

CORPORATE ENVIRONMENTAL REPORTING AS INFORMATIONAL REGULATION: A LAW AND ECONOMICS PERSPECTIVE

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I only ask for information.[†]

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INTRODUCTION: INFORMATIONAL REGULATION AS AN ALTERNATIVE TO COMMAND-AND-CONTROL

Since 1970, the predominant regulatory model used to implement environmental protection policy in the United States has been “com-

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[†] CHARLES DICKENS, DAVID COPPERFIELD, ch. 20 (1850).

mand-and-control.”¹ Command-and-control is a top-down, hierarchical regulatory form used to control pollution either through performance standards established for polluters, enforced through a permitting system, or uniform technology-based controls established for certain types of polluting activity.² This regulatory model is credited with significant successes in achieving environmental protection gains since the 1970s.³ Nonetheless, criticism of command-and-control as the dominant policy instrument in American environmental regulation is ubiquitous.⁴ Reform-minded commentators argue that command-and-control is an outdated tool of past environmental agendas.⁵ To effectively address the se-

1. See Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1235 (1995).

2. *Id.*; accord Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era from an Old Idea?*, 18 ECOLOGY L.Q. 1, 5–6 (1991). In contrast, it has also been argued that these forms are distinct and that only regulations specifying particular techniques or methods of compliance, rather than specifying a level of performance, are true command-and-control regulations. See David M. Driesen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control/Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 297–98 (1998). For an overview of command-and-control regulation in the environmental arena, see EDWARD P. WEBER, *PLURALISM BY THE RULES: CONFLICT AND COOPERATION IN ENVIRONMENTAL REGULATION* 5–7 (1998).

The phrase “command-and-control” has taken on a life of its own in the environmental literature. Despite its widespread use, there is significant disagreement regarding a precise definition for the phrase. Professor Clifford Russell observes that the widespread tendency to be over-inclusive in use of the phrase “command-and-control” renders it of minimal value. CLIFFORD S. RUSSELL, *APPLYING ECONOMICS TO THE ENVIRONMENT* 190–91 (2001) (noting that “command-and-control” is often taken to include *any* regulatory option that cannot be specifically categorized as an “economic incentive” or “market-based instrument.”). Indeed, the phrase “command-and-control” has evolved over the years in the academic literature into pejorative short-hand “for any and all criticisms of environmental regulation.” Kathryn Harrison, *Talking with the Donkey: Cooperative Approaches to Environmental Protection*, 2 J. INDUS. ECOLOGY 51, 53 (1999). See also RUSSELL, *supra*, at 191 (observing the “connotational baggage carried by ‘command-and-control,’ for the phrase harks back to descriptions of the centrally planned economies of Eastern Europe and the Soviet Union”—thus allowing proponents of alternative instruments to begin arguments about the best choice of policy instruments “with the conclusion prefigured if not absolutely set in stone”).

3. See Daniel C. Esty & Marian R. Chertow, *Thinking Ecologically: An Introduction*, in THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 1, 6 (Marian R. Chertow & Daniel C. Esty eds., 1997); Paula C. Murray, *Inching Toward Environmental Regulatory Reform—ISO 14000: Much Ado About Nothing or a Reinvention Tool?*, 37 AM. BUS. L.J. 35, 35–36 (1999).

4. For examples of the intense criticism of the command-and-control structure of American environmental regulation, see David W. Case, *The EPA’s Environmental Stewardship Initiative: Attempting to Revitalize a Floundering Regulatory Reform Agenda*, 50 EMORY L.J. 1, 26–32 (2001) [hereinafter Case, *Regulatory Reform*].

5. See, e.g., Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 CAP. U. L. REV. 21, 27–38 (2001) (describing challenges and problems inherent in achieving further progress within existing U.S. environmental regulatory system). Significant disagreement exists regarding the continuing value and efficacy of command-and-control regulation as the primary approach to environmental protection policy. See, e.g., Daniel H. Cole & Peter Z. Grossman, *When Is Command-and-Control Efficient? Institutions, Technology, and the Com-*

rious and more complex challenges of future agendas, reformers argue that traditional regulatory approaches must give way to new alternatives.⁶

Such concerns encouraged substantial effort over the past decade to evaluate alternative policy tools to supplement or, where appropriate, replace traditional environmental regulation.⁷ The goal is more flexible and effective methods to obtain greater environmental protection at lower cost to both government and the regulated community.⁸ Much of this effort focused on several regulatory reform or “reinvention” initiatives begun by the Environmental Protection Agency (“EPA”) under the Clinton Administration.⁹ However, despite investment of significant effort and resources, these programs are widely viewed as having produced mixed and somewhat disappointing results.¹⁰

In contrast, “informational regulation” emerged during this same era as a potential success story in the pursuit of alternatives to command-and-control environmental regulation.¹¹ Based in large part on the noto-

parative Efficiency of Alternative Regulatory Regimes for Environmental Protection, 1999 WIS. L. REV. 887 (arguing that command-and-control regulations are nominally efficient, produce social benefits in excess of their costs, and are more efficient than alternative “economic” approaches to regulation); Robert V. Percival, *Regulatory Evolution and the Future of Environmental Policy*, 1997 U. CHI. LEGAL F. 159 (“[W]hen viewed from an evolutionary perspective, the current regulatory infrastructure is neither as irrational nor as inefficient as its critics have claimed.”); Stewart, *supra*, at 21–22 (describing arguments of proponents of the current command-and-control regulatory system).

6. See, e.g., Esty & Chertow, *supra* note 3, at 1–14 & n.6; Debra S. Knopman, *Easier to be Green: The Second Generation of Environmental Action*, in BUILDING THE BRIDGE: 10 BIG IDEAS TO TRANSFORM AMERICA 163, 164 (Will Marshall ed. 1997).

7. See, e.g., Case, *Regulatory Reform*, *supra* note 4, at 40–46, 59–87.

8. See, e.g., U.S. ENVTL. PROTECTION AGENCY, EPA 100-R-00-020, INNOVATION AT THE ENVIRONMENTAL PROTECTION AGENCY: A DECADE OF PROGRESS 1 (April 2000) (describing “innovative” environmental policy tools and strategies developed during the 1990s intended to supplement regulatory programs and lead “to real environmental improvements and real reductions in costs.”).

9. See Case, *Regulatory Reform*, *supra* note 4, at 40–46, 64–87 (reviewing several Clinton-era reinvention initiatives designed to experiment with alternative approaches to the traditional command-and-control system).

10. See *id.* at 3–4 & n.7, and sources cited therein.

11. See David W. Case, *The Law and Economics of Environmental Information as Regulation*, 31 ENV. L. REP. 10,773 (2001) [hereinafter Case, *Environmental Information*]. See generally Mark A. Cohen, *Information as a Policy Instrument in Protecting the Environment: What Have We Learned?*, 31 ENVTL. L. REP. 10,425 (2001) (originally prepared for the Environmental Defense’s “Project 2001: The Potential Role of Information Policy in Environmental Management”) [hereinafter Cohen, *Information as a Policy Instrument*]; Bradley C. Karkkainen, *Information as Environmental Regulation: TRI and Performance Benchmarking, Precursor to a New Paradigm?*, 89 GEO. L.J. 257 (2001); Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515, 529–533 (2004) (summarizing rise of scholarship in environmental informational regulation field).

riety of the Toxics Release Inventory ("TRI"), created in 1986 through § 313 of the Emergency Planning and Community Right-to-Know Act ("EPCRA"),¹² numerous policy reports argued that mandatory public distribution of information had the potential to effect substantial improvements in industrial environmental performance.¹³ In 1997, the EPA joined a growing chorus of advocates of informational regulatory approaches and established expanded public environmental information disclosure as a strategic, long-term goal.¹⁴ Disappointingly, however, the EPA under the Bush Administration may have significantly cooled on the importance of information disclosure as a strategic goal.¹⁵

12. 42 U.S.C. §§ 11001–11050 (1986).

13. See, e.g., Mark D. Abkowitz, et al., *Environmental Information Disclosure and Stakeholder Involvement: Searching for Common Ground*, 6 CORP. ENVTL. STRATEGY J. 415 (1999) (describing national summit hosted by Vanderbilt Center for Environmental Management Studies on the use of disclosure of environmental information as a policy tool); ENTERPRISE FOR THE ENVIRONMENT, THE ENVIRONMENTAL PROTECTION SYSTEM IN TRANSITION: TOWARD A MORE DESIRABLE FUTURE 23 (1998) ("Information disclosure is viewed as an essential element of the improved environmental protection system because it provides incentives for continuous improvement in environmental performance that are not provided by more traditional regulatory approaches."); JULIE HARLAN, ENVIRONMENTAL POLICIES IN THE NEW MILLENNIUM: INCENTIVE-BASED APPROACHES TO ENVIRONMENTAL MANAGEMENT AND ECOSYSTEM STEWARDSHIP 11 (2000) (joint EPA/World Resources Institute conference summary) (noting that efforts to make environmental performance information public "can lead to greater accountability and voluntary improvement in performance on the part of industry"); NATIONAL ACADEMY OF PUBLIC ADMINISTRATION, ENVIRONMENT.GOV: TRANSFORMING ENVIRONMENTAL PROTECTION FOR THE 21ST CENTURY 15 (2000) (recommending building of a national system for gathering and disseminating environmental performance information to the public); PRESIDENT'S COUNCIL ON SUSTAINABLE DEVELOPMENT, TOWARDS A SUSTAINABLE AMERICA: ADVANCING PROSPERITY, OPPORTUNITY, AND HEALTHY ENVIRONMENT FOR THE 21ST CENTURY 41 (1999) ("An information-rich system, one that generates and disseminates accurate and useful information . . . motivates those who are being measured to perform better."); Robert Stavins & Bradley Whitehead, *Market-Based Environmental Policies*, in THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 105, 109 (Marian R. Chertow & Daniel C. Esty eds., 1997) (listing public information disclosure as one of six market-based instruments promoted as "next generation" alternatives to command-and-control approaches).

14. See U.S. ENVTL. PROTECTION AGENCY, EPA/190-R-97-002, EPA STRATEGIC PLAN 17, 50–52 (Sept. 1997). Ostensibly in an effort to further this goal, the EPA created the Office of Environmental Information ("OEI") in 1998. NATIONAL ACADEMY OF PUBLIC ADMINISTRATION, *supra* note 13, at 170. The EPA's self-described purpose for the OEI is "to advance the creation, management, and use of data as a strategic resource to advance public health and environmental protection, and improve the public's access to information about environmental conditions." *Id.* (quoting from undated EPA handout, "The Office of Environmental Information"). However, the National Academy of Public Administration is highly critical of the effectiveness of early OEI efforts, reporting that the EPA has failed to give the OEI "the mandate, authority, or tools necessary" to achieve its founding purpose. *Id.*

15. See Joseph D. Jacobson, *Safeguarding National Security Through Public Release of Environmental Information: Moving the Debate to the Next Level*, 9 ENVTL. LAW. 327, 337 (2003).

This Article defines “informational regulation” as government mandated public disclosure of information on the environmental performance of regulated entities.¹⁶ The primary purpose of informational regulation is to enlist the aid of non-governmental forces, particularly economic markets and public opinion, to either complement or substitute for traditional regulatory strategies of government standard setting and enforcement.¹⁷ In its pure form, informational regulation operates as a substitute, the focus being “the [poorly understood] effect that disclosure of information has on the social institutions of markets and public opinion.”¹⁸ In theory, these social institutions bring to bear post-disclosure pressures creating market incentives that positively affect the attitudes of regulated entities towards environmental performance. Said another way, market forces unleashed by public information disclosure create incentives for self-regulation not provided by traditional regulatory approaches.¹⁹ Indeed, such self-regulatory behavior occurs notwithstanding the absence of traditional regulatory controls.

16. See Tom Tietenberg, *Disclosure Strategies for Pollution Control*, 11 ENVTL. & RESOURCE ECON. 587, 588 (1998); Paul R. Kleindorfer & Eric W. Orts, *Informational Regulation of Environmental Risks*, 18 RISK ANALYSIS 155, 156 (1998). This admittedly narrow definition of informational regulation is utilized in order to distinguish the form of information disclosure mechanism which is the subject of this Article from other types of disclosure mechanisms. There are essentially three types of information disclosure programs, “with many variations on these basic types.” Cliff Russell & Chris Clark, *The Provision of Environmental Information as a Regulatory Instrument*, in ENVIRONMENT, INFORMATION AND CONSUMER BEHAVIOR ____ (Signe Krarup & Cliff Russell eds., forthcoming 2005) (unpublished manuscript, on file with the author). The first of these are “technical assistance” programs designed to provide polluters with information about abatement technologies, or to help consumers avoid or limit exposure to certain pollutants such as lead paint or radon. *Id.* The other two types are termed “third-party programs” that provide information about the environmental performance of specific firms or the environmental attributes of specific products or services. *Id.* This Article focuses primarily upon a specific variation of the former type of third-party program—formal corporate environmental reporting—designed to provide information on the environmental performance of a specific firm. The latter type of third-party program—often termed environmental labeling or “eco-labeling”—is an increasingly popular instrument for conveying to consumers information related to environmental implications of products in an effort to affect consumer (and eventually producer) behavior regarding environmental concerns. See Helmut Karl & Carsten Orwat, *Economic Aspects of Environmental Labeling*, in THE INTERNATIONAL YEARBOOK OF ENVIRONMENTAL AND RESOURCE ECONOMICS 1999/2000: A SURVEY OF CURRENT ISSUES 107–70 (Henk Folmer & Tom Tietenberg eds., 1999). For additional discussion of environmental labeling programs, see *infra* note 224.

17. See Tietenberg, *supra* note 16, at 588; Kleindorfer & Orts, *supra* note 16, at 156–57.

18. Kleindorfer & Orts, *supra* note 16, at 165.

19. See Shameek Konar & Mark A. Cohen, *Information as Regulation: The Effect of Community Right to Know Law on Toxic Emissions*, 32 J. ENVTL. ECON. & MGMT. 109, 109–111, 123 (1997) [hereinafter Konar & Cohen, *Information as Regulation*].

Informational regulation is described as "one of the most striking developments in the last generation of American law."²⁰ It has been a pervasive regulatory strategy in this country since the 1930s through federal securities laws and the work of the Securities and Exchange Commission.²¹ The "rights revolution" of the 1960s and 1970s witnessed a "great modern surge of informational regulation" primarily manifested in health, safety and environmental laws.²² During the 1980s and 1990s, this regulatory model became "especially prominent" as policymakers searched for effective, cost-efficient alternatives to conventional approaches.²³ Use of information disclosure as a regulatory tool is described as the "third phase" in the evolution of pollution control policy, following initial phases of traditional legal regulation (i.e., command-and-control) and market-based approaches (such as tradable permits and emission charges).²⁴ In contrast to federal securities law, however, "environmental law has not yet evolved to emphasize disclosure of information as a primary focus."²⁵ Instead, use of environmental informational regulation has been "piecemeal," "inchoate," and "haphazard."²⁶

A number of limited environmental informational regulatory schemes are currently in use.²⁷ The most celebrated and widely analyzed

20. Cass R. Sunstein, *Informational Regulation and Informational Standing: Akins and Beyond*, 147 U. PA. L. REV. 613, 613 (1999).

21. *Id.* at 618. See generally Cynthia A. Williams, *The Securities and Exchange Commission and Corporate Social Transparency*, 112 HARV. L. REV. 1197, 1211-27 (1999) (comprehensive discussion of intellectual and historical background of securities laws including purposes for which Congress adopted mandatory disclosure as regulatory method) [hereinafter Williams, *Social Transparency*]; Louis Lowenstein, *Financial Transparency and Corporate Governance: You Manage What You Measure*, 96 COLUM. L. REV. 1335, 1335-36 (1996) (discussing underlying justifications for disclosure policies of federal financial securities laws, including the intent to make domestic financial markets fair and efficient and to induce corporate managers to practice effective corporate governance and oversight); John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717, 723 (1984) (discussing original premise of mandatory disclosure obligations of federal securities laws); EUGENE BARDACH & ROBERT A. KAGAN, *GOING BY THE BOOK: THE PROBLEM OF REGULATORY UNREASONABLENESS* 244 (1982) (describing the Securities and Exchange Acts as the "granddaddies of mandatory disclosure efforts").

22. Sunstein, *supra* note 20, at 618-24. See also ROBERT V. PERCIVAL ET AL., *ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY* 471-74 (4th ed. 2003) (discussing informational approaches as an alternative to conventional regulatory approaches); STEPHEN G. BREYER ET AL., *ADMINISTRATIVE LAW AND REGULATORY POLICY: PROBLEMS, TEXT, AND CASES* 12-14 (4th ed. 1999) (discussing use of information disclosure as a regulatory tool in such areas as securities regulation, product safety, occupational safety and health, and telecommunications).

23. Sunstein, *supra* note 20, at 618-19; PERCIVAL ET AL., *supra* note 22, at 636-40.

24. Tietenberg, *supra* note 16, at 587-88.

25. Kleindorfer & Orts, *supra* note 16, at 156.

26. *Id.*

27. Other notable examples of informational regulation include the requirement of Section 112(r) of the Clean Air Act Amendments of 1990 for businesses to create and publicly

of these is the TRI created by EPCRA. EPCRA was established by Congress in reaction to notorious accidental chemical releases by Union Carbide plants in Bhopal, India and Institute, West Virginia.²⁸ Among other things, EPCRA requires covered companies to submit annual data to the EPA on amounts of certain toxic chemicals released into the air, water, land, or transferred off-site. EPA maintains this data in a national computer database—the TRI—accessible by the public, primarily through the Internet.²⁹ The EPA has credited public dissemination of TRI data, especially through media reporting and well-known outlets such as Environmental Defense's "Scorecard" Internet website,³⁰ with inducing firms to reduce overall covered chemical releases by nearly fifty percent.³¹ Such claims are often sharply criticized concerning the manner in which TRI data is reported or interpreted.³² Nonetheless, consensus is widespread that TRI disclosure has induced significant voluntary reductions

disclose "risk management plans" ("RPMs") for accidental chemical releases and the preparation and public dissemination of annual "consumer confidence reports" under the Safe Drinking Water Act Amendments of 1996. 42 U.S.C. § 7412(r) (1999); 42 U.S.C. § 300g-3(c)(4) (2002).

