track implementation efforts and has developed an environmental self-assessment program to guide companies in this process (see a portion of the self-assessment program in Table 6). GEMI does not require member companies to adopt or implement the ICC charter, though it does require them to be active in GEMI projects, meetings, and working groups.²⁶
- ***The International Standards Organization and ISO 14000 standards.*** The International Standards Organization (ISO), formed in 1946 and headquartered in Geneva, exists to promote international trade through standardization.²⁷ Its members are the standards organizations of its over 100 member countries, and its standards are industry-driven. An ISO standard is a documented agreement of technical specifications that companies use as production guidelines—for instance, the format of credit cards, ATM cards, and phone cards is derived from an ISO standard. ISO's narrow focus on individual product specifications shifted in 1987 when ISO issued its series of quality standards called "ISO 9000," which provide guidelines for designing and documenting a firm's quality procedures and practices. ISO 14000, the set of environmental-management standards, which has been developed by industry, government, and public-interest groups, focuses on pollution prevention, resource conservation, ecological protection, and regulatory compliance.²⁸ One motivating force behind ISO 14000 was to replace national standard-setting, which might disrupt international trade, with international consensus-building.²⁹

Firms can be "registered" as ISO-compliant by a third party (such as the American National Standards Institute, the Registrar Accreditation Board, or the National Accreditation Program), or they can self-certify.³⁰ ISO 14001 requires that companies develop an environmental policy to include pollution prevention, regulatory compliance, and continuous improvement, though since the standard is designed to apply to many different geographical, social, and cultural conditions, its breadth limits how specific it can be. A company operating under ISO 14001 guidelines must identify significant environmental impacts from its activities, products, or services (as well as appropriate legal guidelines), and plan budgets and schedules to address the most significant ones.³¹ The requirements of the system are based

²⁵ See www.gemi.org.

²⁶ Nash and Ehrenfeld, "Code green," p. 16.

²⁷ *Ibid.*, p. 16, citing C. G. Hemenway and J.P. Gildersleeve, *What is ISO 14000? Questions and Answers* (Fairfax Station, Va.: CEEM Information Services, 1995).

²⁸ Mary Litsikas, "U.S. perspective varies on ISO 14000," *Quality*, vol. 36, no. 12 (December 1997), pp. 28–33.

²⁹ Nash and Ehrenfeld, "Code green," p. 16.

³⁰ Suzan L. Jackson, "ISO 14000: what you need to know," *Occupational Hazards*, vol. 59, no. 10 (October 1997), p. 127.

³¹ Susan Graff, "ISO 14000: should your company develop an environmental management system?," *Industrial Management*, vol. 39, no. 6 (November 21, 1997), p. 19.

on the traditional management structure of “plan–do–check–act”; it is referred to as a “dynamic cyclical process” because the “check” and “act” phases lead back to a new “plan” and “do” phase, encouraging, ideally, improvement over time.³²

While some companies are seeking ISO 14001 certification, others are relying on their own internal environmental standards while waiting to see whether ISO 14001 certification becomes necessary in their particular case. Some companies seek ISO 14001 certification for its public-relations value, others because their customers require it to reduce their own exposure to environmental liability, because the EPA looks more kindly on companies with preventive management programs, or because they believe it will make their processes more efficient and reduce production costs.³³ Because of the sometimes high cost of ISO certification, some companies may develop a proactive environmental-management system but without the expense of certification.

2. How Do These Codes Differ? What Do They Require?

Though these private codes have different origins, they are broadly similar. They focus on corporate environmental-management systems, and some also focus on other issues, such as complete life-cycle management, sustainability and other environmental protection policies, and interaction with outside stakeholders.³⁴

- **Requiring environmental-management systems.** Each of the codes described requires, to some degree, that firms establish environmental-management systems—that is, systematic procedures by which they can identify and address environmental problems and improve environmental performance. These steps include assessing problems, establishing goals, measuring progress, training workers, auditing performance, rewarding or penalizing behavior, and verification through third-party review. Different codes stress different aspects of environmental performance and have different areas of strength and weakness. Responsible Care and ISO 14001 seem superior in release assessment, measurement systems, and goal-setting. The CERES principles are not as strong in these areas; instead, they place a greater emphasis on public notification and participation. ISO 14001 is mainly distinguished by its third-party verification feature. Unlike other codes, which may include un-“auditable” management practices (and may need to revise their requirements to accommodate the push toward third-party verification), ISO 14001 was designed with third-party verification in mind and only includes “auditable”—that is, somewhat objective and therefore somewhat verifiable—management practices.³⁵
- **Encouraging life-cycle management.** Life-cycle management means management not only of production-related effects, but of cradle to grave environmental effects—from the effects of the extraction of raw materials to the effects of transportation, manufacture, distribution, use, recycling, and disposal. None of the codes described here requires life-cycle analysis *per se*. The ICC charter suggests such an analysis; an ISO 14000 subcommittee is developing life-cycle-analysis guidelines, but ISO 14001 does not mandate them. But some codes encourage firms to think beyond their own company confines, considering the environmental performance of their suppliers and also the probable use of their

³² Jackson, “ISO 14000,” p. 127.

³³ Litsikas, “U.S. perspective varies on ISO 14000,” pp. 28–33.

³⁴ Nash and Ehrenfeld, “Code green,” p. 16.