28. See PERCIVAL ET AL., *supra* note 22, at 483. The December 1984 Bhopal tragedy was by far the more serious of the two incidents, as an accidental release of methyl isocyanate killed over 3,000 persons and severely injured scores of thousands of others. In contrast, no deaths were attributed to an August 1985 accidental release of aldicarb oxime at Union Carbide's West Virginia plant, and the scores of residents adversely affected were only briefly hospitalized. However, coming on the heels of the already impassioned controversy over Bhopal, and following industry assurances that a similar accident could not happen in the United States, the West Virginia incident, at the very least, strengthened congressional resolve to affirmatively respond to Bhopal, in part, through adoption of legislation creating the TRI and requiring public reporting of chemical releases. *Id.*

29. U.S. Env'tl. Protection Agency, *Toxics Release Inventory (TRI) Program*, at <http://www.epa.gov/tri> (last modified June 24, 2004).

30. Environmental Defense, *Scorecard*, at <http://www.scorecard.org> (last visited Nov. 4, 2004).

31. Based on 2000 information, the EPA asserts that reported releases of TRI covered chemicals have been reduced by forty-eight percent since 1988. U.S. ENVTL. PROTECTION AGENCY, EPA-260-S-02-001, 2000 TOXICS RELEASE INVENTORY (TRI) PUBLIC DATA RELEASE REPORT: EXECUTIVE SUMMARY ES-12 (2002). Although 1987 is the first calendar year for which TRI data was released, subsequent information has demonstrated the 1987 TRI data to be "particularly unreliable." Konar & Cohen, *Information as Regulation*, *supra* note 19, at 113. Thus, the 1988 calendar year TRI data is generally the earliest baseline used for studies or comparisons under the TRI. *Id.*

32. See, e.g., Abkowitz et al., *supra* note 13, at 416 (discussing concerns that non-targeted disclosure of TRI data can be ineffective or misleading); Ronald B. Outen, *Designing Information Rules to Encourage Better Environmental Performance* (Oct. 18, 1999) (paper prepared for joint World Resources Institute ("WRI")/EPA conference, "Environmental Policies for a New Millennium: Using Incentives for Ecosystem Protection and Stewardship") (unpublished manuscript, on file with the author); ALEXANDER VOLOKH ET AL., ENVIRONMENTAL INFORMATION: THE TOXICS RELEASE INVENTORY, STAKEHOLDER PARTICIPATION, AND THE RIGHT TO KNOW: PART 1 OF 2: SHORTCOMINGS OF THE CURRENT RIGHT-TO-KNOW STRUCTURE (Reason Pub. Policy Inst., Policy Study No. 246, 1998).

in covered releases well below levels otherwise required by existing command-and-control regulation.³³

The effect of TRI disclosure on firm environmental behavior has generated considerable academic interest in environmental informational regulation. Scholarly literature in this area sounds both optimistic and cautionary tones regarding the potential benefits of this approach as an environmental protection policy tool.³⁴ Empirical studies, though limited, demonstrate that information disclosure can be a powerful lever in motivating improved environmental performance by regulated firms. To date, however, use of informational regulation as a tool of environmental protection has been, at best, blunt and unfocused. Commentators uniformly emphasize that further empirical research is necessary to better understand specific links between components of disclosure strategy and environmental performance improvement.³⁵ Such understanding is vital to the ability of policymakers to design effective information disclosure instruments and to expand their use to achieve environmental protection policy goals.

In addition to its success as a regulatory approach, the TRI has had another remarkable influence on corporate environmental behavior in the United States. In the late 1980s, a few firms responded to negative pressures stemming from public disclosure of TRI data by voluntarily publishing reports for general public consumption disclosing primarily positive information about their environmental operations and performance.³⁶ From such modest beginnings eventually grew the contemporary trend broadly denominated in this Article as "formal voluntary corporate environmental reporting." This phrase is defined as periodic external communication of environmental performance information by means of a single, stand-alone document (a "corporate environmental re-

33. Outen, *supra* note 32, at 4; see also Sidney M. Wolf, *Fear and Loathing About the Public Right to Know: The Surprising Success of the Emergency Planning and Community Right-To-Know Act*, 11 J. LAND USE & ENVTL. L. 217 (1996) (analyzing some of the earliest reported annual TRI data).

34. For a detailed review of this literature, see Case, *Environmental Information*, *supra* note 11.

35. See, e.g., *id.* at 328; Cohen, *Information as a Policy Instrument*, *supra* note 11, at 10,430-31.

36. See, e.g., David W. Case, *Legal Considerations in Voluntary Corporate Environmental Reporting*, 30 ENVTL. L. REP. 10,375, 10,376 (2000) [hereinafter Case, *Environmental Reporting*]; Allen L. White, *Sustainability and the Accountable Corporation: Society's Rising Expectations of Business*, 41 ENV'T 30, 34-36 (Oct. 1999); Carol J. Forrest & Robert A. Axelrod, *Businesses Find Value in Environmental Report Cards*, ENVTL. SOLUTIONS, Jan. 1, 1995, at 34; KPMG ENVTL. CONSULTING, KPMG INTERNATIONAL SURVEY OF ENVIRONMENTAL REPORTING 1999 7-8 (1999) [hereinafter KPMG REPORT 1999]; W. GARY WILSON & DENNIS R. SASSEVILLE, *SUSTAINING ENVIRONMENTAL MANAGEMENT SUCCESS* 149-50 (1999).

port”) generally analogous to an annual corporate financial report.³⁷ As discussed more fully in Section I of this Article, formal voluntary corporate environmental reporting is now mainstream behavior for numerous companies, especially large industry standard setters.

The substantial growth of voluntary formal corporate environmental reporting presents an opportunity to significantly expand informational regulation as a tool of American environmental protection policy. The goal of this Article is to encourage policymakers to leverage this voluntary trend for public policy purposes, ultimately leading to development of a comprehensive system of mandatory reporting of environmental performance information. Importantly, however, such an objective is not offered as a panacea for infirmities inherent in traditional environmental regulation. Indeed, extant scholarship reflects that disclosure strategies are imperfect substitutes for direct legal controls on environmental conduct. Nonetheless, concerning the search for viable alternatives to traditional regulatory choices, such scholarship also reflects the substantial promise of information disclosure as a supplement to the existing regulatory system. Indeed, as part of a reflexive law strategy, a primary objective of information disclosure is to encourage “self-regulatory” behavior to complement existing direct control systems and attendant enforcement regimes. Accordingly, use of corporate environmental reporting as an informational regulatory approach should stand alongside of, rather than in substitute for, command-and-control regulation.

Section I of this Article examines the still evolving trend toward voluntary disclosure of environmental performance information in formal corporate environmental reports. This discussion pays particular attention to the most important recent development in the evolution of vol-

37. See Douglas J. Lober et al., *The 100 Plus Corporate Environmental Report Study: A Survey of an Evolving Environmental Management Tool*, 6 BUS. STRATEGY & ENV'T 57, 58–59 (1997) (noting the lack of a universally accepted definition for a corporate environmental report). The above constitutes a somewhat restrictive definition of voluntary corporate environmental reporting, but one consistent with the conception of formalized voluntary reporting as considered in this Article. However, broader definitions appear in the literature on voluntary environmental reporting. For example, one extremely broad definition depicts a “corporate environmental report” or a “CER” as “any medium used by organizations to communicate issues relating to their environmental performance,” including leaflets, posters, CD-ROMs, and Internet-based reporting in addition to printed stand-alone reports of several dozen to a hundred or more pages that follow more traditional reporting formats. Kathryn Jones et al., *Internet-Based Environmental Reporting: Current Trends*, 26 GREENER MGMT. INT'L 69, 70–71 (1999). Although publication of corporate environmental reports continues to be dominated by traditional paper-based publications in print-media, a growing number of companies are beginning to utilize the benefits and advantages of Internet technology for corporate environmental reporting and publication of corporate environmental reports. See Ralf Isenmann & Christian Lenz, *Customized Corporate Environmental Reporting by Internet-Based Push and Pull Technologies*, 8 ECO-MGMT. & AUDITING 100, 101–03 (2001).

untary formal corporate environmental reporting—the Global Reporting Initiative. Section II examines two existing examples—the European Union’s Eco-Management and Audit Scheme (“EMAS”) regulation and environmental disclosure under United States securities laws—of governmental policy instruments requiring disclosure of environmental performance information. Section III utilizes a law and economics framework to evaluate the viability of utilizing the existing voluntary formal corporate environmental reporting regime to establish a comprehensive strategy of environmental informational regulation. Following analysis of formal corporate environmental reporting through consideration of economic and legal perspectives on environmental informational regulation, the Article concludes with a brief discussion of the intrinsic worth of a mandatory regulatory approach as opposed to mere governmental support for a voluntary reporting regime.

I. THE EVOLUTION OF FORMAL VOLUNTARY CORPORATE ENVIRONMENTAL REPORTING

The original roots of voluntary external reporting on corporate environmental performance are found in the corporate social reporting movement of the 1970s.³⁸ This movement dwindled and virtually disappeared as the socially conscious 1970s gave way to the politically conservative Reagan era of the 1980s.³⁹ Voluntary corporate environmental reporting reemerged at the end of the 1980s when a few formal stand-alone environmental reports appeared in the United States.⁴⁰ Companies producing these early formal corporate environmental reports were

38. See Richard MacLean & Romi Gottfrid, *Corporate Environmental Reports: Stuck Management Processes Holds Back Real Progress*, 7 CORP. ENVTL. STRATEGY J. 244, 246–47 (2000); Rob Gray & Jan Bebbington, *Environmental Accounting, Managerialism and Sustainability: Is the Planet Safe in the Hands of Business and Accounting?*, in 1 ADVANCES IN ENVTL. ACCT. & MGMT. 15, 17 (Martin Freedman & Bikki Jaggi eds., 2000); David Hess, *Social Reporting: A Reflexive Law Approach to Corporate Social Responsiveness*, 25 J. CORP. L. 41, 47, 63–70 (1999). For an elaboration of environmental indicators and parameters included within the scope of the environmental disclosure component of the social reporting movement of the 1970s, see HAROLD L. JOHNSON, DISCLOSURE OF CORPORATE SOCIAL PERFORMANCE: SURVEY, EVALUATION, AND PROSPECTS 19, 24–25, 74–75 (1979).

39. Gray & Bebbington, *supra* note 38, at 17; Hess, *supra* note 38, at 63. Commentators have argued that the conservative business climate of the 1980s was not conducive to social and environmental reporting as, in contrast to the 1960s and 1970s, business and industry exercised greater influence over norms of corporate behavior and the terms of their social contract with society in general. See Simon Zadek et al., *Why Count Social Performance?*, in BUILDING CORPORATE ACCOUNTABILITY 18 (Simon Zadek et al. eds., 1997). See also Laurie Richardson, *Three Pillars of Responsibility*, in CORPORATE GLOBAL CITIZENSHIP: DOING BUSINESS IN THE PUBLIC EYE 44–45 (Noel M. Tichy et al. eds., 1997) (describing the decade of the 1980s as promoting a corporate culture of “unbridled pursuit of self-interest and greed”).

40. Lober et al., *supra* note 37, at 59.

spurred in significant part by adverse publicity following the initial releases of data under the TRI.⁴¹

The early 1990s witnessed exponential growth in voluntary corporate environmental reporting sustained primarily by industry standard setters and large multi-national corporations. By 1995, over 100 Fortune 500 companies voluntarily issued formal corporate environmental reports.⁴² By the end of the decade, thirty-five percent of the world's 250 largest companies produced formal reports.⁴³ By 2002, that number grew to forty-five percent.⁴⁴ In the United States, thirty-six percent of the largest 100 American companies issued such reports in 2002, an increase from thirty percent in 1999.⁴⁵ Such numbers are the reason that overall growth in formal voluntary corporate environmental reporting since the early 1990s is described as "phenomenal."⁴⁶ Significantly, however, the relatively small number of total firms worldwide engaging in voluntary reporting has triggered simultaneous observations disparaging the "global paucity of such reporting."⁴⁷

41. *Id.*; see also MacLean & Gottfrid, *supra* note 38, at 246. One of the first formal CERs produced in the United States was issued by Polaroid in 1989. Lober et al., *supra* note 37, at 246. Polaroid was induced to formally report on its environmental performance by bad press it received regarding the company's TRI emissions in Massachusetts. White, *supra* note 36, at 36. However, a growing series of major environmental disasters by the end of the 1980s—including such watershed events as Bhopal and the Exxon Valdez—also contributed to world-wide public concern levels that helped place environmental issues at the core of political and business thinking. ROB GRAY ET AL., ACCOUNTING & ACCOUNTABILITY: CHANGES AND CHALLENGES IN CORPORATE SOCIAL AND ENVIRONMENTAL REPORTING 97 (1996).

42. Lober et al., *supra* note 37, at 59.

43. KPMG REPORT 1999, *supra* note 36, at 11; Ans Kolk et al., *Environmental Reporting by the Fortune Global 250: Exploring the Influence of Nationality and Sector*, 10 BUS. STRATEGY & ENV'T 15, 15 (2001) [hereinafter Kolk et al., *Fortune Global 250*]; Ans Kolk, *Green Reporting*, HARV. BUS. REV., Jan.-Feb. 2000, at 15.

44. KPMG GLOBAL SUSTAINABILITY SERVICES, KPMG INTERNATIONAL SURVEY OF CORPORATE SUSTAINABILITY REPORTING 2002 5 (2002) [hereinafter KPMG REPORT 2002]. Similarly, a 2003 survey of the world's largest 100 companies found that approximately half, or forty-nine percent, publish an environmental, social or sustainability report. CSRNETWORK, MATERIAL WORLD: THE 2003 BENCHMARK SURVEY OF GLOBAL REPORTING 5 (2003). This was an increase from forty-four percent in a similar survey taken in 1999. *Id.*

45. KPMG REPORT 2002, *supra* note 44, at 14. Conflicting evidence exists as to whether the overall rate of voluntary corporate environmental reporting has declined in the United States since the mid-1990s. KPMG's 1999 and 2002 surveys suggest such a trend. See KPMG REPORT 1999, *supra* note 36, at 17; KPMG REPORT 2002, *supra* note 44, at 14. In contrast, a later study performed by the Investor Responsibility Research Center found a significant increase in U.S. reporting between the mid-1990s and the end of the decade. See David Wheeler & John Elkington, *The End of the Corporate Environmental Report? Or the Advent of Cybernetic Sustainability Reporting and Communication*, 10 BUS. STRATEGY & ENV'T 1, 4 (2001) (discussing findings of Investor Responsibility Research Center study).

46. Gray & Bebbington, *supra* note 38, at 16.

47. *Id.*

A renewed emphasis on corporate social responsibility has greatly aided the substantial modern growth of formal voluntary environmental reporting.⁴⁸ After quietly slipping off the radar after the 1970s, corporate social responsibility reemerged as a focal societal issue largely due to the strength of the environmental agenda of the 1990s.⁴⁹ A significant part of this agenda was the related expansion of interest in environmental reporting. The growth of environmental reporting fueled, in large part, the subsequent return of corporate social responsibility reporting.⁵⁰ Contemporary corporate social disclosure focuses primarily upon the paradigm of "sustainability reporting." Within this model, information is reported relative to the "triple bottom line" of social, environmental, and economic impacts of a corporation's activities.⁵¹ By the end of the

48. Hess, *supra* note 38, at 43–46; White, *supra* note 36, at 32; Noel M. Tichy et al., *Introduction: Corporate Global Citizenship—Why Now?*, in *CORPORATE GLOBAL CITIZENSHIP: DOING BUSINESS IN THE PUBLIC EYE* 1–7, 17–22 (Noel M. Tichy et al. eds., 1997); PETER SCHWARTZ & BLAIR GIBB, *WHEN GOOD COMPANIES DO BAD THINGS: RESPONSIBILITY AND RISK IN AN AGE OF GLOBALIZATION* 1–7 (1999); MALCOLM MCINTOSH ET AL., *CORPORATE CITIZENSHIP: SUCCESSFUL STRATEGIES FOR RESPONSIBLE COMPANIES* xix–xx, 3–30 (1998); see also George D. Smith & Davis Dyer, *The Rise and Transformation of the American Corporation*, in *THE AMERICAN CORPORATION TODAY* 65 (Carl Kaysen ed., 1996) (arguing that increasing societal expectations and the pressures of competition among leading companies means that "explicit social and ethical responsibilities are now vested in American corporations more than ever before").

49. GRAY ET AL., *supra* note 41, at 93 (stating that after "the broad notion of social responsibility quietly slipped off the political and business agenda" at the onset of the recession of the late 1970s, it "only really showed any signs of returning by the mid-1990s by way of the Trojan Horse of 'environmental' issues which brought social responsibility debate back into the citadel walls of corporations"); *id.* at 145 (observing that by the mid-1990s substantial evidence existed "that the developing environmental agenda . . . was creating a new climate in which wider social responsibility and reporting could be brought back onto the business agenda"); Gray & Bebbington, *supra* note 38, at 17; White, *supra* note 36, at 36.

50. GRAY ET AL., *supra* note 41, at 145; Gray & Bebbington, *supra* note 38, at 17; White, *supra* note 36, at 36.

51. Gray & Bebbington, *supra* note 38, at 17; White, *supra* note 36, at 36. There is substantial dispute over the precise meaning of the principle of "sustainability" and its analogue "sustainable development." Gray & Bebbington, *supra* note 38, at 5; White, *supra* note 36, at 33. In general, corporate "sustainability" relates to three dimensions of corporate behavior—the environmental, social, and economic aspects of a company's operations—referred to in the lexicon of social reporting as the "triple bottom line." White, *supra* note 36, at 33. However, the concept of "sustainability" is also generally considered to have an inter-generational component. In this regard, the President's Council on Sustainable Development (created by President Clinton in 1993) "define[d] 'sustainable development' as ensuring that future generations have equivalent economic opportunities and quality of life enjoyed by the current generation through national policies that consider economic, environmental, and social equity interests in combination." Case, *Regulatory Reform*, *supra* note 4, at 11; THE PRESIDENT'S COUNCIL ON SUSTAINABLE DEVELOPMENT, *SUSTAINABLE AMERICA: A NEW CONSENSUS FOR PROSPERITY, OPPORTUNITY, AND A HEALTHY ENVIRONMENT FOR THE FUTURE* i–ii (1996). Similarly, the World Council on Economic Development defines "sustainable development" as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." Gray & Bebbington, *supra* note 38, at 5. These present

1990s, the respective environmental and social reporting movements had begun to converge. The best example of the convergence of these reporting trends is currently seen in the Global Reporting Initiative ("GRI"), discussed in considerable detail in Section I.B. below.

The social institutions (markets and public opinion) driving the success of informational regulatory approaches such as the TRI also have contributed to the substantial growth of voluntary corporate environmental reporting. Diverse market actors continually bring pressure to bear on firms to voluntarily disclose environmental performance information. These market actors include current and potential investors, employees, customers, local communities, business competitors and industry standard setters, government regulators, environmental and social advocacy groups, and the media.⁵² As more companies affirmatively respond to market pressures by engaging in formal corporate environmental reporting, incentives are created for others to follow suit.⁵³ In this regard, formal voluntary corporate environmental reporting has much in common with existing informational regulation.

A. Mandatory Reporting Precursor

In the United States, trends in voluntary environmental reporting have been substantially influenced by this country's mandatory environmental regulatory compliance reporting regime.⁵⁴ Mandatory reporting of environmental information dates back to the original enactment of major environmental statutory schemes governing air and water quality and waste management.⁵⁵ Today, virtually every major federal environmental statute requires reporting of environmental data on spills, leaks,

and future needs are both social and environmental and can be compartmentalized into three conceptual components—eco-justice (equity between people and generations and the idea of equal rights of all peoples to environmental resources); eco-efficiency (capturing the idea of reducing materials/resource and energy use per unit of output); and eco-effectiveness (which captures the idea of reducing overall ecological footprints). *Id.* at 5–6. For expanded discussion of the concepts underlying corporate sustainability principles, see RAY C. ANDERSON, MID-COURSE CORRECTION: TOWARD A SUSTAINABLE ENTERPRISE: THE INTERFACE MODEL (1998); PAUL HAWKEN, THE ECOLOGY OF COMMERCE: A DECLARATION OF SUSTAINABILITY (1993).

52. Case, *Environmental Reporting*, *supra* note 36, at 10,376.

53. *Id.*

54. White, *supra* note 36, at 35; GRAY ET AL., *supra* note 41, at 149. For a summary discussion of legal requirements regarding environmental information disclosure, see Joel A. Mintz, *Where Do We Fit In?: U.S. Information Disclosure and Hazardous Waste Remediation Laws as Compared With the Policy Suggestions of the U.N. Environment Program*, 33 ENVTL. L. REP. 10,694, 10,695–97 (2003).

55. White, *supra* note 36, at 35.

regulatory compliance, and related information.⁵⁶ Comprehensive, "summary-type" reporting on industrial emissions is required under such statutes as the Clean Air Act (Annual Air Emission Statements), the Clean Water Act (Discharge Monitoring Reports), and the Resource Conservation and Recovery Act (Hazardous Waste Biennial Reporting System).⁵⁷ Further, in addition to the federal TRI, many states have "right-to-know" laws requiring disclosure of environmental information, and at least two states—Massachusetts and New Jersey—mandate disclosure of "materials accounting" data, an inventory by companies of substances (primarily chemicals) brought into, used in, and taken out of facilities.⁵⁸

In addition to environmental laws, federal securities laws require publicly held companies to disclose environmental information on regulatory compliance, judicial proceedings, and liabilities in publicly available registration statements, and quarterly and annual financial reports filed with the Securities and Exchange Commission ("SEC").⁵⁹ Mandatory environmental disclosures meeting certain standards of financial materiality are required under SEC Regulations S-K and S-X promulgated under the Securities Act of 1933 and the Securities and Exchange Act of 1934.⁶⁰ Further, the general securities antifraud provisions—Section 10(b) of the 1934 Act and its implementing SEC Rule 10b-5—require regulated companies to avoid material misrepresentations or omission of material facts on environmental matters.⁶¹ Thus, environmental disclosures mandated by federal securities laws must be accurate and as de-

56. See Case, *Environmental Reporting*, *supra* note 36, at 10,376; see also James R. Arnold, *Environmental Reporting and Disclosure Duties*, SC18 A.L.I.-A.B.A. 571 (1997); James R. Arnold, *Disclosure of Environmental Liabilities to Government Agencies and Third Parties in the U.S.*, C764 A.L.I.-A.B.A. 609 (1992).

57. Susan C. Helms, *Report Card*, ENVTL. F., Nov.–Dec. 1999, at 24; Jeanne Herb et al., *Making Environmental Public Reporting a Foundation for Regulatory Reform* (Sept. 29, 1999) (paper prepared for joint WRI/EPA conference, "Environmental Policies for a New Millennium: Using Incentives for Ecosystem Protection and Stewardship") (unpublished manuscript, on file with the author).

58. VOLOKH ET AL., *supra* note 32, at 5.

59. See Case, *Environmental Reporting*, *supra* note 36, at 10,375, 10,378–79. For basic discussions of these requirements, see John W. Bagby et al., *How Green Was My Balance Sheet?: Corporate Liability and Environmental Disclosure*, 14 VA. ENVTL. L.J. 225 (1995); Steven L. Bray, *Sealing the Conceptual Cracks in the SEC's Environmental Disclosure Rules: A Risk Communication Approach*, 18 U. PA. J. INT'L ECON. L. 655, 661–63 (1997); Tracy Soehle, Comment, *SEC Disclosure Requirements for Environmental Liabilities*, 8 TUL. ENVTL. L.J. 527 (1995).

60. See Regulation S-K, 17 C.F.R. § 229.10 (2004); Regulation S-X, 17 C.F.R. § 210.1-01 (2004); see generally Case, *Environmental Reporting*, *supra* note 36, at 10,378–79; Bagby et al., *supra* note 59, at 303–07.

61. See 15 U.S.C. § 78j (2004); 17 C.F.R. § 240.10b-5 (2004).

tailed as necessary to avoid imposition of liability for disclosing false and misleading information.⁶²

In contrast to the TRI, however, environmental disclosure required under various environmental statutes and federal securities laws was not intentionally designed as informational regulation—that is, with widespread public information access and dissemination as primary goals.⁶³ These reporting requirements are described as “fragmentary,” “uncoordinated,” “chaotic,” and intended primarily to determine minimal compliance with regulatory standards.⁶⁴ Especially with respect to information disclosed pursuant to environmental statutes, public access is generally limited and public review difficult, burdensome, and costly.⁶⁵ Nonetheless, such information is in fact widely utilized in the private sector to evaluate corporate environmental performance, especially of large, high profile companies. In what can be termed “information brokering,” several non-profit and for-profit organizations develop extensive databases of information on companies’ environmental records, utilizing information disclosed under environmental statutes, federal securities laws, and numerous other public sources.⁶⁶ The most prominent of these organizations include Environmental Defense, which operates the well-known “Scorecard” Internet website,⁶⁷ Investor Responsibility Research Center (“IRRC”),⁶⁸ and Innovest. These organizations then disseminate (and

62. Case, *Environmental Reporting*, *supra* note 36, at 10379.

63. See Herb et al., *supra* note 57, at 2; Helms, *supra* note 57, at 24 (for citizens seeking environmental information, environmental reports made pursuant to statutory requirements “are difficult to obtain and virtually impossible to decipher”); Richard Y. Roberts, *Focus on Significant Information*, ENVTL. F., May–June 1999, at 40 (only “economically meaningful” environmental disclosures required under federal securities laws; financial materiality the primary goal). As emphasized by a 1998 report by the Tellus Institute commissioned by the EPA, “[u]nfortunately, current environmental reporting requirements reflect a medium-specific patchwork of pollution control regulations that do little to achieve the goals of reliable, comparable, timely—and understandable—information reporting.” ALLEN L. WHITE ET AL., REINVENTING ENVIRONMENTAL REPORTING: AN INTEGRATED, POLLUTION PREVENTION-BASED APPROACH iii (1998), available at <http://www.tellus.org/b&s/publications/finalrep.pdf>.

64. Karkkainen, *supra* note 11, at 284; Helms, *supra* note 57, at 24; White, *supra* note 36, at 33.

65. Herb et al., *supra* note 57, at 2; Helms, *supra* note 57, at 24. See also White, *supra* note 36, at 33 (the “rudimentary” reporting system created under federal environmental statutes and regulations was designed to serve “only one stakeholder”—the federal government).

66. See Williams, *Social Transparency*, *supra* note 21, at 1289–90. Such groups and other research professionals—described by Professor Cynthia Williams as “social analysts”—develop “extensive databases of information on companies’ environmental records,” utilizing information disclosed under the federal securities laws and from numerous other public sources (such as Freedom of Information Act requests to the EPA to obtain regulatory compliance information reported pursuant to environmental statutes). *Id.*

67. Environmental Defense, *Scorecard*, at <http://www.scorecard.org> (last visited Nov. 8, 2004).

68. The IRRC is a Washington, D.C., nonprofit organization that serves the social in-

often sell) the information to securities analysts, portfolio managers, socially screened investment funds, academic researchers, and other interested stakeholders.⁶⁹

B. *Evolution of the Voluntary Reporting Regime*

As emphasized above, regulated industry is subject to frequent mandatory environmentally related disclosure obligations. For individual companies, a formal corporate environmental report provides an internally-controlled opportunity to explain such publicly available information within the context of overall environmental management efforts.⁷⁰ However, the practice of self-publishing external environmental reports is often sharply criticized. For example, such reporting can reflect only such self-aggrandizing aspects of environmental performance the firm is willing to reveal, while negative information is omitted or obscured.⁷¹ Especially in the late 1980s and early 1990s, voluntary corporate environmental reporting was often dismissed as mere "green washing." Such criticism was supported by production of reports described as "green glossies"—publications highly selective in content and driven more by concern for public image construction than accuracy in reporting.⁷²

The quality and perceived legitimacy of voluntary corporate environmental reporting improved dramatically after the early 1990s.⁷³ Indeed, contemporary practice underwent a dramatic transformation from early "green glossy" predecessors. Modern "best practices" require disclosure of hard, quantitative data and rigorous performance reporting, in-

vestment community by developing company social performance profiles utilizing a broad spectrum of quantitative and qualitative information gathered from both voluntary surveys and published government reports.

69. See *supra* note 68; Williams, *Social Transparency*, *supra* note 21, at 1289–90.

70. Case, *Environmental Reporting*, *supra* note 36, at 10,375–76.

71. Gray & Bebbington, *supra* note 38, at 16; Karkkainen, *supra* note 11, at 290.

72. Sonja Gallhofer & Jim Haslam, *The Direction of Green Accounting Policy: Critical Reflections*, 10 ACCT., AUDITING & ACCOUNTABILITY J. 148, 157–58 (1997); MacLean & Gottfrid, *supra* note 38, at 244, 246. Indeed, the early 1990s produced numerous "green glossy" reports that followed an optimistic and self-promoting style-over-substance approach avoiding disclosure of hard, quantitative data on environmental performance. WILSON & SASSEVILLE, *supra* note 36, at 150; Allen L. White & Diana M. Zinkl, *Raising Standardization*, ENVTL. F., Jan.–Feb. 1998, at 30 [hereinafter White & Zinkl, *Raising Standardization*]. See also Richard MacLean, *Corporate Environmental Reports—Three Dimensions to Success*, EM, June 2000, at 23 (describing early corporate environmental reports as "thinly veiled public relations exercises").

73. See, e.g., Ans Kolk, *Evaluating Corporate Environmental Reporting*, 8 BUS. STRATEGY & ENV'T 225, 228 (1999) [hereinafter Kolk, *Evaluating CER*]; White & Zinkl, *Raising Standardization*, *supra* note 72, at 30; MacLean & Gottfrid, *supra* note 38, at 246; WILSON & SASSEVILLE, *supra* note 36, at 150.

cluding disclosure of negative information such as regulatory compliance violations.⁷⁴ Nonetheless, a wide range in reporting quality continues to exist in contemporary external environmental reporting, with the “green glossy” approach to reporting sometimes being followed even today.⁷⁵ This causes some to continue to view voluntary environmental reporting as a self-serving “legitimation device” rather than a tool to promote external accountability on environmental issues.⁷⁶ Unquestionably, instances of disclosure of inaccurate or misleading information substantially reduce the value of self-reporting mechanisms generally.⁷⁷ Public skepticism engendered by misleading or inaccurate reporting undercuts incentives for even superior environmental performers to voluntarily report due to concern that even accurate, reliably informative reporting will be viewed as nothing more than “green washing.”⁷⁸

Formal voluntary corporate environmental reporting is not directly regulated in the United States.⁷⁹ Accordingly, companies are free to choose which aspects of environmental performance to publicly disclose, along with the substantive content of such disclosure.⁸⁰ In addition to generating the criticisms noted above, such lack of restrictions results in broad variation in the format and content of corporate environmental reports.⁸¹ Historically, formal corporate environmental reporting has lacked consensus on how information should be presented, what type of performance indicators should be used, and on the meaning of such indicators.⁸² Commentators made the inevitable negative comparison of environmental reporting to the far more standardized process of external financial reporting.⁸³ However, external financial reporting practices have evolved over nearly a century. Financial reporting includes appli-

74. White & Zinkl, *Raising Standardization*, *supra* note 72, at 30; Case, *Environmental Reporting*, *supra* note 36, at 10,377–78.

75. Kolk, *Evaluating CER*, *supra* note 73, at 228; MacLean & Gottfrid, *supra* note 38, at 246.

76. Gray & Bebbington, *supra* note 38, at 16; Gallhofer & Haslam, *supra* note 72, at 157–58.

77. Karkkainen, *supra* note 11, at 290.

78. *Id.* at 290–91.

79. Case, *Environmental Reporting*, *supra* note 36, at 10,376; accord Gray & Bebbington, *supra* note 38, at 16 (noting that “[e]nvironmental reporting takes place in a predominantly voluntary regime”).

80. Case, *Environmental Reporting*, *supra* note 36, at 10,376.

81. See S. Douglas Beets & Christopher C. Souther, *Corporate Environmental Reports: The Need for Standards and an Environmental Assurance Service*, 13 ACCT. HORIZONS 129, 131 (June 1999); Giovanni Azzone et al., *Evolutionary Trends in Environmental Reporting*, 5 BUS. STRATEGY & ENV'T 219, 219 (1996).

82. Kolk, *Evaluating CER*, *supra* note 73, at 228; White & Zinkl, *Raising Standardization*, *supra* note 72, at 29–30.

83. See, e.g., MacLean & Gottfrid, *supra* note 38, at 245–46; White & Zinkl, *Raising Standardization*, *supra* note 72, at 28.

cation of Generally Accepted Accounting Principles ("GAAP") set forth by the Financial Accounting Standards Board ("FASB") and regular audits governed by the Auditing Standards Board, all of which is regulated and overseen by the SEC.⁸⁴ This system facilitates disclosure of financial information that is "verif[ied], understandable, meaningful, timely, and standardized."⁸⁵ Information disclosed through financial reports is therefore widely accepted as valuable and credible.⁸⁶

In stark contrast, voluntary corporate environmental reporting historically has lacked similar levels of consistency, comparability, credibility, and relevance.⁸⁷ Inadequate standardization undercuts the value of voluntary external environmental reporting as a driver of accountability and transparency.⁸⁸ End users of information in corporate environmental reports, including internal users such as firm managers or external users such as investors, environmental activists, government regulators, researchers, and ratings organizations, are hindered in meaningfully evaluating a firm's environmental performance. This includes the inability to benchmark against the best practices and performance of other comparable firms.⁸⁹

Importantly, however, the external voluntary corporate environmental reporting movement matured rapidly during the decade of the 1990s. A proliferation of systems and methodologies emerged to evaluate the content and quality of individual reports.⁹⁰ Loose, unorganized movements among both industry and non-governmental organizations began to develop standardized approaches to measuring and reporting corporate environmental performance. By the mid-1990s, several stakeholder groups—each generally acting independently of the other—issued guidelines or suggested frameworks regarding what should be reported and how.⁹¹ These included trade associations and industry groups, non-governmental organizations, and accounting organizations.⁹² More than

84. MacLean & Gottfrid, *supra* note 38, at 245–46; White, *supra* note 36, at 34.

85. White & Zinkl, *Raising Standardization*, *supra* note 72, at 28.

86. *Id.*

87. *Id.* at 28–29; MacLean & Gottfrid, *supra* note 38, at 246.

88. White & Zinkl, *Raising Standardization*, *supra* note 72, at 28–29.

89. Azzone et al., *supra* note 81, at 229 (arguing that "the achievement of a higher level of standardization in environmental reporting practices should become a key requirement for improving external communication because it helps the readers to compare the environmental performance achieved by different companies and in assessing their evolution over a period of time"); Karkkainen, *supra* note 11, at 291 ("Lack of comparability across units severely limits the value of the non-standardized information contained in corporate environmental reports, for example, because readers have no comparative benchmarks against which to evaluate individual firms' claims.").