³⁵ *Ibid.*, p. 16.

products by distributors or consumers. Responsible Care, which requires firms to monitor and improve the performance of suppliers, distributors, and customers, comes the closest of these codes to a life-cycle approach. The ICC charter is relatively strong in this approach; ISO 14001 and CERES are relatively weak.³⁶

- ***Fostering sustainability and environmental protection.*** Sustainability is a vague concept and not every environmental-management code addresses it. Responsible Care and ISO 14001 do not; CERES emphasizes heavily that “corporations must not compromise the ability of future generations to sustain themselves.” The ICC indicates that firms must view environmental management “as a key determinant to sustainable development.” The generalized responsibility to protect the biosphere is also treated differently in different codes. CERES calls on all firms to safeguard all habits affected by their operations and to preserve biodiversity, though not all CERES endorsers have adopted this principle—the Sun Company merely pledges to protect the “surrounding environment at present facilities” and when planning new facilities. Responsible Care requires firms to operate plants and facilities “in a manner that protects the environment.” The ICC charter urges firms to minimize “adverse environmental impact”; ISO 14001 merely requires that firms “consider” such impact. The codes also vary in their treatment of resource use; CERES requires companies to use renewable resources sustainably and conserve nonrenewable resources; the ICC requires companies to develop products and services that are “efficient” in the use of resources; neither Responsible Care nor ISO 14001 mentions sustainable resource use. Most codes stress waste and emission reduction and place a premium on source reduction.

ISO 14001 requires that companies commit “to comply with relevant environmental legislation” and requires (as does the ICC charter) that firms establish procedures to evaluate compliance. The CERES principles do not directly address compliance but do require firms to disclose the number of consent decrees signed and penalties received, as well as information about chemical spills. The Responsible Care program does not mention compliance.³⁷

- ***Guaranteeing stakeholder involvement.*** Of the codes described here, only the CERES principles were developed by non-industry groups. The other codes were developed mainly by people within industry. Only the CERES code requires that companies reveal their environmental performance to the public; the other codes may suggest that some information be revealed, while others only require the disclosure of the environmental policy itself.³⁸ Responsible Care, CERES, and the ICC charter require companies to be “open” to outside concerns. Responsible Care requires firms to maintain community outreach programs; CERES requires them to regularly seek advice from people living near their facilities. ISO 14001 calls on firms to document and respond to communication from outside groups but does not require that firms actively seek such groups out.³⁹

While these environmental-management codes were designed primarily to be drivers of improved environmental performance, we are also interested in them as providers of information and participation. It is difficult, however, to briefly summarize how they stack up against each other in that regard. Responsible

³⁶ *Ibid.*, p. 16.

³⁷ *Ibid.*, p. 16.

³⁸ *Ibid.*, p. 16; Naomi Roht-Arriaza, “Environmental management systems and environmental protection: Can ISO 14001 be useful within the context of APEC?”, *Journal of Environment & Development*, vol. 6, no. 3 (September 1997), pp. 292–316.

³⁹ Nash and Ehrenfeld, “Code green,” p. 16.

Care and ISO seem strongest in requiring environmental-management systems, while Responsible Care and GEMI seem strongest in encouraging life-cycle analysis. CERES seems strongest in encouraging community participation, though the other codes also encourage a certain amount of community participation, and unless we know what quantity of participation is “good,” we cannot easily choose among them. Depending on the issues that are important to particular companies and communities, different codes will be appropriate.

And these codes are not without their shortcomings. While the various codes have positive elements involving labeling, metric gathering, benchmarking, community participation, and so on, they also tend to share a set of challenges:

- Voluntary codes, as much as regulatory environmental information programs, make the assumption that one knows what “good performance” is, from a valid environmental or risk-reduction perspective;
- Voluntary codes, like mandatory environmental information programs, raise the potential for overprescription of materials-use, materials-reduction, and specific control technologies by highlighting certain criteria over others. Indeed, such codes can become marketing tools in their own right, interfering with the development of new technologies and distorting, rather than revealing, the preferences of the market for environmental quality.

3. What is the effect of these codes?

Firms participate in these private environmental-management codes for many reasons. Participation in Responsible Care is a requirement of membership in CMA, which has various (nonenvironmental) benefits for member companies. ISO 14001 may eventually become a requirement for doing business internationally. Companies may also participate in a private code because they have a history of environmental problems, because they want to maintain a good public presence, or because they have strong environmental values.⁴⁰ Large firms have been committed to GEMI and the ICC charter because they can afford to be, because they value positive public relations, and also because they are interested in running their affairs consistently across different plants worldwide.⁴¹ It has also been suggested that large firms value such codes because their smaller competitors may have more problems abiding by them, and that firms in developed countries (especially in Europe) favor such codes because firms in other areas of the world (outside of Europe, and especially in less-developed countries) are less likely to have environmental-management systems in place generally.⁴² Government regulations or procurement guidelines that mandate companies to be ISO 14001 certified can therefore operate as a non-tariff trade barrier.⁴³

Private codes may also be important in moving corporate environmental consciousness from merely complying with (or challenging) environmental laws to also measuring, improving, and publicizing their

⁴⁰ *Ibid.*, p. 16., citing A. M. Gelfand, *The CERES Principles: Does Adopting a Voluntary Code of Management Produce Corporate Accountability?* (master’s thesis, Massachusetts Institute of Technology, Cambridge, Mass., June 1995), pp. 79–80.

⁴¹ *Ibid.*, p. 16.

⁴² Julian Morris, *ISO 14000: Environmental Regulation By Any Other Name?*, Competitive Enterprise Institute, January 1997.