90. See Kolk, *Evaluating CER*, *supra* note 73, at 228.

91. KPMG REPORT 1999, *supra* note 36, at 9, 29.

92. White, *supra* note 36, at 36.

thirty such reporting frameworks appeared, including notably those of the Global Environmental Management Initiative ("GEMI"), the Coalition for Environmentally Responsible Economies ("CERES"), the Public Environmental Reporting Initiative ("PERI"), the World Resources Institute ("WRI"), and the International Chamber of Commerce.⁹³

Despite this proliferation of reporting frameworks, general consistency and comparability of voluntary corporate environmental reports failed to significantly improve. To the contrary, so many competing initiatives created a reporting climate aptly described as "inconsistent," "confusing," "frustrating," "fragmented," and "chaotic."⁹⁴ Tremendous variations in scope and purpose appeared. Many initiatives suffered from a narrow focus only upon specific concerns of the sponsoring stakeholder group.⁹⁵ Thus, despite this seeming wealth of reporting frameworks, external environmental reporting failed to move any closer to consensus on comprehensive performance reporting standards. A 2000 Council on Economic Priorities ("CEP") survey found that only six-percent of voluntary corporate environmental reports followed any form of standardized guideline.⁹⁶ Further, for companies that did utilize a specific framework, the choices were widely spread among the available "host of different voluntary guidelines."⁹⁷

By the late 1990s, creation of a single, widely accepted, standardized framework was considered critical to the future of the voluntary environmental reporting movement.⁹⁸ Toward this end, in mid-1997, CERES launched the most ambitious project to that point—the Global Reporting Initiative ("GRI").⁹⁹ The GRI included the participation of

93. *Case, Environmental Reporting*, *supra* note 36, at 10,376; MacLean & Gottfrid, *supra* note 38, at 246; J. Ranganathan & A. Willis, *Global Corporations, Global Accountability, and the Global Reporting Initiative*, TOUCHSTONE, Feb. 1999. For more extensive discussion of these and other similar initiatives, see Allen White & Diana Zinkl, *Green Metrics: A Global Status Report on Standardized Corporate Environmental Reporting*, 8–9 (April 1998) (prepared for 1998 CERES Annual Conference, Boston, Mass.) (unpublished manuscript, on file with author) [hereinafter White & Zinkl, *Green Metrics*]; White, *supra* note 36, at 37–38; and WILSON & SASSEVILLE, *supra* note 36, at 151–54.

94. GLOBAL REPORTING INITIATIVE, *SUSTAINABILITY REPORTING GUIDELINES ON ECONOMIC, ENVIRONMENTAL AND SOCIAL PERFORMANCE 2* (2000) [hereinafter GRI, *JUNE 2000 GUIDELINES*]; White, *supra* note 36, at 38; White & Zinkl, *Green Metrics*, *supra* note 93, at 7.

95. White, *supra* note 36, at 37–38.

96. MacLean & Gottfrid, *supra* note 38, at 250, 255.

97. *Id.* at 250.

98. White, *supra* note 36, at 38.

99. *Id.*; GLOBAL REPORTING INITIATIVE, *SUSTAINABILITY REPORTING GUIDELINES 1* (2002) [hereinafter GRI, *2002 GUIDELINES*], available at http://www.globalreporting.org/guidelines/2002/gri_2002_guidelines.pdf (last visited Nov. 13, 2004). CERES is a Boston-based non-profit organization that seeks to be a "network of change" resulting in "responsible corporate behavior" on issues of environmental concern on a worldwide scale. CERES, *About*

such organizations as CEP, United Nations Environment Programme, World Business Council for Sustainable Development, WRI, IRRC, and the President's Council on Sustainable Development.¹⁰⁰ Originally governed by a steering committee representing a diverse mix of stakeholder groups, the GRI's fundamental purpose is to build international consensus on credible core metrics for voluntary reporting on environmental and sustainability practices and performance that eventually rise to the level of standard financial reporting in terms of widespread acceptance.¹⁰¹ Among the GRI's major goals is to harmonize the numerous existing initiatives and frameworks on corporate environmental and sustainability reporting around the world into a single, comprehensive set of global reporting standards.¹⁰²

In March 1999, the GRI issued "exposure draft" Sustainability Reporting Guidelines ("Guidelines") for public comment and pilot testing.¹⁰³ Following feedback received from this initial worldwide pilot testing process, the GRI issued revised Guidelines in June 2000.¹⁰⁴ Approximately 30 companies volunteered to participate in a "structured feedback" process to pilot test the revised Guidelines.¹⁰⁵ Following this second stage of pilot testing, development, and refinement, the GRI issued another revised version of the Guidelines in mid-2002.¹⁰⁶ To ensure continual improvement, a "structured feedback" process for review of the 2002 Guidelines was commenced in 2003, which will lead to release of another revised version in 2005.¹⁰⁷

CERES, at <http://www.ceres.org/about/history.htm> (last visited Nov. 13, 2004). CERES is primarily a coalition of members that includes environmental non-governmental organizations, social advocacy groups, institutional investors, and participating businesses and companies. *Id.* To be accepted for membership in the CERES coalition, companies must commit to continuous environmental improvement by endorsing the CERES Principles (formerly the Valdez Principles)—a ten-point code of environmental conduct. *Id.* Principle 10 of the CERES Principles requires endorsing companies to complete an annual report—the CERES Report—regarding progress made in implementing the principles which must be made available to the public. See CERES, *Our Work: The CERES Principles*, at http://ceres.org/our_work/principles.htm (last visited Nov. 13, 2004).

100. White, *supra* note 36, at 39; Kolk, *Evaluating CER*, *supra* note 73, at 228; WILSON & SASSEVILLE, *supra* note 36, at 154.

101. White, *supra* note 36, at 38; WILSON & SASSEVILLE, *supra* note 36, at 154.

102. GRI, JUNE 2000 GUIDELINES, *supra* note 94, at 2–3.

103. GLOBAL REPORTING INITIATIVE, SUSTAINABILITY REPORTING GUIDELINES: EXPOSURE DRAFT FOR PUBLIC COMMENT AND PILOT TESTING (1999); White, *supra* note 36, at 38.

104. GRI, JUNE 2000 GUIDELINES, *supra* note 94; White, *supra* note 36, at 40.

105. GRI, JUNE 2000 GUIDELINES, *supra* note 94, at 4.

106. GRI, 2002 GUIDELINES, *supra* note 99, at i.

107. GLOBAL REPORTING INITIATIVE, BUSINESS PLAN 2003–2005 7 (2003) [hereinafter GRI, BUSINESS PLAN], available at <http://www.globalreporting.org/about/BusinessPlan.pdf>.

The GRI reporting framework intends, among other things, to assist organizations in reporting information clearly demonstrating the impact of their operations, products, and services on air, water, land, biodiversity, and human health.¹⁰⁸ Dissemination of such information is intended to facilitate “informed decision-making” by end-users.¹⁰⁹ For example, current and potential investors can utilize such information to “assess intangible aspects of [the firm’s] performance and value.”¹¹⁰ Potential customers can utilize information about operations, products, and services to facilitate purchasing decisions.¹¹¹ In addition to attempting to influence the decisions of market actors, the GRI reporting framework also seeks to promote a “continual dialogue” with external stakeholders, such as investors, customers, advocates, suppliers, and employees, to better meet the diverse information needs of these entities.¹¹² Similarly, the reporting framework seeks to provide internal stakeholders an information-based management tool for evaluation and continuous improvement of the organization’s environmental performance.¹¹³

The Guidelines identify external reporting principles regarded as essential to preparation of a GRI report.¹¹⁴ These principles are grouped in four clusters: those that (1) “form the framework for the report;”¹¹⁵ (2) “inform decisions about what to report;”¹¹⁶ (3) “relate to ensuring quality and reliability;”¹¹⁷ and (4) “inform decisions about access to the re-

108. GRI, 2002 GUIDELINES, *supra* note 99, at 48–51.

109. *Id.* at 29.

110. GRI, BUSINESS PLAN, *supra* note 107, at 12.

111. *Id.*

112. GRI, 2002 GUIDELINES, *supra* note 99, at 4.

113. *Id.* at 68–70.

114. *Id.* at 22–31.

115. *Id.* at 23. The principles forming the framework for the report are: (1) the “transparency” principle—the notion that “full disclosure of the process, procedures, and assumptions” in preparing the report is essential to the report’s credibility; (2) the “inclusiveness” principle—the premise that stakeholder views are critical to meaningful reporting and thus such views must be incorporated during the process of designing the report; and (3) the “auditability” principle—reported information should be collected, compiled, and disclosed in such a way that internal and external parties can examine it for accuracy and reliability. *Id.* at 24–25.

116. *Id.* at 23. The principles that inform the organization’s decisions about what information to report are: (1) “completeness”—all information material to end-users for assessing the reporting organization’s environmental performance must be accounted for and disclosed within certain well defined reporting boundaries (i.e., operational, scope, and temporal); (2) “relevance”—reported information should be relevant from the standpoint of emphasizing the specific needs of the various end-users of the information, such needs generally encompassing information that will inform the end-user’s decision-making processes; and (3) “sustainability context”—organizations should attempt to place reported information on their individual performance within the context of economic, environmental, and social sustainability at local, regional, or global levels. *Id.* at 26–28

117. *Id.* at 23. The principles that are intended to ensure quality and reliability of reported information are: (1) “accuracy”—reported information should reflect that degree of exactness

port.”¹¹⁸ Together, these principles are intended to ensure that GRI reports accomplish the following: (1) “present a balanced and reasonable account of economic, environmental, and social performance, and the resulting contribution of the organization to sustainable development;” (2) “facilitate comparison over time;” (3) “facilitate comparisons across organizations;” and (4) “credibly address issues of concern to stakeholders.”¹¹⁹ Collectively, these principles constitute “a compact between the reporting organization and report user, ensuring that both parties share a common understanding of the underpinnings of a GRI-based report.”¹²⁰ Importantly, the reporting principles underlying the GRI framework significantly overlap with those used in financial reporting.¹²¹

The Guidelines further outline the specific content required for compiling the GRI report.¹²² The broad categories of required content items (in the presentation order recommended by the GRI) include the following: (1) a statement of organizational strategy for managing environmental and sustainability challenges, including a statement from the CEO or equivalent senior management representative describing the key elements of the report; (2) a detailed profile of the reporting organization and an overview of the scope of the report; (3) an overview of the organization’s policies, governance structure, and management systems in place to implement the foregoing strategy, including a discussion of stakeholder relationships and engagement; (4) a cross-referenced table identifying the location of specified information allowing evaluation of the degree to which the report includes the requisite GRI content; and (5) performance information based on use of various “core” and “additional” indicators.¹²³

The GRI’s ultimate goal is to build the Guidelines into an international reporting framework that is as widely and routinely accepted as fi-

and low margin of error necessary for users to make decisions based on the information with a high degree of confidence; (2) “neutrality”—reports should avoid bias in selection and presentation of information and should attempt to provide a balanced account of the organization’s performance; and (3) “comparability”—reports should support comparison against the organization’s earlier performance as well as against the performance of other organizations. *Id.* at 28–29.

118. *Id.* at 23. The principles in this cluster are: (1) “clarity”—because of the diverse needs, backgrounds, and experience level of end-users of the report, the report should be designed to be as understandable and useable by these diverse groups as is possible; and (2) “timeliness”—reports should be provided at timely intervals ensuring maximum utility of the information and enabling users to effectively integrate it into their decision-making. *Id.* at 30.

119. *Id.* at 22.

120. *Id.*

121. *Id.*

122. *Id.* at 35–56.

123. *Id.* at 38–56.

nancial reporting standards.¹²⁴ A number of important aspects of the GRI's strategy are designed with this goal in mind. For example, the process for development and continuous improvement of the Guidelines has placed a premium on transparency and inclusiveness. Since 1999, several hundred organizations, including corporations, environmental and social non-governmental organizations, business and trade groups, and other stakeholders, have participated in the process of development and revision of the Guidelines.¹²⁵ Another important factor in obtaining widespread acceptance of the Guidelines is demonstrating the independence of the GRI to all relevant audiences. In this regard, the GRI transitioned in late 2002 from a project of CERES to an independent institution with a multi-stakeholder governance structure.¹²⁶ The permanent GRI is a non-profit organization established under Dutch law and headquartered in Amsterdam, and is an official collaborating centre of the United Nations Environment Programme ("UNEP").¹²⁷

There are indications that, despite a relatively brief existence, the GRI Guidelines already have become a leading model for voluntary corporate environmental reporting. As of August 2003, nearly half of the Fortune 250 companies were GRI reporters.¹²⁸ As of November 2004, over 500 companies in forty-five countries had used the Guidelines in preparation of their reports, including sixty companies in the United States.¹²⁹

II. REGULATORY APPROACHES UTILIZING CORPORATE ENVIRONMENTAL REPORTING

Proponents of comprehensive public reporting of environmental performance information through formal external reporting seek to expand upon the success of mandatory informational regulatory instruments such as the TRI. Although examples are limited, governmental policy instruments utilizing comprehensive reporting of environmental performance information indeed exist. Notable examples are discussed below.

124. GRI, BUSINESS PLAN, *supra* note 107, at 4.

125. GRI, 2002 GUIDELINES, *supra* note 99, at 65; GRI, JUNE 2000 GUIDELINES, *supra* note 94, at 3.

126. GRI, 2002 GUIDELINES, *supra* note 99, at 65; GRI, BUSINESS PLAN, *supra* note 107, at 15-16.

127. GRI, 2002 GUIDELINES, *supra* note 99, at 65; GRI, BUSINESS PLAN, *supra* note 107, at 15.

128. GRI, BUSINESS PLAN, *supra* note 107, at 8.

129. See Global Reporting Initiative, *Reporter Statistics*, at <http://www.globalreporting.org/guidelines/ReportersStats.xls> (last visited Nov. 13, 2004).

A. The European Union's EMAS Approach

Europe has taken incremental steps to utilize mandatory formal corporate environmental reporting as the foundation for a full disclosure, self-regulatory model. Denmark and the Netherlands mandate preparation and public filing of formal corporate environmental reports for certain companies with "significant environmental impacts."¹³⁰ In Norway, all companies are required to "describe any activities with significant environmental impacts" and the plans to ameliorate those impacts in annual financial reports.¹³¹ Sweden similarly requires companies seeking an environmental permit or under obligation to report environmental information to authorities to include such information in annual financial reports.¹³²

A more comprehensive approach to environmental information disclosure, however, is the Eco-Management and Audit Scheme ("EMAS") of the European Union ("EU"). The EMAS regulation is a voluntary program where companies adopt standard procedures for environmental management, auditing, and reporting in exchange for limited regulatory controls.¹³³ The regulation is a market-based policy instrument intended "to assist in improving or restoring market signals by promoting competition on environmental grounds."¹³⁴ In addition to implementation of a formal environmental management system coupled with a requirement of comprehensive internal audits, the EMAS requires preparation of public "environmental statements."¹³⁵ These "statements" are essentially publicly accessible formal corporate environmental reports. In this regard, the EMAS is an experimental laboratory to evaluate whether market forces created by public information disclosure can drive environmental improvements without traditional standard setting and enforcement mechanisms.¹³⁶

The EMAS was originally intended to be a mandatory program.¹³⁷ Political compromise following reservations expressed by some EU

130. KPMG REPORT 1999, *supra* note 36, at 8; see also Pall M. Rikhardsson, *Developments in Danish Environmental Reporting*, 5 BUS. STRATEGY & ENV'T 269 (1996) (discussing the Danish reporting developments in detail).

131. KPMG REPORT 1999, *supra* note 36, at 8.

132. *Id.*

133. S. WAYNE ROSENBAUM, ISO 14001 AND THE LAW: LEGAL GUIDE FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT STANDARDS 19 (1998); Orts, *supra* note 1, at 1233.

134. Ruth Hillary, *Pan-European Union Assessment of EMAS Implementation*, 8 EUR. ENV'T 184, 191 (1998).

135. Orts, *supra* note 1, at 1299-1306.

136. ROSENBAUM, *supra* note 133, at 19.

137. Nancy Kubasek et al., *Mandatory Environmental Auditing: A Better Way to Secure*

member states resulted in the decision to implement the EMAS as a voluntary registration system.¹³⁸ As of June 2004, there were 3380 registered EMAS sites in the European Union, the large majority (2104 or approximately sixty-two percent) located in Germany.¹³⁹ The response to EMAS has been underwhelming; empirical studies suggest that the participation rate has failed to achieve even one percent of all industrial companies across the EU.¹⁴⁰ Scholars argue that low participation rates are caused by the absence of adequate incentives or external market rewards to induce voluntary participation in the program.¹⁴¹ Such nominal levels of corporate participation have called into question the program's potential for long-term success.¹⁴² In March 2001, the EU enacted an amended version of the EMAS that, while still voluntary, attempts to address the issue of inadequate industry participation in a number of ways.¹⁴³ However, participation since that time has actually declined,

Environmental Protection in the United States and Canada, 18 J. LAND RESOURCES & ENVTL. L. 261, 285 (1998); Andrea Ross & Jeremy Rowan-Robinson, *It's Good to Talk! Environmental Information and the Greening of Industry*, 40 J. ENVTL. PLAN. & MGMT. 111, 119 (1997).

138. Kubasek et al., *supra* note 137, at 287; Ross & Rowan-Robinson, *supra* note 137, at 119.

139. These statistics are available on Europa, the Internet portal site of the European Union, at http://europa.eu.int/comm/environment/emas/about/participate/sites_en.htm (last visited Nov. 13, 2004). The substantially higher number of EMAS registrations in Germany as opposed to other EU member states is attributed to higher government support for EMAS in Germany than in other EU countries, and assertions that the German accreditation and verification system is in practice less stringent than in other countries. See Marianne Kahler & Neil C. Rotheroe, *Comparison of the British and German Approach Towards the European Eco-Management and Audit Scheme (EMAS)*, 6 ECO-MGMT. & AUDITING 115, 116-17 (1999); Kolk et al., *Fortune Global 250*, *supra* note 43, at 18-19; Frank Watzold et al., *EMAS and Regulatory Relief in Europe: Lessons from National Experience*, 11 EUR. ENV'T 37, 42-44 (2001).

140. Jurgen Freimann & Roswitha Schwedes, *EMAS Experiences in German Companies: A Survey on Empirical Studies*, 7 ECO-MGMT. & AUDITING 99, 100 (2000); Hillary, *supra* note 134, at 191. Even in Germany, which has by far the most EMAS registrations in the EU, the total percentage of potential EMAS participants hovers at under seven percent. Watzold et al., *supra* note 139, at 40. EMAS participation in EU countries such as France, the Netherlands, and the United Kingdom has been virtually statistically irrelevant. *Id.*

141. See, e.g., Hillary, *supra* note 134, at 190-91; Watzold et al., *supra* note 139, at 38, 47-48. Similarly, a lack of compelling incentives for industry participation has been identified as a factor inhibiting the effectiveness and potential for long-term success of numerous Clinton-era voluntary environmental regulatory reform initiatives in the United States. See Case, *Regulatory Reform*, *supra* note 4, at 46-48.

142. See, e.g., Freimann & Schwedes, *supra* note 140, at 99-100; Hillary, *supra* note 134, at 190-91; Kubasek et al., *supra* note 137, at 287-88; Stewart, *supra* note 5, at 146.

143. See Regulation (EC) 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), 2001 O.J. (L 114) 1 [hereinafter Regulation (EC) 761/2001], available at <http://www.eel.nl/legislation/PDF/emas-01.pdf> (last visited Nov. 13, 2004). See also Watzold et al., *supra* note 139, at 38. For example, one key factor ostensibly

further casting doubt over the long-term viability of the program as a voluntary policy instrument.¹⁴⁴

Public environmental information disclosure is the prime objective of the EMAS regulation and is achieved primarily through the mandatory "environmental statement" requirement.¹⁴⁵ To enhance the "transparency" and "credibility" of the information, each statement is subjected to a detailed process of independent, third-party verification.¹⁴⁶ As originally conceived, the following constituted the sparse minimum informational requirements for inclusion:

[A] general description; an assessment of "all the significant environmental issues of relevance;" a summary of figures on emissions, waste generation, consumption of resources, and "other significant environmental aspects;" "other factors regarding environmental performance;" a description of the environmental policy, management system, and programs; the date when the next environmental statement will be submitted; and the name of the "environmental verifier."¹⁴⁷

contributing to low EMAS participation rates has been the presence of a "competing" voluntary international EMS standard, ISO 14001. See Freimann & Schwedes, *supra* note 140, at 99–100, 104–05; Watzold et al., *supra* note 139, at 37–41. For a detailed description and assessment of the ISO 14001 system, see NATIONAL ACADEMY OF PUBLIC ADMINISTRATION, THIRD-PARTY AUDITING OF ENVIRONMENTAL MANAGEMENT SYSTEMS: U.S. REGISTRATION PRACTICES FOR ISO 14001(2001); Murray, *supra* note 3; Case, *Regulatory Reform*, *supra* note 4, at 70–71. Indeed, participation in the EMAS program has lagged well behind the number of European companies that have implemented ISO 14001. See Freimann & Schwedes, *supra* note 140, at 100; Watzold et al., *supra* note 139, at 40. Indeed, in April 2001, registrations to ISO 14001 were reported to be in excess of 20,000, as compared to approximately 3100 EMAS registrations. *EU Completes EMAS Revisions, Adds ISO 14001 Twist*, INT'L ENVTL. SYSTEMS UPDATE, April 2001, at 6. Suggested reasons for this disparity are varied and include greater worldwide recognition of ISO 14001, lesser costs of implementing ISO 14001 as opposed to participation in EMAS, and the greater scope associated with adherence to the EMAS regulation, such as producing and disseminating periodic environmental reports, than in implementing the ISO 14001 EMS. See Kahler & Rotheroe, *supra* note 139, at 118–19; Watzold et al., *supra* note 139, at 41. In an effort to reverse this trend, and eliminate the perception that the EMAS and ISO 14001 are competitors, the changes made in the newly revised EMAS regulation include the establishment of ISO 14001 as the environmental management system required as a condition of participation in the EMAS program. *EU Completes EMAS Revisions*, *supra*, at 6; Regulation (EC) 761/2001, *supra*, at 10.

144. See Eric Neumayer & Richard Perkins, *Europeanisation and the Uneven Convergence of Environmental Policy: Explaining the Geography of EMAS*, 36 Table 1 (August 2004) (unpublished manuscript), available at <http://econwp.wustl.edu:80/eps/othr/papers/0403/0403002.pdf> (last visited Nov. 2004) (showing 3848 sites registered to EMAS in 2001).

145. Hillary, *supra* note 134, at 188; see also Anne Grafe-Buckens, *Old and New EMAS: Challenges for the European Eco-Management and Audit Scheme*, 6 EUR. ENVTL. L. REV. 300, 304 (1997) (describing environmental statement as "the unique selling point of EMAS").

146. Orts, *supra* note 1, at 1306–09.

147. *Id.* at 1305–06 (internal citations omitted); see also Rod Hunter & Koen Muyllé,

Further, statements were required to “accurately” summarize the findings and conclusions of the more detailed internal audits, and be designed for public consumption by being “written in a concise, non-technical form.”¹⁴⁸ Accordingly, the original EMAS regulation elevated simplicity in reporting above technical detail.

The reporting commitment quickly became the most controversial aspect of participation in the EMAS program.¹⁴⁹ Participants asserted that inadequate guidance was provided on the type of information and appropriate level of detail necessary for inclusion in the statement.¹⁵⁰ Serious confusion was generated regarding which audiences should be targeted and, once identified, what environmental information these audiences might either want or need.¹⁵¹ Such questions led policy analysts to debate whether the EMAS statement was in fact an effective communication tool.¹⁵² Further, similar to criticism of the voluntary corporate environmental reporting trend in general, the EMAS reporting mechanism was criticized for lack of standardization enabling comparability and benchmarking.¹⁵³ This shortcoming substantially weakened the potential effectiveness of the EMAS as an informational regulatory tool.¹⁵⁴

In response to such criticisms, the revised EMAS regulation essentially rebuilt the environmental statement requirements from the ground up.¹⁵⁵ The “public” towards whom the original version of the environmental statement was targeted was expanded to “the public and other interested parties,” suggesting that the audience for EMAS reports should

European Community Environmental Law: Environmental Legislation, 29 ENVTL. L. REP. 10,297, 10,303 (1999) (outlining the required contents of the “environmental statement” under the original version of the EMAS regulation).

148. Orts, *supra* note 1, at 1305–06.

149. See, e.g., Grafe-Buckens, *supra* note 145, at 303; Hillary, *supra* note 134, at 188–89; Peter Strachan et al., *The Eco-Management and Audit Scheme: Recent Experiences of UK Participating Organizations*, 7 EUR. ENV'T 25, 30 (1997).

150. Grafe-Buckens, *supra* note 145, at 303–04.

151. *Id.*

152. Hillary, *supra* note 134, at 188, 191.

153. Grafe-Buckens, *supra* note 145, at 303, 306 (“Environmental disclosure in EMAS should be consistent with other disclosures under other environmental instruments, and the ultimate goal of these disclosures should be a clear indication of environmental performance, and clear continuity between a company’s statement from year to year, using consistent indicators and enabling comparability and benchmarking (both within and between companies).”).

154. See Karkkainen, *supra* note 11, at 302 n.197 (unfavorably comparing EMAS reports against TRI reports which, unlike the EMAS, “are mandatory, standardized, and comparable across facilities”).

155. Compare Regulation (EC) 761/2001, *supra* note 143, at 19–20 (Annex III—environmental statement) with Council Regulation (EEC) 1836/93 of 29 June, 1993, 1993 O.J. (L 168) 1, at art. 5 (environmental statement), available at http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!CELEXnumdoc&lg=en&numdoc=31993R1836 (last visited Nov. 13, 2004).

include all possible interested stakeholders.¹⁵⁶ The minimum information requirements now call for a "clear and unambiguous description" of the registrant's organization, rather than merely the site at issue, including a summary of activities, products, services, and relationship to any parent organization "as appropriate."¹⁵⁷ The original requirement to disclose the environmental policy and describe the environmental management system was similarly amended to reflect this broader organizational, rather than site-based, focus.¹⁵⁸ Further, instead of the vague directive to provide an "assessment of all . . . significant environmental issues," the revised regulation requires description of all "significant direct and indirect environmental aspects which result in significant environmental impacts of the organization" and an "explanation of the nature of the impacts as related to these aspects."¹⁵⁹ To facilitate this process, the revised regulation provides specific guidance to assist identification of significant direct and indirect environmental aspects and assessment of whether such aspects have a significant environmental impact.¹⁶⁰

The revised EMAS regulation further mandates disclosure of environmental goals and performance improvement targets established in relation to the organization's significant environmental aspects and impacts.¹⁶¹ Concomitantly, the statement must summarize available data on the organization's actual performance against these goals and targets.¹⁶² This summary can include the type of emissions, waste generation, and resource consumption data required by the original reporting requirements, as well as any data related to any other significant direct or indirect environmental aspect of the organization.¹⁶³ Additionally, the revised regulation expands the catchall "other factors regarding environ-

156. Regulation (EC) 761/2001, *supra* note 143, at 19 (Annex III, § 3.1).

157. *Id.* (Annex III, § 3.2(a)).

158. *See id.* (Annex III, § 3.2(b)).

159. *Id.* (Annex III, § 3.2(c)).

160. *See id.* at 26–27 (Annex VI, §§ 6.1–6.4). The revised EMAS regulation's new focus on "environmental aspects" and "environmental impacts" is consistent with the establishment of ISO 14001 as the environmental management system required by the regulation. The requirement of identifying significant environmental aspects in order to assess the significant environmental impacts of an organizations operations, products, and services is taken directly from § 4.31 of the ISO 14001 standard. *See* ISO 14001:1996(E), *Environmental Management Systems—Specification with Guidance for Use* [hereinafter ISO 14001].

161. *See* Regulation (EC) 761/2001, *supra* note 143, at 19 (Annex III, § 3.2(d)). This is another example of the effect of establishing ISO 14001 as the requisite EMS for the EMAS program. The establishment of overall environmental objectives and performance improvement targets is a requirement of EMS implementation in ISO 14001 and, as well, in the newly revised EMAS. *See* ISO 14001, *supra* note 160, § 4.3.3; *see also* Regulation (EC) 761/2001, *supra* note 143, at 10 (Annex I, § I-A.3.3).

162. *See* Regulation (EC) 761/2001, *supra* note 143, at 19 (Annex III, § 3.2(e)).

163. *See id.*

mental performance" provision from the original version to expressly include an obligation to report on the organization's performance in complying with legal requirements.¹⁶⁴

In response to previous criticism of lack of standardization, the revised requirements mandate that reported data "allow for year-by-year comparison to assess the development of the environmental performance of the organisation."¹⁶⁵ Significantly, the revised requirements also establish "criteria for environmental performance reporting."¹⁶⁶ These criteria require organizations to select for reporting purposes such environmental performance indicators as accurately appraise the organization's performance; are "understandable and unambiguous;" permit year to year comparison for purposes of assessing development of the organization's environmental performance; permit industry sector, national, or regional comparisons and benchmarking as appropriate; and permit "comparison with regulatory requirements as appropriate."¹⁶⁷ Although not referenced in the EMAS regulation, environmental performance indicators developed to date by the GRI, and perhaps other of the numerous existing environmental reporting initiatives, may adequately satisfy these criteria. However, no *single* reporting framework for environmental performance reporting is mandated by the revised EMAS regulation. Thus, the fact that all EMAS reporting companies—even companies within the same industrial sector—are not required to use identical performance indicators will hinder comparison and benchmarking between different companies.

B. SEC Environmental Disclosure Regulations

The EMAS approach utilizes a strategy similar to United States securities laws that emphasize mandatory disclosure of information combined with penalties for false disclosure to encourage financially responsible behavior by companies.¹⁶⁸ The "recurrent theme throughout" federal securities laws is "disclosure, again disclosure, and still more disclosure."¹⁶⁹ As discussed in Section I.A above, publicly-held companies must disclose information on environmental regulatory compliance, judicial proceedings, and liabilities in their publicly available financial reports filed with the SEC.¹⁷⁰ Such disclosure allows incorporation of en-

164. *Id.* (Annex III, § 3.2(f)).

165. *Id.* (Annex III, § 3.2(e)).

166. *Id.* (Annex III, § 3.3).

167. *Id.* (Annex III, § 3.3(e)).

168. See Orts, *supra* note 1, at 1311–12; see also ROSENBAUM, *supra* note 133, at 19.

169. LOUIS LOSS, FUNDAMENTALS OF SECURITIES REGULATION 7 (2d ed. 1988).

170. See *supra* notes 59–62 and accompanying text.

vironmental liability and compliance cost information into the pricing of securities.¹⁷¹ Furthermore, such disclosure reduces environmental information asymmetries between firms and financial markets, creating incentives to minimize exposure to environmental liabilities by focusing market pressure upon industry.¹⁷²

Since the 1970s, environmental stakeholders have sought to expand the federal securities laws' potential to further environmental protection goals.¹⁷³ These advocates contend that the SEC should require expanded disclosure of information on the environmental effects of a company's operations and products. The desired result is environmental transparency comparable to the financial transparency that federal securities laws are primarily designed to promote.¹⁷⁴ Such transparency would create market pressures leading to improvements in corporate environmental performance.¹⁷⁵ Historically, however, the SEC has argued that disclosures are limited by a standard of economic materiality; that is, information a reasonable investor would consider important in determining the economic value of an investment.¹⁷⁶ As filtered by this standard, the SEC suggests that existing rules and regulations on environmental disclosure produce sufficient information, rendering additional disclosure unnecessary.¹⁷⁷

171. See Bagby et al., *supra* note 59, at 337–38.

172. See *id.*

173. See *id.* at 266–87; Michelle Chan-Fishel, *After Enron: How Accounting and SEC Reform Can Promote Corporate Accountability While Restoring Public Confidence*, 32 ENVTL. L. REP. 10,965, 10,965 (2002) [hereinafter Chan-Fishel, *After Enron*]; Williams, *Social Transparency*, *supra* note 21, at 1246–63.

174. See Michelle Chan-Fishel, *Forcing Management Attention*, ENVTL. F., May–June 1999, at 36–37 [hereinafter Chan-Fishel, *Forcing*]; Nicholas C. Franco, *Disclosure Benefits Investors*, ENVTL. F., May–June 1999, at 37–38; Williams, *Social Transparency*, *supra* note 21.

175. See, e.g., Chan-Fishel, *Forcing*, *supra* note 174, at 36 (“Increased public disclosure can advance the public interest by catalyzing improvements in corporate social, environmental, and financial performance.”); Franco, *supra* note 174, at 37 (“Increased disclosure of corporate environmental performance information can leverage market forces to achieve environmental improvements. Complete and accurate disclosure of environmental liabilities and penalties provides a specific deterrent to future violations, and can provide a general deterrent effect if other companies perceive negative financial or reputational consequences. Disclosure of environmental liabilities can also provide an incentive for companies to more expeditiously address environmental problems . . .”).

176. See Williams, *Social Transparency*, *supra* note 21, at 1208–09, 1264; The Environmental Forum, *Should the SEC Require Environmental Disclosure in the Public Interest?*, ENVTL. F., May–June 1999, at 34.

177. See Williams, *Social Transparency*, *supra* note 21, at 1264; see also The Environmental Forum, *supra* note 176, at 34; Roberts, *supra* note 63, at 40 (comments of former SEC Commissioner, noting that “the federal securities laws are [already] filtered through the screen of materiality (information that is important to an investor when making an investment decision from either a qualitative or quantitative perspective). Disclosure obligations, and the costs that go with them, should only be imposed (and are only justifiable) when the disclosure

In a 1999 *Harvard Law Review* article, however, Professor Cynthia Williams asserts that Section 14(a) of the Securities and Exchange Act of 1934—authorizing the SEC to require proxy disclosures “as necessary or appropriate in the public interest or for the protection of investors”¹⁷⁸—bestows broad power upon the SEC to require expanded environmental and other social disclosure.¹⁷⁹ Professor Williams argues that the SEC’s public interest disclosure power is separate from and significantly broader than its investor protection disclosure powers, suggesting that Congress may have intended disclosure generally to be used to enhance corporate social accountability.¹⁸⁰ Regarding the constraint of “economic materiality,” the substantial growth of the “socially and environmentally responsible” investment movement indicates that financial considerations no longer solely determine what reasonable investors consider important in making investment decisions.¹⁸¹ Moreover, fuller environmental disclosures actually provide financially material information because of potential negative economic consequences inherent in non-compliance with environmental legal obligations.¹⁸²

Significantly, Professor Williams suggests the SEC should consider “regulations modeled on the Coalition for Environmentally Responsible Economies (“CERES”) reporting format” as a means of requiring expanded environmental and social disclosures.¹⁸³ Professor Williams emphasizes that use of such a formal corporate environmental reporting format “could facilitate intercompany comparisons and would be a good starting point from which the SEC could develop more extensive environmental disclosure.”¹⁸⁴ CERES, a primary mover behind launching the GRI, now requires its members to prepare annual corporate environmental reports utilizing the 2002 version of the GRI Guidelines.¹⁸⁵

is economically meaningful.”).

178. 15 U.S.C. § 78n.

179. See Williams, *Social Transparency*, *supra* note 21, at 1203–04.

180. *Id.*

181. *Id.* at 1267–68.

182. See *id.* at 1271–72; see also Cynthia A. Williams, *Congress Intended Disclosure*, ENVTL. F., May–June 1999, at 42–43 (observing that negative economic consequences of failure to comply with the law include litigation costs, loss of future business, reputational injury, loss of key employees, investor disinvestments, and bond devaluations, and that, further, such information bears on management integrity and honesty and management quality which are also factors relating to the potential economic success of companies).

183. Williams, *Social Transparency*, *supra* note 21, at 1302.

184. *Id.*

185. Coalition for Environmentally Responsible Economies, *Our Work: Corporate Environmental Reporting*, at http://ceres.org/our_work/environmental_reporting.htm (last visited Nov. 13, 2004). In a subsequent publication, Professor Williams praises the GRI as an “extremely important self-regulatory mechanism[]” in the context of continuing to advocate that the SEC mandate expanded environmental and social disclosure. Cynthia Williams, *Text of*

Efforts to expand environmental disclosure under federal securities laws evince strong support for use of informational regulation as an instrument of environmental protection policy. However, the SEC is not the appropriate agency, nor federal securities laws the appropriate vehicle, to develop a comprehensive informational regulatory approach to environmental protection based on a paradigm of formal corporate environmental reporting. The SEC has a troubled record on enforcing existing environmental disclosure requirements. Substantial evidence suggests that corporate environmental liabilities are not fully and accurately reported in SEC filings. For example, in a 1992 Price Waterhouse survey, the financial statements of 62 percent of respondents were found to have failed to disclose known environment-related exposures.¹⁸⁶ Further, an academic study conducted in 1996 found a 54 percent non-reporting rate for known CERCLA potentially responsible parties ("PRPs") in initial public offering registration statements, and a 61 percent non-reporting rate in the required reports of currently registered companies also known to be CERCLA PRPs.¹⁸⁷ And, in a 1998 study on disclosure of environmental legal proceedings in registrants' 10-K statements, the EPA Office of Enforcement and Compliance Assurance ("OECA") found a non-reporting rate of 74 percent for the years of 1996 and 1997.¹⁸⁸

In a particularly infamous example, Viacom, Inc. allegedly failed to report estimated Superfund liabilities of \$270 to \$300 million in the company's 1995 10-K report.¹⁸⁹ This led environmental groups to peti-

Remarks on Panel: "Codes of Conduct and Transparency," 24 HASTINGS INT'L & COMP. L. REV. 415, 422 (2001).