⁴³ Roht-Arriaza, “Environmental management systems and environmental protection,” pp. 292–316.

environmental performance.⁴⁴ As we have seen, codes differ in the emphasis they place on life-cycle analysis, resource use and sustainability, and stakeholder participation; thus, the degree to which a company changes its production processes to accommodate environmental concerns, as well as the extent of a company's involvement with the outside world, depends a great deal on which code it adopts. Importantly, adherence to a code does not guarantee compliance with the law. If a company doesn't comply with the law, but has a mechanism in place to fix the problem within a particular time, it might still be in compliance with ISO 14001. A very lax company might be in serious noncompliance with environmental laws, adopt modest goals (to cut noncompliance by five percent) with stretched-out timeframes (say, ten years), and technically follow the requirements of a private code.⁴⁵ Moreover, even if a company adopts ISO 14001 and does comply with the law, the benefits of compliance necessarily depend on whether the existing environmental law is sensible and actually effectively protects the environment (which may not be the case in many countries).⁴⁶

4. *Other environmental-management programs*

In addition to private environmental codes, many states have also been experimenting with nonregulatory environmental-management programs. These nonregulatory programs try to encourage responsible environmental performance through technical assistance, flexible compliance mechanisms, and other incentives.

- **Minnesota: Pollution-prevention technical assistance.** Minnesota requires certain manufacturing facilities to submit annual pollution-prevention progress reports, under its Toxic Pollution Prevention Act (TPPA).⁴⁷ These plans must assess pollution-prevention options, including changes to raw materials and operating techniques, and process modifications. The TPPA also created an assistance program to provide information and assistance on pollution-prevention methods and technologies, including toxic-chemical use-reduction options. The assistance program emphasizes partnerships with trade associations and other industry groups to deliver assistance and spread information. The Minnesota Office of Waste Management has recommended that this program be expanded to increase industry awareness of the potential environmental and public-health effects of chemical use and to encourage (but not mandate), on a case-by-case basis, materials accounting and life-cycle analysis “as valuable mechanisms to refine industry pollution-prevention programs and maximize reductions in toxic-chemical use.”⁴⁸
- **California: Hazardous-waste pollution prevention.** California also runs a voluntary hazardous-waste pollution-prevention program, through the Office of Pollution Prevention and Technology Development (OPPTD). Its centerpiece is California Senate Bill 14 of 1989, which does not require source reduction or pollution prevention but merely requires that every four years businesses evaluate alternatives to their way of doing things. The program is nonregulatory because OPPTD officials believe that hazardous waste is produced in so many unique ways that one-size-fits-all rules are unlikely to produce

⁴⁴ Nash and Ehrenfeld, “Code green,” p. 16, citing Nash and J. Howard, *The U.S. Responsible Care Initiative: The Dynamics of Shaping Firm Practices and Values* (working paper, Massachusetts Institute of Technology, Cambridge, Mass., November 1995), p. 17.

⁴⁵ Roht-Arriaza, “Environmental management systems and environmental protection,” pp. 292–316.

⁴⁶ Morris, *ISO 14000*, pp. 4–9.

⁴⁷ Minn. Stat. § 115D.07.

⁴⁸ Minn. Stat. § 115E. Anderson and McDonald, *Toxic Chemical Use Report*, pp. 7–10.

environmental benefits across the board.⁴⁹ The law went into effect in 1989, the first plans were due in September 1991, and the second plans were due in September 1995. While it is impossible to know the specific effect of the SB 14 program relative to other factors, Cal/EPA did an informal postcard survey asking whether the law helped companies reduce waste and whether they found that source-reduction measures at least paid for the cost of doing the plan. Out of a couple of thousand postcards sent out in 1995, about 82 percent of responding hazardous-waste generators reported that they had found waste-minimization opportunities over the last three years; 71 percent had reduced their generation of hazardous waste by up to 25 tons during this period. Over half reported that the SB 14 program had been a worthwhile exercise for their companies to complete, and 89 percent had saved money during the last three years due to a decrease in their generation of hazardous waste.⁵⁰ After the 1991 business plans, the pollution-prevention staff had projected that the petroleum industry could reduce hazardous-waste generation by about 25 percent; after the 1995 plan, the actual reduction had been 30 percent, and the industry itself estimated that another 20 percent was possible.⁵¹

- Illinois: Flexible compliance through EMSs.** The Illinois environmental-management-system program grew out of the state's failed experience with the federal Project XL program. When the state found that the federal government, in negotiating a flexibility agreement with 3M, was being vague, inconsistent, and not as flexible as it might be, Illinois EPA officials decided to try negotiating their own flexibility agreement with 3M. While Illinois's pilot EMS program encompasses companies that adopt full-fledged ISO 14000-type management systems, it is broader than that. It is also open to companies that want to streamline their permitting procedures or to any company that wants to adopt any sorts of "innovative environmental measures."⁵² The Illinois EPA gives the following four key characteristics of an EMS: (a) emphasis on actual environmental performance, (b) pollution prevention, (c) compliance assurance, and (d) extensive stakeholder involvement.⁵³ While the Illinois EPA believes ISO standards will be an important influence on company EMSs, it "prefers to keep an open mind. . . ." [T]he most important ingredient is the desire of a regulated entity to chart its own course for environmental progress and to be fully accountable for its performance.⁵⁴ The program is voluntary—no company must join, and the Illinois EPA is not bound to enter into agreements with any company.⁵⁵ In May 1998, Roger Kanerva, the Illinois Environmental Policy Advisor, estimated that a state agreement with 3M was within about six months of being signed.⁵⁶ The Illinois EPA hopes to do a few dozen of these sorts of projects over the next five years and use the experience with EMS agreements to help it develop its next generation of regulations.
- Texas: Clean Industries 2000 and Citizen Communication Programs.** In 1997, 147 of Texas's 200 largest hazardous-waste-generating facilities participated in the Clean Industries 2000 program.⁵⁷ Participating facilities must: (a) commit to reduce TRI releases and transfers and/or hazardous-waste

⁴⁹ Alexander Volokh, Lynn Scarlett, and Scott Bush, *Race to the Top: The Innovative Face of State Environmental Management*, Reason Public Policy Institute, Policy Study No. 239, February 1998, pp. 28–29.