186. Memorandum from Mary Kay Lynch, Director, EPA Office of Planning and Policy Analysis, and Eric V. Schaeffer, Director, EPA Office of Regulatory Enforcement, to Office of Enforcement and Compliance Assurance Directors, et al. (Jan. 19 2001), <http://es.epa.gov/oeca/oppa/secguide.html> [hereinafter EPA OECA Memorandum] (citing PRICE WATERHOUSE, ACCOUNTING FOR ENVIRONMENTAL COMPLIANCE: CROSSROADS OF GAAP, ENGINEERING AND GOVERNMENT—SECOND SURVEY OF CORPORATE AMERICA'S ACCOUNTING FOR ENVIRONMENTAL COSTS (1992)); accord Bagby, et al., *supra* note 59, at 232 (observing that "most companies fail to disclose [environmental] liabilities to their investors"); E. Donald Elliott, et al., *A Practical Guide to Writing Environmental Disclosures*, 25 ENVTL. L. REP. 10,237, 10,237 (1995).

187. See EPA OECA Memorandum, *supra* note 186 (citing MARTIN FREEDMAN & A.J. STAGLIANO, ENVIRONMENTAL DISCLOSURE BY COMPANIES INVOLVED IN INITIAL PUBLIC OFFERINGS (1996)).

188. See *id.*

189. See Corporate Sunshine Working Group, *Advancing Investor Protection and Promoting the Public Interest: The Time is Ripe for Increased Disclosure on Social and Environment Issues*, attachment to Letter from the Corporate Sunshine Working Group to Arthur Levitt, Chairman, and Johnathan G. Katz, Secretary, U.S. Securities and Exchange Commission (Dec. 14, 1998), at <http://www.sec.gov/rules/proposed/s73098/lewis1.htm> (last visited Nov. 13, 2004); Ricardo Bayon & Amy Domini, *The SEC's Big Challenge*, BOSTON GLOBE, May 14,

tion the SEC to investigate Viacom for misleading investors by inadequately reporting environmental liabilities.¹⁹⁰ Viacom responded that disclosure was not required because these liabilities were not "material" in that they would not adversely affect the company's operations, financial positions or cash flow.¹⁹¹ Environmental groups and the media derided this claim, observing that the company's potential total Superfund liabilities were essentially twice that of its entire profit for 1995 (\$162 million).¹⁹² Nonetheless, no SEC investigation of Viacom's 1995 environmental disclosures was ever performed.¹⁹³

Of over 5,000 administrative proceedings initiated by the SEC from 1975 through 2000, only three were based on insufficient reporting of material environmental information.¹⁹⁴ During this time frame, the SEC brought only a single civil action against a company on such grounds.¹⁹⁵ Moreover, only one of these four events took place *after* 1980.¹⁹⁶ This paucity of enforcement of environmental reporting requirements clearly suggests that environmental information disclosure is not a priority at the SEC. This is especially true given the poor rates of corporate compliance with such disclosure obligations reflected by the surveys discussed above. In response to such evidence of non-compliance and presumably in an effort to reverse such trends, the EPA's OECA issued guidance instructing regional EPA offices to inform targets of EPA enforcement actions that such proceedings may be subject to the SEC's environmental disclosure requirements.¹⁹⁷ Given the SEC's seeming lack of interest in pursuing enforcement of environmental reporting regulations, however, such notifications are unlikely to produce more than marginal improvement in compliance rates among reporting companies.

2001, at 11.

190. See Corporate Sunshine Working Group, *supra* note 189; Bayon & Domini, *supra* note 189, at 11.

191. See *supra* note 189. Specifically, a Viacom spokeswoman was quoted as saying, "We've assessed our environmental liabilities and determined that they do not have a material adverse affect on our financial condition and we're not required to disclose the liability otherwise." Diane C. Bellantoni, *Coming Clean: Environmental Disclosures in SEC Filings*, 4 ENVTL. COMPLIANCE & LITIG. STRATEGY 3, 3 (1997).

192. See Corporate Sunshine Working Group, *supra* note 189; Bayon & Domini, *supra* note 189, at 11 (asking the rhetorical question, "How much more material can a liability get?").

193. See ROBERT REPETTO & DUNCAN AUSTIN, *COMING CLEAN: CORPORATE DISCLOSURE OF FINANCIALLY SIGNIFICANT ENVIRONMENTAL RISKS* 11-12 (2000) (discussing extent of SEC enforcement actions regarding environmental disclosure requirements between 1975 and 2000).

194. See *id.* at 11.

195. See *id.*

196. See *id.*

197. See EPA OECA Memorandum, *supra* note 186.

An even greater concern in utilizing federal securities laws to expand environmental informational regulatory goals is the limited scope of SEC reporting requirements. Reporting under the Securities Act of 1933 and the Securities and Exchange Act of 1934 is limited to publicly traded companies; that is, companies that issue non-exempt securities governed by the requirements of these statutes and their accompanying rules and regulations.¹⁹⁸ However, public companies are an extremely small percentage of the vast number of companies in the United States.¹⁹⁹ Thousands upon thousands of companies doing business in this country, including manufacturing and service-based firms of every size and description, are private firms and thus not covered by federal securities laws.²⁰⁰ Moreover, even among publicly traded firms, companies relatively small in size are exempted from the SEC's reporting requirements without regard to the significance of the environmental impact of their operations, products, or services.²⁰¹ Accordingly, while expanding environmental reporting requirements under federal securities laws would be a welcome development, the ultimate reach of such efforts is necessarily substantially restricted.

III. CORPORATE ENVIRONMENTAL REPORTING AS INFORMATIONAL REGULATION

This section utilizes a law and economics framework to analyze formal corporate environmental reporting as an informational regulatory policy instrument. The goal is to encourage policy initiatives that build upon the momentum of the existing voluntary formal corporate environmental reporting regime. As emphasized above, the European Union continues to experiment with informational regulation based on formal corporate environmental reporting through the EMAS regulation. However, despite past supportive signals from Congress, parallel efforts in the United States appear at a standstill.²⁰² This Article seeks to revive inter-

198. See generally 15 U.S.C. §§ 77a–77aa, §§ 78a–78ll (2000).

199. See 1 WARD'S BUSINESS DIRECTORY OF U.S. PRIVATE AND PUBLIC COMPANIES vii (46th ed. 2003). *Ward's Business Directory* lists nearly 114,500 companies, 90 percent of which—more than 100,000—are privately held companies. See *id.*

200. See *id.*; see also LEXIS-NEXIS, 5 DIRECTORY OF CORPORATE AFFILIATIONS: U.S. PRIVATE COMPANIES vii, ix (2003) (listing nearly 80,000 private companies generally showing revenues in excess of \$10 million, employee totals in excess of 300 persons, or substantial assets or net worth).

201. See Relief from Reporting by Small Issuers, 61 Fed. Reg. 21,354 (May 9, 1996) (announcing rule exempting companies from reporting requirements unless it has more than \$10 million in assets and its securities are held by more than 500 owners).

202. In November 1999, a bipartisan coalition aimed at promoting regulatory innovation at the EPA introduced a bill entitled the Second Generation of Environmental Improvement Act

est in formal corporate environmental reporting as a next-generation tool to serve environmental policy goals in this country.

Many relevant disciplines inform contemporary environmental policy debate, including ecology, engineering, political science, psychology, and political and moral philosophy (ethics). Observers might therefore question a narrow focus on the disciplines of law and economics in analyzing environmental regulatory policy concerns. Regarding informational regulation, a pragmatic response is that these disciplines (including the related sub-discipline of law and economics) have combined to produce the most compelling scholarship on this subject. Though its application to environmental protection sometimes invites criticism,²⁰³ economic analysis is of significant value in facilitating greater understanding of complex environmental policy issues.²⁰⁴ Perhaps the most powerful contribution of economics to the study of regulation is its ability to assist in framing important normative and analytical questions concerning the benefits (or lack thereof) of specific regulatory policies and programs.²⁰⁵ Moreover, economic arguments are often more powerful than moral persuasion alone and bring important weapons into play for use in protecting the environment.²⁰⁶ The foundations of such approaches include "assessing the economic importance of environmental degradation" (through use of such tools as cost-benefit analysis or contingent valuation

("SGEIA") in the U.S. House of Representatives. H.R. 3448, 106th Cong. (1999); *see also* 145 CONG. REC. E2464 (statement of Rep. Greenwood). The SGEIA sought, among other things, to improve the current environmental regulatory system by restructuring mandatory reporting systems and increasing public access to information. *See* H.R. 3448, 106th Cong. The SGEIA would require the EPA to develop a plan within three years of the Act's passage to accomplish this goal, including directing the agency to build on "voluntary industry reporting measures" (with express reference to initiatives organized by CERES and the International Organization for Standardization) in this regard. H.R. 3448, 106th Cong. § 103(b)(11). The proposed SGEIA appears to have long-since lost momentum, having languished in House subcommittees since December 1999.

203. *See, e.g.*, MARK SAGOFF, *THE ECONOMY OF THE EARTH: PHILOSOPHY, LAW, AND THE ENVIRONMENT* (1988) (arguing against use of the economic efficiency criterion in social regulation in favor of an approach addressing environmental problems in primarily moral, aesthetic, cultural, and political terms).

204. *See* Clifford S. Russell, *Complex Regulation and the Environment: An Economist's View*, in 9 RESEARCH IN PUBLIC POLICY ANALYSIS AND MANAGEMENT 95, 95-109 (Stuart S. Nagel ed., 1998); Richard A. Posner, *The Decline of Law as an Autonomous Discipline: 1962-1987*, 100 HARV. L. REV. 761, 767-68 (1987) (discussing the rise of economics as a discipline complimentary to legal analysis including in the area of environmental law).

205. *See* BARDACH & KAGAN, *supra* note 21, at xiv-xv.

206. R. KERRY TURNER ET AL., *ENVIRONMENTAL ECONOMICS: AN ELEMENTARY INTRODUCTION*, at vii-viii (1993); *accord* Allen V. Kneese & William D. Schulze, *Ethics and Environmental Economics*, in HANDBOOK OF NATURAL RESOURCES AND ENERGY ECONOMICS 191, 191-219 (Allen V. Kneese & James L. Sweeney eds., 1985) (demonstrating framework within which economic theory and method can provide interesting contributions to philosophical and ethical discourse on environmental policy).

methodologies), identifying economic causes of environmental degradation, and designing economic incentives to slow, stop, or reverse such degradation.²⁰⁷

Thus, economic theory is highly useful in evaluating alternative policy tools to supplement or replace traditional approaches.²⁰⁸ This is not to say, however, that contributions of environmental economics to the collective choice problem posed by societal interaction with the natural environment are of greater importance than contributions of other relevant disciplines.²⁰⁹ Economic analysis is merely one important tool in the collective—inevitably political—decision-making process; a tool most helpful when fully integrated with insights gleaned from other relevant disciplines and approaches applicable to complex environmental regulatory problems.²¹⁰ In this regard, this Article builds on both economic and legal scholarship on environmental informational regulation to explore the potential role of formal corporate environmental reporting in this domain.

A. Economic Perspectives

Informational regulation is often justified on political or ethical and moral grounds. In this vein, such regulation is argued to enhance democratic processes (citizen participation) or address concerns that individuals have the “right-to-know” risks they may face.²¹¹ However, over the past

207. TURNER ET AL., *supra* note 206, at vii.

208. *But see* SAGOFF, *supra* note 203, at 6 (arguing against use of the economic efficiency criterion).

209. RUSSELL, *supra* note 2, at 1.

210. *Id.*; Russell, *supra* note 204, at 95, 106; Robert Dorfman, *An Introduction to Benefit-Cost Analysis*, in *ECONOMICS OF THE ENVIRONMENT: SELECTED READINGS* 297, 319–21 (Robert Dorfman & Nancy S. Dorfman eds., 3d ed. 1993); *see also* BARDACH & KAGAN, *supra* note 21, at xv (describing the blending of “the intellectual perspectives of economics and political science at the conceptual level” in evaluating problems of “social” or “protective” regulation, including regulation of environmental protection); Partha Dasgupta, *The Economics of the Environment*, 1 ENV’T & DEV. ECON. 387, 387–92 (1996) (arguing that economic analysis is incomplete if environmental and ecological issues are ignored given the importance of the environmental-resource base to human activity); Michael A. Toman, *Economics and “Sustainability:” Balancing Trade-Offs and Imperatives*, 70 LAND ECON. 399, 409 (1994) (asserting that environmental debates over the concept of “sustainability” should incorporate both economic and ecological analyses; each discipline should adapt research emphases and methodologies to make best use of interdisciplinary contributions).

211. *See, e.g.*, Tietenberg, *supra* note 16, at 599; Sunstein, *supra* note 20, at 619; *see also* William M. Sage, *Regulating Through Information: Disclosure Laws and American Health Care*, 99 COLUM. L. REV. 1701, 1801–25 (1999) (analyzing justifications for mandatory disclosure involving “public accountability, constraints on government, and the integrity of the American political process”). For an analysis of empirical studies of information disclosure regulation from the perspective of citizen participation and “right-to-know” justifications, *see* Don Sherman Grant II, *Allowing Citizen Participation in Environmental Regulation: An Em-*

several years, economists have given significant attention to information disclosure strategies in the environmental arena. The economic literature in this area is described as “young,” and the empirical research performed to date is termed “sketchy and incomplete.”²¹² Nonetheless, both economic theory and empirical evidence produced to date suggest that informational regulatory strategies can motivate environmental performance improvement even in the absence of traditional regulatory controls.²¹³

A 1994 *Journal of Environmental Economics and Management* article was the first to construct a theoretical economic model to assess the potential role of mandatory environmental information disclosure as a regulatory instrument.²¹⁴ The central question addressed by Kennedy, Laplante, and Maxwell is whether and under what circumstances government should intervene to correct a market-failure regarding insufficient disclosure of environmental information regarding a “polluting product.”²¹⁵ The authors note that such information provision can have “associated positive externalities”—educating consumers about adverse environmental impacts of a product may alter consumer behavior in ways that have external benefits; in this case, reduced consumption of a polluting product.²¹⁶ According to the authors, however, a market failure oc-

pirical Analysis of the Effects of Right-to-Sue and Right-to-Know Provisions on Industry's Toxic Emissions, 78 SOC. SCI. Q. 859 (1997) (suggesting support for the hypotheses of conflict environmental sociologists; that the absence of resources to support actual citizen participation under “right-to-know” regulation renders such schemes a largely symbolic gesture); Richard C. Rich et al., “Indirect Regulation” of Environmental Hazards Through the Provision of Information to the Public: The Case of SARA, Title III, 21 POL'Y STUD. J. 16 (1993) (suggesting that inadequate funding and insufficient implementation render citizen “right-to-know” or “regulation through information” strategies ineffective).

212. Tietenberg, *supra* note 16, at 595, 599. See also Kleindorfer & Orts, *supra* note 16, at 163 (describing informational regulation as “largely unexplored territory” from the standpoint of economic analysis).

213. Tietenberg, *supra* note 16, at 599.

214. See Peter W. Kennedy et al., *Pollution Policy: The Role for Publicly Provided Information*, 26 J. ENVTL. ECON. & MGMT. 31 (1994). For another theoretical economic model developed to evaluate consumer and firm behavior when information—in this case Toxics Release Inventory data—is used as a regulatory tool, see Seema Arora & Shubhashis Gangopadhyay, *Toward a Theoretical Model of Voluntary Overcompliance*, 28 J. ECON. BEHAV. & ORG. 289, 291 (1995) (“A key message of th[is] paper is that market forces are important if information on the environmental records of firms is publicly available.”). Arora and Gangopadhyay theorize that publicly available information allows firms that comply with environmental regulations to be rewarded by the marketplace because of a segment of consumers presumed more likely to buy the products of environmental leaders. *Id.*; see also Mark A. Cohen, *Monitoring and Enforcement of Environmental Policy*, in THE INTERNATIONAL YEARBOOK OF ENVIRONMENTAL AND RESOURCE ECONOMICS 1999/2000: A SURVEY OF CURRENT ISSUES 44, 48 n.9 (Henk Folmer & Tom Tietenberg eds., 1999).

215. Kennedy et al., *supra* note 214, at 32.

216. *Id.*

curs because consumers may not fully take into account these positive externalities in deciding whether to acquire information on their own about a product's environmental attributes.²¹⁷ Thus, the market tends to under-provide information in this situation which raises the question of whether government should intervene.²¹⁸

Kennedy et al., argue that a role exists for government mandated disclosure to correct this market failure if no other corrective policy instrument is available (such as an appropriate corrective tax on the product that would produce a true social optimum level of consumption without any need for information disclosure).²¹⁹ Indeed, where another corrective policy is unavailable, "the government may not be able to affect consumption of the polluting product other than through information policy."²²⁰ However, despite finding a role for government mandated disclosure in this situation, the authors further conclude that information disclosure alone "is not a panacea for pollution problems."²²¹ The authors' mathematical model suggests that the underlying consumption externality (leading to pollution) remains uncorrected in this circumstance, thus failing to induce socially optimal levels of consumption of the product in question.²²² Nonetheless, even though economic efficiency is not obtained, the authors emphasize that social welfare is indeed improved in such cases by the public provision of information (inasmuch as consumption of the polluting product does decrease).²²³ Thus, the work of Kennedy, Laplante, and Maxwell suggests that provision of environmental information can effectively produce improvements to the environmental status quo even in the absence of other regulation.²²⁴

217. *Id.*

218. *Id.*

219. *Id.* at 39-40.

220. *Id.* at 34.

221. *Id.* at 42.

222. *Id.* at 39, 42.

223. *Id.* at 39-40. With respect to those situations where a corrective tax can be imposed on a polluting product, the authors' model also suggests that no role exists for public information provision. In such a circumstance, the appropriate corrective tax induces the true social optimum without need for an additional policy instrument such as an information provision mechanism. *Id.* at 40. The authors acknowledge, however, that there nonetheless may be additional "political benefits" to information disclosure in this circumstance not captured in their model. *Id.* at 42.

224. Although attributed broader application in this Article, the theoretical model developed by Kennedy et al., appears to be most applicable to disclosure strategies involving imparting product-specific environmental information—such as through product labeling policies—to consumers. See Mario F. Teisl & Brian Roe, *The Economics of Labeling: An Overview of Issues for Health and Environmental Disclosure*, 27 AGRIC. & RESOURCE ECON. REV. 140, 140 (1998) (defining "product labeling as any policy instrument of a government or other third party that somehow regulates the presentation of product-specific information to consumers"). Utilizing environmental labeling or other "point-of-purchase" methods of con-

Thus, the promise of informational regulatory strategies should not be overblown. Specifically, such strategies should not be expected to ultimately induce optimal or efficient levels of environmental protection (i.e., pollution levels, reduction targets, etc.). Importantly, however, regulatory goals seeking "optimal" levels of pollution are unrealistic and, indeed, pragmatically unattainable in a real world context.²²⁵ Moreover, although always relevant to evaluating environmental policy instruments,

veying environmentally related product information attempts to induce consumers to integrate the environmental costs of the choices they face into their decision-making. Peter S. Menell, *Structuring a Market-Oriented Federal Eco-Information Policy*, 54 MD. L. REV. 1435, 1435–36 (1995). A wealth of scholarly literature exists which narrowly focuses on the policy aspects of environmental labeling as an information disclosure strategy. See, e.g., Karl and Orwat, *supra* note 16; Mennell, *supra*; Teisl & Roe, *supra*. For an earlier work in the area of utilizing information disclosure in the form of hazard warnings (labeling) on consumer products as a regulatory tool, see WESLEY A. MAGAT & W. KIP VISCUSI, *INFORMATIONAL APPROACHES TO REGULATION* (1992) (utilizing extensive survey data to analyze consumer reaction to experimental labeling information regarding products posing serious health or environmental risks).

However, Teisl and Roe argue that little in the way of empirical research has been performed to adequately assess the market effectiveness of environmental labeling as a policy tool. Teisl & Roe, *supra*, at 144. On the one hand, these authors suggest that existing research indicates that product labeling indeed can significantly change both consumer and firm behavior. *Id.* at 143. However, the authors argue that what is lacking is research that develops understanding of the conditions necessary to maximize the potential effectiveness of a labeling policy. *Id.* In other words, "what characteristics of the interaction between the label, the consumer, and the product affect the impact of information" and thus maximize policy effectiveness? *Id.* at 143–44. Indeed, Teisl and Roe argue that "lack of knowledge regarding the market effectiveness of labeling policy characteristics is particularly evident, and potentially troublesome, with respect to environmental labeling." *Id.* at 144. There is widespread use of environmental labeling programs in countries around the world by governments and non-government organizations. See, e.g., Karl & Orwat, *supra* note 16, at 141–44 (presenting a table overviewing examples of international voluntary third-party eco-labeling programs); Stewart, *supra* note 5, at 136–39 (describing a number of privately and publicly sponsored eco-labeling programs). Such widespread use suggests that this form of information disclosure is perceived as an effective method of altering firm and consumer behavior. Teisl & Roe, *supra*, at 144. However, Teisl and Roe observe that certain studies of environmental certification programs have produced the counterintuitive result of indicating that such information programs are ineffective in altering consumer behavior or have even produced negative consumer reaction. *Id.*; see, e.g., Mario F. Teisl et al., *Ecocertification: Why It May Not Be a "Field of Dreams,"* 81 AM. J. AGRIC. ECON. 1066, 1066–71 (1999) (presenting results of empirical study suggesting the potential ineffectiveness of ecolabeling as an information disclosure policy tool); see also Stewart, *supra* note 5, at 139 (identifying lack of consumer awareness or interest in eco-labels as a primary limitation of such programs). Thus, while research demonstrates that information disclosure in the form of environmental labeling has the capacity to alter consumer or firm behavior, a failure to carefully study and consider the design and implementation of such programs can lead to ineffective policies that fail to maximize net social benefit.

225. See Karkkainen, *supra* note 11, at 271 (discussing arguments of proponents of abandonment of "the chimerical goal of 'optimal' pollution"). For a discussion of the difficulties encountered in attempts to attain static efficiency (identified as "maximum net benefits, or minimum costs of achieving some goal, in an unchanging world") or socially optimal levels of pollution at least cost, see RUSSELL, *supra* note 2, at 192–207.

economic efficiency must often defer to other important policy concerns—for example, public health.²²⁶ Further, even proponents of market-based approaches to environmental regulation acknowledge that setting pollution policy involves inherently political judgments.²²⁷ Thus, political judgments grounded, in part, in non-economic theoretical frameworks or principles may well favor information disclosure as a regulatory tool even absent evidence that efficient levels of environmental protection will necessarily result.

Even if true economic “efficiency” is realistically unattainable, positive moves toward the social optimum may still occur if alternative approaches lead to actual improvements in the environmental performance of individual firms.²²⁸ In this regard, the available, albeit incomplete, evidence from economists suggests that informational regulatory strategies can ultimately motivate improvements in the environmental status quo.²²⁹ In the specific case of the TRI, studies by economists have shown benefits in the form of toxic release reductions and other environmentally beneficial performance behavior by regulated entities.²³⁰ Such evidence suggests that informational regulatory strategies indeed may have some efficiency role to play in environmental protection policy.²³¹

Nonetheless, the value of information disclosure as a regulatory alternative in the environmental area is not the subject of widespread consensus among economists.²³² Russell and Clark emphasize that the notion that public provision of information can be effectively used as an environmental regulatory tool “is a significant and even revolutionary departure from traditional thinking.”²³³ The root of this departure is that,

226. See Rena I. Steinzor, *Devolution and the Public Health*, 24 HARV. ENVTL. L. REV. 351, 364 (2000) (“[E]conomic efficiency is an important attribute, but not the preeminent mission, of federal environmental laws.”).

227. See, e.g., Karkkainen, *supra* note 11, at 271; see also Russell, *supra* note 204, at 95, 106.

228. Karkkainen, *supra* note 11, at 271.

229. See, e.g., Kennedy et al., *supra* note 214, at 39–40 (emphasizing that, even though economic efficiency is not obtained through the theoretical model constructed, social welfare improvements are still present through public provision of information as consumption of “polluting product” is decreased).

230. See James T. Hamilton, *Pollution as News: Media and Stock Market Reactions to the Toxics Release Inventory Data*, 28 J. ENVTL. ECON. & MGMT. 98 (1995); Konar & Cohen, *Information As Regulation*, *supra* note 19; Madhu Khanna et al., *Toxics Release Information: A Policy Tool for Environmental Protection*, 36 J. ENVTL. ECON. & MGMT. 243 (1998). For an extensive discussion of these studies, see Case, *Environmental Information*, *supra* note 11, at 10,777–79.

231. See Tietenberg, *supra* note 16, at 599.

232. See generally Russell & Clark, *supra* note 16.

233. *Id.* at 3.

unlike other regulatory approaches, informational regulation “relies on third parties to ‘implement’ the policy.”²³⁴ That is, policymakers simply ensure dissemination of information and depend upon third parties to “implement” the regulatory policy by engaging in conduct that induces polluters to alter their behavior in environmentally beneficial ways.²³⁵ Whether such implementation actually occurs in practice—that is, whether third parties will actually act on the information in ways that affect polluter behavior—is at the heart of skepticism over the potential effectiveness of this approach.²³⁶

To be sure, the primary foundation of informational regulatory theory is indeed that information disclosure amplifies traditional regulatory monitoring and enforcement efforts through creation of third-party monitoring and incentives.²³⁷ Two important conceptual foundations are at the heart of this specific aspect of informational regulatory strategy: Coasean bargaining and transactions cost economics.

Coasean bargaining involves internalizing externalities such as environmental damages by clarifying respective property rights and allowing involved parties to negotiate acceptable terms.²³⁸ In theory, and assuming the absence of transactions costs and that the bargaining parties possess complete information, a polluting firm and an affected local community suffering environmental damages will bargain to a Pareto efficient solution with the distributional aspect (who has to pay) depending on the initial allocation of rights.²³⁹ However, because the assumptions underlying the Coase Theorem are very rarely satisfied (informational asymmetries between the parties, especially identifying pollution sources and their owners, greatly increase transactions costs), widespread application of a “pure Coasean approach” is considered impractical.²⁴⁰ Indeed, these and other reasons have led scholars to generally dismiss the Coase Theorem as a sound basis for public policy.²⁴¹

Although of substantial concern, information asymmetries and large transactions costs are not the only problem prohibiting practical application of the Coase Theorem. Professor Russell suggests that a larger problem in this regard is the difficulty in organizing typically large num-

234. *Id.* at 5.

235. *Id.* at 6.

236. *Id.*

237. *Cf.* Kleindorfer & Orts, *supra* note 16, at 155.

238. *Id.* at 160.; *see also* Tietenberg, *supra* note 16, at 588–89 (discussing the Coase theorem as “[t]he starting point for thinking about information approaches to pollution control”); *see generally* R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

239. Kleindorfer & Orts, *supra* note 16, at 160.

240. *Id.*

241. Russell & Clark, *supra* note 16, at 7; *see also* Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1, 28 (1982) (describing Coase Theorem as an “illuminating falsehood[]”).

bers of "pollutees" to bargain at all, especially in situations where pollution externalities can affect thousands, even millions, of people spread across several political jurisdictions.²⁴² Because of the public good nature of environmental protection, free riding is likely, even in the simple case of a single polluter facing off against an affected local community. As emphasized above, this is the basis for skepticism as to whether information disclosure will actually lead to private bargaining of any sort. However, a partial answer to this concern may lie in the significantly high level of environmentally focused community organization already in place as reflected in the large numbers of environmental interest groups currently active in contemporary American society.

As public faith in the capacity of government to hold industry accountable for negative environmental behavior has diminished over the past several decades, the number of environmental interest groups monitoring industry with respect to its environmental performance has grown.²⁴³ Many "[e]nvironmental interest groups are substantial organizations, with tens of thousands of members, multi-million dollar budgets, and substantial litigation and lobbying expenses."²⁴⁴ Environmental groups run the gamut from large national organizations to state and local organizations and include ad hoc grassroots groups periodically formed to address specific issues of local concern.²⁴⁵ By 1993, an estimated twenty-five million people were members of environmental organizations, with most members of local groups.²⁴⁶ A study published in 2001 estimates that up to 30,000 local environmental groups were active in the United States at the dawn of the twenty-first century.²⁴⁷

"Environmental groups have become useful watchdogs because they have both the technical expertise and the inclination to monitor

242. See RUSSELL, *supra* note 2, at 46; Russell, *supra* note 204, at 99-100. Accordingly, Professor Russell argues that "[o]ften the only way to deal with an externality of this sort is to have rights and duties assigned by legislation at the level of jurisdiction that includes all the affected parties." RUSSELL, *supra* note 2, at 46.

243. David E. Seidemann, *Insufficient Accountability: Case Study of the Recycling Plan of a Public Interest Research Group*, 3 BUFF. ENVTL. L.J. 221, 222 (1995). Estimated membership in organized environmental groups grew from 500,000 in 1970 to 2.5 million in 1985. RICHARD N. L. ANDREWS, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY* 238 (1999).

244. Todd J. Zywicki, *Baptists?: The Political Economy of Environmental Interest Groups*, 53 CASE W. RES. L. REV. 315, 336 (2002). By the early 1990s, approximately seven thousand separate environmental groups operated around the country. *Id.*

245. Susannah T. French, Comment, *Judicial Review of the Administrative Record in NEPA Litigation*, 81 CAL. L. REV. 929, 979-982, 982 n.294 (1993).

246. PHILIP SHABECOFF, *A FIERCE GREEN FIRE: THE AMERICAN ENVIRONMENTAL MOVEMENT* 233 (1993).

247. Willett Kempton et al., *Local Environmental Groups: A Systematic Enumeration in Two Geographical Areas*, 66 RURAL SOC. 557, 569 (2001).

those segments of society in which the public has lost faith (i.e., government and industry)."²⁴⁸ Importantly, such community and environmental interest groups can act as "effective watchdogs and de facto regulators" by monitoring and enforcing the corporate "social license" of individual polluting firms through "shaming and otherwise pressuring companies into beyond-compliance environmental performance."²⁴⁹ Environmental groups are inclined to play this monitoring role even in the absence of any form of government facilitation or intervention.²⁵⁰ However, scholars assert that the effectiveness of environmental organizations in this regard "is enhanced by various forms of facilitative governmental regulation."²⁵¹ A "particularly important" mode of facilitative regulation to empower environmental group efforts to enforce "social licensing" is informational regulation, especially provisions which would require disclosure of comparative information allowing the public to rank actors in terms of environmental performance.²⁵² Such regulation supports environmental groups' efforts in this regard "by giving them access to information that they can use to pressure target enterprises."²⁵³

In theory, therefore, community organization through contemporary, especially local, environmental groups may allow for some instances of Coasean-type negotiation to take place with local business enterprises. That is, these groups may be able to act as potential proxies for communities in "bargaining" with polluting entities either directly or indirectly through the course of engaging in activities that pressure industry actors to curb adverse environmental impacts. Moreover, the ubiquitous presence of environmental non-governmental and other watchdog

248. Seidemann, *supra* note 243, at 222. See also Irma S. Russell, *The Role of Public Opinion, Public Interest Groups, and Political Parties in Creating and Implementing Environmental Policy*, 23 ENVTL. L. REP. 10665 (1993) (discussing shift in public attitude toward environmental protection issues and role of environmental interest groups, among others, in that shift).

249. Neil Gunningham et al., *Social License and Environmental Protection: Why Businesses Go Beyond Compliance*, 29 LAW & SOC. INQUIRY 307, 336-337 (2004). These authors define the corporate "social license":

... as the demands on and expectations for a business enterprise that emerge from neighborhoods, environmental groups, community members, and other elements of the surrounding civil society. In some instances the conditions demanded by "social licensors" may be tougher than those imposed by regulation, resulting in "beyond compliance" corporate environmental measures even in circumstances where these are unlikely to be profitable.

Id. at 308.

250. *Id.* at 337.

251. *Id.*

252. *Id.* at 337-38.

253. *Id.* at 336.

groups suggests that information provided through disclosure regulations is more likely to be acted upon by third parties than otherwise.

In this regard, environmental watchdog and interest groups have strong incentives to monitor and utilize publicly available information on the environmental performance of regulated enterprises.²⁵⁴ In addition to utilizing such information for their own purposes, growing numbers of environmental organizations also engage in "information brokering" as discussed above in section I.A.²⁵⁵ That is, these groups collect and disseminate information for the purpose of educating the general public on environmental issues, often organizing and presenting such information in contexts rendering it easier for the average end user to understand and utilize (such as Environmental Defense's "Scorecard" Internet website for TRI data). Unquestionably, the presence of environmental interest groups by no means eliminates free-riding problems associated with organizing collective action in pursuit of the public good of improved environmental performance. However, the inclination of these groups to monitor and utilize publicly disclosed information on corporate environmental performance greatly increases the probabilities that such information will be acted upon in ways that will affect corporate environmental actors.

As emphasized above, the Coase Theorem is also largely dismissed as a practical basis for policymaking because of its unrealistic assumptions that bargaining parties will possess complete information and that transactions costs will be minimal. Nonetheless, Kleindorfer and Orts assert that "one interpretation of the move toward" informational regulation is a reduction in information asymmetries and thus reduced transaction costs impeding effective bargaining with agents who control pollution sources.²⁵⁶ Professors Kleindorfer and Orts have emphasized that "[t]his interpretation is especially compelling when one considers impacts which are largely local and borne by an identified group of stakeholders, such as a community hosting an industrial facility."²⁵⁷ Said another way, informational regulation—assuming it provides accurate and

254. See Lynn E. Blais, *Counting Costs and Calculating Benefits*, 80 TEX. L. REV. 2059, 2064 (2002) (noting the incentives of environmental watchdog groups to collect information); Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government's Environmental Performance*, 102 COLUM. L. REV. 903, 946–947 (2002) (suggesting that "environmental NGOs and other 'watchdog' groups" are motivated to monitor and utilize environmental information made publicly available by government); Gary Rischitelli, *Developing a Global Right to Know*, 2 ILSA J. INT'L & COMP. L. 99, 118 (1995) (asserting that environmental watchdog organizations and public advocacy groups depend upon publicly available "information to establish priorities, educate communities, and develop action agendas").

255. See *supra* notes 66–69 and accompanying text.

256. Kleindorfer & Orts, *supra* note 16, at 160.

257. *Id.*

meaningful information—will improve the efficiency of private “bargaining processes” in ways more closely aligned with the Coasean ideal.²⁵⁸

From this standpoint, informational regulation can be considered to follow the “normative Coase theorem” that encourages policymakers to structure law and regulation so as to remove impediments to such private bargaining.²⁵⁹ This principle, advanced by Professors Cooter and Ulen, recognizes that the original “Coase Theorem embodies a value judgment.”²⁶⁰ Although the Coase Theorem’s assumption that transactions costs in private bargaining are zero is unrealistic, it is nonetheless a desirable objective that is worthy of pursuing in a free market society.²⁶¹ Thus, structuring law and regulation so as to lower obstacles to private bargaining such as information asymmetries and high transaction costs is a worthy attempt to pursue the value judgment that underlies the Coase Theorem. In this way, the law encourages bargaining by lowering transaction costs.²⁶²

Thus, regulatory instruments can approximate the Coasean ideal by reducing information asymmetries and accompanying transactions costs through increasing publicly available information about pollution sources.²⁶³ However,

[t]his approach works well only if the information required to be revealed by the [polluting] company can be cheaply verified and is aligned with the community’s values. If the information is not informative or meaningful to the community, then improving it does little to improve the efficiency of their ‘bargaining process’ with the company.²⁶⁴

A comprehensive corporate environmental reporting system has unique potential for encouraging private (i.e., “Coasean”) bargaining with agents controlling pollution sources, and also for reducing regulatory transactions costs in monitoring and enforcement.