⁵⁰ Cal/EPA, *1995 SB 14 Survey Results*, June 13, 1995.

⁵¹ Volokh, Scarlett, and Bush, *Race to the Top*, pp. 28–29.

⁵² Personal Interview, Roger Kanerva, Environmental Policy Advisor, Environmental Policy and Safety, Illinois EPA, September 11, 1997.

⁵³ Illinois EPA, *Program Guidance Document for Participation in Pilot Program for EMS Agreements*, draft for public review/comment, October 1996, p. 6.

⁵⁴ *Ibid.*, p. 6.

⁵⁵ Personal Interview, Roger Kanerva, 1997.

⁵⁶ Personal communication, Roger Kanerva, May 7, 1998.

⁵⁷ *Ibid.*

generation by at least 50 percent from 1987 levels by 2000, (b) implement an internal environmental-management program to assure high levels of compliance with state and federal standards, (c) participate in or establish a citizen communication program, and (d) participate in one or more community environmental projects each year.⁵⁸ The benefits of Clean Industries 2000 include Texas Natural Resource Conservation Commission (TNRCC) recognition with local press releases, mention in the TNRCC newsletter, and use of the TNRCC logo. Perhaps more substantively, participants benefit from special publications and technical training programs.⁵⁹ TNRCC staff eventually plans to offer flexible compliance options to participating companies.⁶⁰ TNRCC estimates that the 226 industrial facilities that participate in voluntary pollution-prevention site-assistance visits save a total of \$30.4 million per year, while reducing hazardous-waste generation by 43,313 tons, electricity use by 11.3 million kWh, water use by 317.4 million gallons, and air emissions by 183,300 pounds. Other voluntary TNRCC programs include Clean Texas Star and the Resource Exchange Network for Eliminating Waste (RENEW), which both concentrate on materials recycling. In the border region, a series of joint site-assistance visits to *maquiladoras* in Mexico in 1995 and 1996, with the Mexican Attorney General for the Environment, resulted in a 7009-ton reduction in hazardous-waste generation and a \$4-million savings from avoided disposal costs.⁶¹ The TNRCC has also published a compendium of case studies of pollution-prevention ideas from Texas companies.⁶²

5. Focusing on Accident Prevention and Management

In addition to environmental-management systems, which focus on implementing “environmentally friendly” practices, a number of nonregulatory mechanisms aim specifically at preventing and managing accidents. This section describes accident prevention through private insurance, accident prevention and management through local emergency planning committees, and accident management through the Chemtrec chemical-tracking system.

- **Preventing accidents through insurance.** Industrial accidents, aside from potentially harming a community, also represent financial losses for the companies involved. Companies often try to insure themselves against accident risks; industrial insurers have developed considerable expertise in evaluating the risk of accidents at a particular facility and impose management systems of their own on potential clients as a condition of insurance. HSB Industrial Risk Insurers, for instance, based in Hartford, Conn., produces a three-volume, 18-section set of management standards called “IRInformation.” Its sections on the steel, pulp and paper industry, oil and chemical, and many other industries, describe each of the processes involved, together with their associated hazards, explain what management programs should be developed, and cite the appropriate documents that explain these features in greater detail—including preventive maintenance, operator training, pre-emergency planning, and hazard evaluation.⁶³ Industrial insurance (even in the absence of any disclosure to the outside world)

⁵⁸ The preceding points are taken from TNRCC, *Clean Industries 2000: Program Description*, revised September 1996, RG-143, pp. 2–6.

⁵⁹ *Ibid.*

⁶⁰ Personal interview, Rob Borowski, Coordinator, Clean Industries 2000, TNRCC, August 27, 1997.

⁶¹ TNRCC, *Pollution Prevention and Recycling in Texas*.

⁶² TNRCC, Office of Pollution Prevention and Recycling, *Pollution Prevention Ideas from Texas Industries: A Case Study Compendium*, revised March 1996, AS-40.

⁶³ *Ibid.*, p. 14.

provides incentives for industry to minimize risk. The conditions that private insurers mandate are generally risk-based and do not involve mere materials accounting or release tonnages. Knowing that a company is insured and follows the conditions laid down by the insurance company—much like knowing that a company follows any other sort of environmental-management system—may thus be more informative than Toxic Release Inventory-type information systems.

Insurance against direct property losses to the company from an accident is only one type of environmental insurance. Other insurance companies offer general insurance against environmental liability, such as liabilities for exposing communities to certain chemicals. In addition, workers' compensation systems have an environmental-exposure component, since workers can be exposed to hazardous chemicals as part of their jobs. In these cases, companies with lower risks—either as measured theoretically, or deduced from that company's experience rating—could be expected to pay lower premiums for their insurance.

The insurance approach to managing environmental risks is still in its infancy, is not universally applicable, and faces problems inherent in the concept of insurance: namely, it requires knowledge of the scope and probability of different risks occurring. Also, it must have enough market appeal to lead to voluntary purchase. But one advantage of insurance is its ability to evolve continually, as better understanding of risks emerge. Private insurers have an incentive to identify relevant risk information and to monitor a firm's performance.

- ***Revitalizing the Local Emergency Planning Committees.*** Requiring companies in hazardous businesses to have accident-prevention and accident-management plans is a reasonable policy, and local emergency planning committees (LEPCs) may be a reasonable candidate to collect and help develop such plans. The Emergency Planning and Community Right-to-Know Act, which set up the Toxics Release Inventory, also required governors to appoint State Emergency Response Commissions (SERCs), which were to establish LEPCs to develop emergency-response plans. Most SERCs created one LEPC for each county; some used small townships or boroughs as their unit; some created large, multi-county LEPCs. A 1994 study of the 3310 LEPCs found that while many LEPCs are not complying with the law, many “are doing a far better job than their critics imagined.” LEPCs are required to have a chair; an emergency coordinator; an information coordinator; members representing different specified groups; formal, publicly advertised meetings; and an emergency response plan that incorporates specified elements and that has been reviewed in the past year. LEPCs must also publish newspaper notices that the plan and local hazardous-substances data are publicly available.

The study ranked LEPCs by their level of activity, and found that 24 percent are “proactive,” 16 percent are “compliant,” 39 percent are “quasi-active,” and 21 percent are “inactive.” Of the 79 percent of LEPCs that are active, only 42 percent have operating budgets to support their federal mandate. About 34 percent of them are funded by local governments and 14 percent are funded by local industry. While 79 percent of LEPCs have made recommendations regarding resources they need, only 54 percent have made recommendations regarding the means for providing such resources. The LEPC report pointed out that “LEPCs in many of America's more populous jurisdictions are surprisingly vigorous,” and suggested that because “rural and small-town LEPCs are often much less healthy, if not moribund . . .

these lagging LEPCs might well profit from special guidance and resources [or] consolidated with adjacent LEPCs.”⁶⁴

Accident-prevention and management plans address the risks of chemical use more directly than materials-accounting requirements. Since they are directly related to preventing and managing actual harms to the community, they are not the sort of regulatory requirements, like materials accounting, which try to reduce materials use for its own sake. And since the risks and effects of accidents are local, it makes sense that such plans should be developed locally, not federally. Relying on LEPCs as an important component could be a sensible policy, provided that LEPCs have the resources (through EPA, the Federal Emergency Management Agency, or some other source) and oversight to fulfill their federal mandate responsibly.

- **Chemtrec.** CMA’s Chemtrec database is another nonregulatory accident-management system. Chemtrec, accessible through a 24-hour toll-free hotline, has been operational since 1971 and provides emergency response and consumer information on 1.3 million chemicals.⁶⁵ In case of a chemical accident, Chemtrec can quickly contact everyone involved in the emergency response process and can conference 25 phone lines at the same time if necessary. Chemtrec also keeps a database of companies that are qualified to clean up spills after they have occurred and offers facilities expert advice and training to prevent accidents, including running practice drills and lending out audiovisual training programs on subjects such as “Recognizing and Identifying Hazardous Materials.”⁶⁶ Chemtrec answered over 65,000 emergency calls and over 89,000 nonemergency calls in 1997; because of improved outreach and reporting, this total is 13 percent higher than in 1996, though actual emergencies are down.⁶⁷ As few as five percent of the calls to Chemtrec involve actual emergencies. Three-quarters of emergency calls involve rail or highway accidents.⁶⁸

Chemtrec also operates MSDS Central, an electronic database that keeps MSDSs (material safety data sheets) in a central location to reduce compliance costs and can fax MSDSs directly to requesters on demand.⁶⁹ Chemtrec is a voluntary, fee-based service. Stringent safety requirements make it in the interest of more firms to participate in Chemtrec. For instance, in the early 1990s, Chemtrec membership tripled when FAA regulations required 24-hour contact names and numbers for hazardous-materials air shipments.⁷⁰ Chemtrec officials believe that one significant advantage of their voluntary approach over a mandated federal approach is that federal standards may have to be less stringent than Chemtrec’s in order to keep many businesses in compliance.⁷¹

⁶⁴ William C. Adams, Stephen D. Burns, and Philip G. Handwerk, *Nationwide LEPC Survey: Summary Report*, Department of Public Administration, George Washington University, October 1994.

⁶⁵ Charles W. Thurston and Helga Tilton, “Measuring RC,” *Chemical Marketing Reporter*, vol. 247, no. 26 (June 26, 1995), p. SR19.

⁶⁶ Jackie Cox, “Help—what to do if there is a disaster at your mill,” *American Papermaker*, vol. 58, no. 4 (April 1995), p. 39; “Chemtrec Positioning Services as Supplements to Training,” *HazMat Transport News*, August 29, 1994.

⁶⁷ “Chemtrec Sets Response Record,” *Chemical Week*, February 4–February 11, 1998, p. 44.

⁶⁸ Thurston and Tilton, “Measuring RC,” p. SR19.

⁶⁹ Thurston and Tilton, “Measuring RC,” p. SR19.

⁷⁰ Paul Cohan, “Improper labeling of dangerous goods is hazardous to your wealth,” *Air Cargo World*, vol. 81, no. 11 (November 1991), p. 37.

⁷¹ “Chemtrec Positioning Services as Supplements to Training.”

C. Mechanisms for Stakeholder Involvement

1. *Good Neighbor Policies and Other Stories of Community Involvement*

Arco Chemical Company, faced with angry environmental and community activists, established a “Good Neighbor Policy.” Arco adopted the activists’ “three rights model”: communicating information about the safety and quality of its operations (right to know); providing opportunities for observing and verifying its operations (right to inspect); and creating processes for resolving problems (right to negotiate). The Good Neighbor Policy also involves a set of community relations programs at each manufacturing site, including crisis communications, government relations, charitable contributions, volunteer activities, and employee communications. The goal of the Good Neighbor Policy is to allow each Arco facility to exceed community expectations of how a responsible chemical plant should operate and communicate. Arco officials believe that the keys to the success of the Good Neighbor Policy are:

- adopting an open stance toward external communications and dialogues with surrounding communities;
- anticipating what the community wants to know about—including safety, emergency preparedness, environmental performance, and health concerns—while at the same time listing what the company is not prepared to discuss, such as proprietary information, employee data, or processes that supersede regulatory procedures;
- finding or stimulating a mechanism by which a widely representative (and therefore credible) group of community residents regularly meets with plant management to discuss issues of concern to the community, serving as a safety valve for handling controversial issues and as a buffer between outraged individuals and facilities;
- using Arco’s Manufacturing Excellence standards and audits as ongoing topics of discussion—and, if necessary, sharing audit results and having community representatives observe parts of the audit process—to make community representatives aware of the standards that the company tries to live up to.⁷²

Some community involvement occurs not because of company-sponsored initiatives, but because the threat of a lawsuit gives community groups leverage to demand concessions. In Houston, because of an agreement between the mostly Hispanic community of Mansfield and a Rhone-Poulenc chemical plant, members of the community are empowered to perform environmental and safety audits of the plant with their own experts. In Richmond, California, where an accidental release from the General Chemical plant in July 1993 caused thousands to seek medical attention, community and labor groups negotiated an agreement with General Chemical requiring the company to fund a \$15,000 study of public health, spend \$100,000 in the community, pay for community experts to do a safety audit of the plant, and submit to binding arbitration if it disagreed on those experts’ safety recommendations.⁷³

At other times, companies involve the community because community representatives are able to hinder their proposed permits. At one site in Rahway, N.J., the community had recently been agitated by the controversial siting of a municipal incinerator, and were in a mood to “retaliate” for a perceived over-riding

⁷² *ARCO Chemical Company’s Good Neighbor Policy*, speech by Benjamin Schuster, Manager, Texas Operations Administration, ARCO Chemical Company.

⁷³ Bruce Selcraig, “What You Don’t Know Can Hurt You,” *Sierra*, January/February 1997, pp. 42–43.

of community standards by denying the next permit request to come along, which happened to be a Merck & Co. facility. Because Merck knew about the previous incinerator and took special steps to address community concerns, its facility was approved. Some companies forget the power of community opposition and do not keep in touch with local residents even after a decision has been made; at one Superfund site in New Bedford, Conn., the community agreed on remediating the site by building an incinerator to burn PCB-contaminated sediment, but in the two following years, while the cleanup was occurring, members of the community changed their mind and protested the incinerator, which was ultimately scrapped. Since then, the community decided to place the contaminated sediment in a landfill. Communities differ in the amount of attention they require; some are satisfied with a weekly newsletter describing the cleanup process, while others need “a lot of hand holding.”⁷⁴

2. Involving the Community in Brownfields Redevelopment

“Brownfields” are contaminated industrial properties that must be cleaned up before they can be redeveloped. Brownfield redevelopment is a pressing issue around the country because used industrial sites are often located in depressed urban areas; when such sites stay undeveloped, urban economic development suffers. Moreover, if cleanup requirements are too onerous, developers will instead choose to develop pristine sites further away from urban centers, dubbed “greenfields.” Special brownfield cleanup programs have been adopted in 15 states. More generalized voluntary-remediation programs (which may overlap with brownfield programs to some extent) have been adopted in 31 states. In all, 33 states have either a brownfield program or a voluntary-cleanup program.⁷⁵

Hazardous-waste site-cleanup programs require varying degrees of public participation.

- One of the most common public-participation processes is notification of the public at important times during the site-handling process; 45 states provide such notice. Usually, public notice is issued as part of the site-listing procedure or when a remedial action plan is proposed. Some states also require notice of proposed consent decrees, settlement-agreement revisions, administrative orders, and other developments in the cleanup process. Notice is usually required to the public, though some states require notice to local officials, adjacent property owners, or people who ask to be on a mailing list.
- Most states solicit comments from the public during the site-handling process. In most states, comments are solicited on proposed remedial-action plans, but sometimes also on other decisions, like listing decisions.
- Most states have public-meeting or hearing provisions. Depending on the state, public meetings can be spurred by consent decrees, enforcement cleanups, major cleanup milestones, proposed remedial actions, update of the state priority list, or by other triggers.
- Most states make documents available.
- A few states provide grants for public participation. Several states use formal public-participation plans. In many states, cleanup programs are assisted by groups of citizens and private-sector representatives

⁷⁴ “Community Relations and Credibility Said Key to Local Siting Decisions,” *Solid Waste Report*, December 19, 1996, p. 398.

⁷⁵ Environmental Law Institute (ELI), *An Analysis of State Superfund Programs: 50-State Study, 1995 Update* (1996), pp. 127–136. See also Volokh, Scarlett, and Bush, *Race to the Top*, pp. 20–21.

acting in an advisory capacity. These groups provide input on site-handling decisions and changes to cleanup programs.

- A few states assign public-relations personnel to their cleanup sites.⁷⁶

3. *Inventing New Processes: Watershed Management*

In 1985, Pacific Gas and Electric Co., which operates ten hydroelectric power plants on the Feather River in Plumas County, Calif., was facing the problem of 250,000 cubic yards of silt piling up behind its dams. Instead of simply dredging its reservoirs, it became part of the Feather River Coordinated Resource Management Group, an organization of local ranchers, anglers, and state and federal resource-agency officials formed to rehabilitate local creeks. The group and PG&E built four dams upstream from the company's clogged reservoirs, to trap the silt out of the water as it flowed downstream. In February 1986, when more than 51 inches of rain fell in five days, washing out bridges and stranding many remote communities, Schramel and PG&E officials found that their dams had held and had trapped their share of the sediment. Instead of the barren range it presented in its eroded state, today "Red Clover Valley is a wet meadow lush with wildflowers and waist-high grasses nurturing geese, herons, and sandhill cranes." Encouraged by their success on Red Clover Creek, the Feather River alliance turned to a larger, more challenging project on Wolf Creek, whose channel had also been seriously eroded; while not a total success, the project succeeded in bringing together homeowners, public agencies, anglers, ranchers, and loggers.⁷⁷

In twelve years, the Feather River alliance has worked on 38 streams, "controlling erosion, rewatering meadows, and restoring natural meanders. They have built ladders for migrating fish, created quiet pools to attract trout, and restored over fourteen miles of creek channel."⁷⁸ Major funders include Pacific Gas and Electric Co. (which has contributed over \$1 million since 1985), the U.S. Forest Service, the California Department of Water Resources, and the state Department of Forestry and Fire Protection. Flood-prevention and emergency-management agencies are also tentatively interested in investing in the watershed to reduce flooding downstream.⁷⁹ The alliance works by consensus, which cuts down on bitter disagreements but also takes time. Agency officials have found that working with other agencies and with private landowners allowed them to bypass some of their own agency inflexibilities. Each member of the alliance participates through enlightened self-interest; they each have a selfish goal but are convinced that working toward the group's goals gives them something for themselves.⁸⁰

Watershed-management projects are becoming increasingly common, especially in the West.⁸¹ These projects, primarily concerned with the allocation, use, or quality of water, are guided by the idea that a *watershed*—not arbitrary area-units like cities, counties, or states—is the proper context in which decisions should be made. Generally, these projects actively include interested members of the local community and the larger public in the decisionmaking process, whether in an advisory role or as actual decisionmakers. By bringing different stakeholders together, watershed efforts provide a forum for discussion and education,

⁷⁶ *Ibid.*, pp. 36–41.

⁷⁷ Jane Braxton Little, "The Feather River Alliance," *Chronicle of Community*, vol. 2, no. 1 (Autumn 1997), pp. 8–9.

⁷⁸ *Ibid.*, p. 7.

⁷⁹ "Who Pays for Watershed Work?," *Chronicle of Community*, vol. 2, no. 1 (Autumn 1997), pp. 13–14.

⁸⁰ "From Gridlock to Solutions in Plumas County," *Chronicle of Community*, vol. 2, no. 1 (Autumn 1997), pp. 12–13.

⁸¹ *The Watershed Source Book: Watershed-Based Solutions to Natural Resource Problems*, University of Colorado, Natural Resources Law Center.

establish a process for broader participation in planning and decisionmaking, and coordinate activities within the watershed.⁸² Funding often comes (in the form of money or materials) from state and local agencies or private organizations, though federal aid is also available through § 319 of the Clean Air Act.⁸³

Well-known watershed efforts include the Quincy Library Group, which has developed a plan to manage 2.5 million acres of federal timber lands in three national forests.⁸⁴ On the Clark Fork River in Montana, ranchers who wanted to use water for agricultural purposes got together with their traditional adversaries, environmentalists who wanted to use water for “instream flows,” that is, keeping the water in the river. The Clark Fork project developed a market-based water-allocation system in which environmentalists could lease water rights from ranchers on a pilot basis during dry years to protect instream flows. This arrangement entirely bypassed the arcane and antiquated system of Western water law.⁸⁵ The Upper Carson River Watershed Management Plan in Nevada and California organized government agencies, the Washoe Tribe, state assembly members, local community leaders, ranchers, conservation groups, and homeowners associations to address groundwater and surface-water management within the watershed. Some watershed efforts, like the Nisqually River Council in Washington, consist primarily of government agencies; others, like the Middle Rogue Watershed Council in Oregon, allow only local residents and organizations to participate as full members.⁸⁶ The San Miguel River Coalition, based in Telluride, Colo., has agreed that their meetings will not be open to the public, but has hired a river ranger to work with the public because public education and cooperation on river management is vital; on the other hand, the Chalk Creek Process in Utah encourages public participation at all meetings and activities, but since its area does not include a popular resort town, nearly all of the participants are landowners.⁸⁷

4. Inserting Notions Of “Standing” Into Stakeholder Discussions

Some of the preceding watershed and brownfields examples raise the question of just who should be included. Who is a legitimate stakeholder? Anyone—distant legislators, distant environmental groups, distant industries—might hold a strong opinion on whether and how resources in an area should be restored and allocated, but is holding a strong opinion enough to make such entities valid stakeholders?

Most participatory processes must include some defined set of people and therefore must exclude others. Any shift from one decisionmaking process to another—even if the total set of stakeholders remains the same—may relatively enfranchise some members and disenfranchise others. Some environmentalists dislike an increased emphasis on public participation and an increased reliance on local communities; they believe that such a movement would shift power to less environmentally committed and less organized communities; make traditional, confrontational activism harder by co-opting communities into “the process”; and correspondingly disenfranchise an affluent, urban, environmentally active constituency.⁸⁸ Is such disenfranchisement appropriate?

⁸² *Ibid.*, pp. 1–1 to 1–14.

⁸³ Personal communication, Donald Snow, Executive Director, Northern Lights Research & Education Institute, January 29, 1998.

⁸⁴ Little, “The Feather River Alliance,” p. 11.

⁸⁵ Personal communication, Donald Snow.

⁸⁶ *The Watershed Source Book*, pp. 1–20 to 1–21.

⁸⁷ *Ibid.*, p. 1–22.

⁸⁸ Michael McCloskey, “The Limits of Collaboration,” *Harper’s Magazine*, November 1996, pp. 34–36.

There are no hard and fast rules for who should be included and who should be excluded. But we may take some tips from recent Supreme Court decisions defining the concept of “standing” for citizen environmental lawsuits. In *The Steel Co. v. Citizens for a Better Environment* (1998),⁸⁹ the Supreme Court reiterated the criteria necessary for a citizen to sue for alleged violations of environmental laws. These criteria are:

- an “injury in fact” which is “concrete” and “actual or imminent, not ‘conjectural’ or hypothetical”;
- causation, a fairly traceable connection between the injury and the defendant’s conduct; and
- redressability, a likelihood that the requested relief will redress the alleged injury.⁹⁰

These criteria—particularly the requirement that a plaintiff must have suffered real harm (“injury in fact”)—are a reasonable starting point for a discussion of stakeholderhood. To determine who is a valid stakeholder, we might begin by asking who has the potential to be harmed. Clearly, local landowners are legitimate stakeholders. People who use the area, whether for work, recreation, or living, may also be legitimate stakeholders—businesses, apartment renters, hunters, fishers, campers. All of these stakeholders may favor environmental conservation, since they may value the area’s beauty, tranquility, rustic quality, or healthful air and water, or they may favor economic development, since they may seek opportunities to increase their wealth and otherwise better their lives. Possibly, they will favor some combination of the two.

Local stakeholders, in any case, are really the only ones who can legitimately assert the “community values” that matter—the levels of risk, pollution, noise, nuisance, and so on, that are acceptable to the community. In this sense, local stakeholder participation can significantly expand the ability of local communities to control those factors that directly influence their lives, instead of being subject to acceptable-risk decisions made by federal regulators from outside of the community who may base their standards on different criteria, such as a hypothetical estimates of the average willingness of all citizens to tolerate risk. That same disconnect between local values and those of outside environmental organizations also casts doubt on the legitimacy of regulatory requirements which grant special standing to such groups to participate in the decisionmaking process.

⁸⁹ No. 96–643.

⁹⁰ *Lujan v. Defenders of Wildlife*, 504 U.S. 560 (1992); *Steel Company* (Scalia, J.), p. 18.

Chapter 3

Conclusion

The troubles inherent in dealing with environmental information, the limitations of Toxics Release Inventory–type reporting mechanisms, and the failure of any ideal environmental-information alternative to emerge so far is not surprising. Business financial reporting took decades to evolve, and continues to evolve in its effort to provide meaningful, reliable, understandable, verifiable, and comparable information. But even in financial reporting, using the same underlying data, a company can be considered “profitable” by one standard and “unprofitable” by another. It all depends on what one considers “meaningful” information. So it is with environmental information—even more so than in financial reporting, where, at least, the “profitability” yardstick is similarly understood by different people. Since the environment is a subjective construct, meaning different things (biodiversity, human health protection, animal rights, “organic” lifestyles, industrial ecology) to different people, it is not surprising that no one measure fully captures the wealth of conceivable environmental information. The problem is not that there isn’t enough information, nor is it foot-dragging by industry or government; the true problem is “the expectation that there are easy and ready answers to questions that stakeholders are still only able to articulate in the most nebulous of terms.”⁹¹

And the difficulty of dealing with evolving and inchoate values of stakeholders is not easily overcome by rigid, one-size-fits-all environmental reporting requirements. EPCRA, for instance, has provided a great deal of data, and it has been used widely by the federal government, state governments, journalists, environmental groups, and businesses. What has gotten measured may have indeed gotten done—faced with the prospect of bad publicity or stock-price declines, TRI-emitting companies apparently have lowered their TRI releases. People have come to believe that EPCRA data is meaningful, whether it is or not, even though they often have no idea of how to properly interpret that data. In the process, real, legitimate concerns about environmental problems may go unaddressed. EPCRA, state materials-accounting laws, Proposition 65, other ecolabels, and other environmental-information initiatives may have made stakeholders’ questions more specific, but not necessarily more relevant.

Government, at this point, cannot will stakeholders’ questions into precise clarity. It can only allow and encourage the discovery process to continue, in which different reporting and participation mechanisms emerge and compete to provide the most useful information at the most reasonable cost. Companies and communities are constantly experimenting with different instruments to determine which ones best serve their needs. This paper has outlined three categories of evolving, nonregulatory environmental-information mechanisms that serve the needs of particular communities and constituencies at particular times:

⁹¹ Dorothy Bowers, “First, Figure Out What The Questions Are,” *The Environmental Forum*, January/February 1998, p. 33.

- Environmental performance measures that actually measure the environmental variables which people find relevant and meaningful;
- Environmental-management systems that make it easier for firms to adopt risk-reduction and source-reduction goals that fit their own local circumstances; and
- Mechanisms for stakeholder involvement from Good Neighbor Policies to community groups in the context of brownfields redevelopment to watershed restoration committees, that focus activities on environmental actions that reflect local priorities and values.

Over time, some set of performance standards, some set of environmental-management systems, and some set of stakeholder-participation mechanisms may predominate as they are perceived to create value to companies and citizens. The wealth of possible instruments available is enough to give advocates of environmental information and participation hope. Mandating a specific alternative is inadvisable because it stifles this discovery process and fails to recognize that different information systems may be appropriate for different circumstances.

Chapter 4

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