258. *Id.* at 161.

259. See ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 93–94 (3d ed. 2000) (formulating the “normative Coase theorem” as follows: “Structure the law so as to remove the impediments to private agreements.”).

260. Mark F. Hebbeln, Comment, *The Economic Case for Judicial Deference to Break-Up Fee Agreements in Bankruptcy*, 13 *BANKR. DEV. J.* 475, 491 (1997).

261. See *id.*

262. See COOTER & ULEN, *supra* note 259, at 93 (Cooter and Ulen also refer to this as a way that law “lubricates bargaining”).

263. See Kleindorfer & Orts, *supra* note 16, at 160–61.

264. *Id.* at 161.

The leading reporting model—the GRI—requires adherence to reporting principles that ensure disclosure of information material to the decision-making needs of such stakeholders as the firm's local community host. Two GRI reporting principles specifically tailored to this goal are “inclusiveness” and “relevance.”²⁶⁵ The principle of “inclusiveness” requires a company to systematically engage its stakeholders (i.e., local community groups, customers, public interest groups, local authorities) during the process of designing the GRI report.²⁶⁶ The purpose of this process is to enable the company to learn the specific information needs of its stakeholders, thus ensuring that those needs are satisfied by the information disclosed in the report.²⁶⁷ Similarly, the “relevance” principle requires decisions on what information to report to be based upon the importance of that information to the decision-making processes of the company's stakeholders.²⁶⁸ Thus, GRI reporting is deliberately designed to provide community stakeholders meaningful information aligned with their specific values. Thus, formal corporate environmental reporting reduces information asymmetries between companies and their stakeholders. If adapted as a governmental policy instrument, formal corporate environmental reporting would move the environmental regulatory system closer to the Coasean ideal by increasing the efficiency of private bargaining processes between individual firms and their external stakeholders.

This type of “community setting” (e.g., when local residents are subject to emissions from a nearby plant) is considered the most difficult policy setting within which to incorporate information disclosure strategies.²⁶⁹ This is due to the lack of any obvious contractual relationship between the “polluter” and the “pollutee,” such as in the polluting product setting (purchase relationship between consumer and seller) or an occupational setting (employment relationship between firm and worker exposed to pollutants).²⁷⁰ In the community setting, therefore, any action taken by those affected by environmental damage must normally be indirect because of the lack of such direct “behavioral linkages.”²⁷¹ As emphasized above, however, the GRI reporting process requires establishment of direct linkages between the company and affected stakeholders through stakeholder engagement and consultation. Specifically,

265. GRI, 2002 GUIDELINES, *supra* note 99, at 23.

266. *Id.* at 24.

267. *See id.* at 24–25.

268. *Id.* at 27.

269. Tietenberg, *supra* note 16, at 590.

270. *Id.*

271. *Id.*

the company's stakeholders become directly involved in the information disclosure process itself.

Difficulties in incorporating informational regulatory strategies within the "community setting" are further overcome when the disclosed information is assured to be reliable and disseminated in a form both useable by and accessible to the community.²⁷² Disclosure of inaccurate or incomplete information may do more harm than good if it fails to identify actual, existing environmental concerns or promotes unjustified fears.²⁷³ In this regard, Professor Tietenberg observes that among the ways to assure disclosure of reliable information is through standardization of collection methods and by establishing appropriately large penalties for providing false or misleading information.²⁷⁴

The GRI directly addresses these concerns by promoting reliability of disclosed information and by mandating adherence to reporting principles of "neutrality," "comparability," and "accuracy."²⁷⁵ The "neutrality" principle requires companies to avoid bias in selection and presentation of information so that a "balanced account" of the firm's environmental performance is provided.²⁷⁶ "Comparability" requires reports to be designed to allow comparison to earlier reports as well as to reports of comparable organizations.²⁷⁷ The "accuracy" principle requires disclosed information to achieve a degree of exactness and low margin of error so that end-users may base decisions on that information with a high degree of confidence.²⁷⁸ The GRI also specifically addresses the need to disclose information in a form useable and accessible to the community through reporting principles of "clarity" and "timeliness."²⁷⁹ These principles mandate that stakeholders "receive easily understood information in a time frame that allows them to use it effectively."²⁸⁰

Such principles are an integral part of the GRI's overall effort to standardize methods of collection and disclosure of environmental performance information. Again, the GRI's overriding purpose is to establish consensus on a single international reporting framework analogous to that which has long existed for financial reporting. An essential GRI reporting principle guiding this effort is "auditability;" that is, the requirement that information be disclosed in a manner enabling independ-

272. *Id.*

273. *See id.* at 591.

274. *See id.*

275. GRI, 2002 GUIDELINES, *supra* note 99, at 23.

276. *Id.* at 29.

277. *Id.*

278. *Id.* at 28.

279. *Id.* at 24.

280. *Id.*

ent verification by internal or external auditors.²⁸¹ Independent verification of reported data is not mandated but is strongly encouraged by the GRI.²⁸² In contrast, the EMAS regulation mandates that environmental statements be independently verified by third-party verifiers who are themselves subject to national accrediting systems and standards.²⁸³ Both systems demonstrate that independent verification could be made an integral component of informational regulatory approaches to assure the reliability and completeness of disclosed information. Moreover, if desired by policymakers, antifraud provisions, similar in purpose to Section 10(b) of the Securities and Exchange Act of 1934 and its implementing SEC Rule 10b-5, could also be incorporated within a reporting framework modeled on the GRI to penalize disclosure of false and misleading information.

As emphasized above, economic theory applicable to informational regulation is also concerned with regulatory transaction costs, which are "inefficiencies and costs introduced by the regulatory process itself."²⁸⁴ Informational regulation has the potential to reduce regulatory transactions costs in both monitoring and enforcement, especially in contrast to "more bureaucratic procedures" associated with traditional regulatory models.²⁸⁵ Professors Kleindorfer and Orts emphasize that "[r]elying on market pressures . . . and public pressure to enforce environmental standards replaces regulators with thousands of unpaid, proactive enforcers in society."²⁸⁶ Again, the "essential ingredient" for achieving this potential benefit is generation of "reliable information" about a firm's environmental performance.²⁸⁷ As shown above, a fundamental purpose of the leading corporate environmental reporting model is to satisfy this basic requirement. Thus, use of a reporting model such as the GRI as an informational regulatory approach would potentially create a host of private monitors and enforcers applying regulatory pressure through markets and public opinion. In theory, this would create potential opportunities for corresponding reductions in traditional regulatory monitoring and enforcement cost levels.²⁸⁸

Indeed, more and better environmental information is considered a prerequisite for broader reliance on the market's ability to resolve envi-

281. *Id.* at 25.

282. *See id.* at 76-79.

283. *See* Regulation (EC) 761/2001, *supra* note 143, at 5, 22-25 (art. 4 (Accreditation system), Annex V (Accreditation, Supervision and Function of the Environmental Verifiers)).

284. Kleindorfer & Orts, *supra* note 16, at 161.

285. *Id.*

286. *Id.* at 162.

287. *Id.*

288. *See id.*

ronmental problems.²⁸⁹ Despite the impossibility of ever achieving a pure Coasean equilibrium in the real world, provision of new environmental data through informational regulation—again, assuming disclosure of reliable and meaningful data—can eliminate current informational inadequacies and transactions costs significantly limiting our ability to develop effective policy options to resolve environmental problems.²⁹⁰ In this regard, implementation of a formal corporate environmental reporting—based informational regulatory approach—especially if heavily influenced by important ongoing initiatives such as the GRI and EMAS—would be a significant step in this direction.

B. Legal Perspectives

If the relevant economics literature is “young,” the legal literature on informational regulation is in its infancy. Nonetheless, a number of legal scholars over the past few years have critically explored informational approaches as an alternative to conventional environmental regulation.²⁹¹ When combined with the related work of economists, compelling arguments are raised for utilizing formal corporate environmental reporting as an informational regulatory tool, especially as strictly complementary to the existing command-and-control system.²⁹²

The most apposite legal framework for analyzing formal corporate environmental reporting as informational regulation is that of reflexive environmental law. Unlike conventional command-and-control regulation that relies upon direct government investigation and enforcement, “reflexive environmental law” is a “paradigmatic alternative . . . rel[ying] on [information] disclosure first and enforcement second.”²⁹³ Rather than directly regulating complex social problems often beyond the capacity of legal institutions alone to address satisfactorily, a reflexive approach “aims at fundamental structural change in the everyday life of business institutions.”²⁹⁴ The ultimate goal is “nothing less . . . than the transformation of business culture.”²⁹⁵

289. See Daniel C. Esty, *Toward Optimal Environmental Governance*, 74 N.Y.U. L. REV. 1495, 1506 (1999).

290. See *id.* at 1510; Daniel C. Esty, *Environmental Protection in the Information Age*, 79 N.Y.U. L. REV. 115, 117–121 (2004).

291. For a review of such literature, see Case, *Environmental Information*, *supra* note 11, at 10,781–89.

292. See Stewart, *supra* note 5, at 133.

293. Orts, *supra* note 1, at 1234.

294. *Id.* at 1313.

295. *Id.*

Environmental information disclosure mechanisms are included within a "family of legal instruments that reflect an emerging new 'reflexive law' conception of regulation."²⁹⁶ Within a reflexive law framework, market incentives are an important ingredient, but not the sum total, of the overall equation of information-based regulatory strategies. Social and normative factors also play an important role.²⁹⁷ In this regard, reflexive law theory parallels the analyses of many economics scholars.²⁹⁸

Reflexive law is a third evolutionary paradigm following preceding stages of formal law (classical rule-based systems) and substantive law (command-and-control regulation).²⁹⁹ Direct regulation of organizational behavior through formal or substantive law paradigms is inherently limited. Information deficiencies, inadequate administrative and enforcement resources, and the "inevitable lags, gaps and distortions" hinder development of legal controls sufficiently responsive to rapidly evolving societal needs.³⁰⁰ Reflexive law seeks to overcome such deficiencies by creating alternative means to align the incentives of organizational actors with societal values to better advance important societal goals.³⁰¹ In this regard, reflexive law does not establish formal rules of interaction between legal actors nor command substantive outcomes through direct regulation of specific conduct.³⁰² Instead, reflexive law influences organizational behavior by promoting internalization of societal norms.³⁰³ Law is the platform from which to create incentives and support for institutions and their managers to internalize societal goals as

296. Stewart, *supra* note 5, at 127. Included in this family of reflexive environmental law instruments are environmental audit and management systems and alternative regulatory compliance programs such as the EPA's Project XL. See *id.* at 133. For a discussion of environmental audit and management systems, see *id.* at 143-47. For a discussion of Project XL and other EPA experimental regulatory reform programs, see Case, *Regulatory Reform*, *supra* note 4, at 40-46.

297. See Stewart, *supra* note 5, at 142.

298. See, e.g., Kleindorfer & Orts, *supra* note 16, at 157, 163 (noting that informational regulation operates through two primary social institutions—economic markets and public opinion); Tietenberg, *supra* note 16, at 589 (noting that disclosure strategies are justified on ethical or "right-to-know" grounds as well as economic theory); Cohen, *Information as a Policy Instrument*, *supra* note 11, at 10,426 (observing that in addition to market mechanisms, information disclosure programs may also operate through such pathways as informal community pressure and social norms).

299. Stewart, *supra* note 5, at 130; Hess, *supra* note 38, at 48-51. See generally Gunther Teubner, *Substantive and Reflexive Elements in Modern Law*, 17 LAW & SOC'Y REV. 239, 252-57 (1983) (examining the evolution of formal, substantive, and reflexive law).

300. Stewart, *supra* note 5, at 127-28.

301. *Id.*

302. *Id.* at 130.

303. *Id.* at 127.

institutional goals.³⁰⁴ This is accomplished through creation of structural processes that stimulate communication between organizations and societal stakeholders about appropriate societal norms of conduct.³⁰⁵ Through use of governmentally established “communication channels and other structural arrangements,” societal norms, representing the views of various societal stakeholders, are integrated into the firm’s decision-making processes as internalization of those norms takes place.³⁰⁶

Reflexive environmental law thus seeks to promote self-regulatory behavior among environmental actors such as inducing environmentally beneficial management practices.³⁰⁷ Importantly, information plays the pivotal role in the effectiveness of such a strategy.³⁰⁸ For legal structures stimulating communication between organizations and stakeholders to work effectively, appropriate information must be generated and disclosed.³⁰⁹ Without sufficient information, “no process could efficiently or effectively align incentives or coordinate objectives among stakeholders.”³¹⁰ Therefore, a critical role of government under a reflexive environmental law strategy is to promote internal and external transparency of organizational environmental conduct by requiring public disclosure of appropriate information.³¹¹

Formal corporate environmental reporting would be an apt cornerstone of a comprehensive reflexive environmental law strategy. The leading voluntary reporting framework—the GRI—has identified organizational environmental transparency as a core objective.³¹² The effect is to promote better-informed decision-making on environmental issues on multiple levels. For example, the Guidelines facilitate internal transparency through benchmarking of the firm’s actual performance against both internal goals and the performance of peer organizations.³¹³ This internal transparency allows organizational decision-making to be guided by information related to the environmental aspects of the company’s operations, services, and products. The Guidelines further facilitate external transparency by requiring establishment of communication channels between the organization and its external stakeholders. This allows

304. *Id.* at 128.

305. *Id.* at 128–29.

306. *Id.* at 129, 131.

307. *Id.* at 131.

308. *Id.*

309. *Id.*

310. *Id.* at 134.

311. *Id.*

312. GRI, 2002 GUIDELINES, *supra* note 99, at 23–25; GRI, BUSINESS PLAN, *supra* note 107, at 4.

313. *See* GRI, 2002 GUIDELINES, *supra* note 99, at 80; GRI, BUSINESS PLAN, *supra* note 107, at 12.

the organization's decision-making processes to be influenced by a structured external dialogue regarding the firm's environmental policies, goals, and performance.

Significantly, the GRI approach to corporate environmental reporting does more than merely promote organizational transparency. Consistent with a reflexive law approach, the Guidelines mandate creation of structural processes stimulating *direct* communication between organizations and stakeholders regarding acceptable environmental norms of conduct. To ensure this, GRI reporters must specifically identify the firm's external stakeholders, describe the various forms of consultation utilized, list key issues and concerns developed through such processes, and describe how the organization has or intends to utilize information gathered through this process.³¹⁴ In addition, this direct communication structure is significantly augmented by overlapping *indirect* channels of communication, including such pathways as economic markets and public opinion. By establishing such "communication channels" and "other structural arrangements," the GRI establishes a reflexive law structure designed to advance organizational internalization of societal environmental norms.

Other legal rationales supporting information disclosure laws strengthen the argument for use of formal corporate environmental reporting as a regulatory instrument. For example, because it emphasizes performance-related disclosure, formal corporate environmental reporting is justified by the "performance rationale"—which emphasizes the ability of information disclosure to improve the dynamic performance of a regulatory system.³¹⁵ Performance-related information disclosure differs from substantive performance standard-setting regulation in two primary respects.³¹⁶ First, such mechanisms do not establish absolute performance standards but rather emphasize "narrowing gaps in relative performance" and promote incremental quality improvement over time.³¹⁷ Second, performance-related disclosure "depends primarily on extra-governmental enforcement mechanisms such as competitive forces, grassroots activism, and reputational concerns to achieve its desired effect."³¹⁸

The "performance rationale" recognizes that information is a "public good"³¹⁹ that even well-functioning markets may under-produce be-

314. GRI, 2002 GUIDELINES, *supra* note 99, at 42.

315. See Sage, *supra* note 211, at 1771.

316. *Id.* at 1781.

317. *Id.*

318. *Id.*

319. A "public good" is generally defined as a commodity that combines two essential characteristics. First, consumption of the good—in this case information—by a consumer who

cause potential producers are unable to fully capture the benefits of such production.³²⁰ Government intervention in the form of mandatory disclosure requirements addresses this “public good” problem by “stimulating information generation and overcoming barriers to information sharing.”³²¹ Often, such disclosure-based intervention allows legislatures or administrative agencies pragmatic alternatives to substantive rulemaking in promoting meaningful performance improvements within a specific regulatory system. This is especially true under circumstances where difficulties inherent in rulemaking within the modern regulatory state render establishment or amendment of substantive performance standards procedurally or politically unmanageable.³²²

In addition to its potential benefits, a number of potential problems with the performance rationale for disclosure also exist.³²³ Among the most important is the “key question” of performance-based disclosure mechanisms; that is, how to identify the performance criteria to be disclosed that will “force” the regulatory system to achieve the “ends” or systemic changes desired.³²⁴ Indeed, performance improvements achieved by regulated entities may be limited almost exclusively to those criteria and measures actually chosen for disclosure. Thus, selecting appropriate performance goals, choosing what information in what quantity and quality should be disclosed to achieve such goals, and determining

pays for the good does not leave less of the good for others to consume. Second, it is impossible or prohibitively expensive for the supplier of the good to exclude those who do not pay for it (“free riders”) from enjoying its benefit nonetheless. Thus, a market failure exists because potential suppliers of the good lack sufficient economic incentives to provide the good in the first instance. For this reason, the market likely will “under-supply” the commodity in question. For a discussion of market failures in relation to public goods (including information) as grounds for government intervention through regulation, see ANTHONY OGUS, REGULATION: LEGAL FORM AND ECONOMIC THEORY 33–35, 123–24 (1994).

320. Sage, *supra* note 211, at 1771; *see also* Coffee, *supra* note 21, at 722–28 (discussing public good nature of information in the context of market under-provision of securities research—information bearing upon the value of corporate securities).

321. Sage, *supra* note 211, at 1771; *accord* Coffee, *supra* note 21, at 728 (“Put simply, if market forces are inadequate to produce the socially optimal supply of research [information bearing on value of corporate securities], then a regulatory response may be justified.”); Sunstein, *supra* note 20, at 624 (observing that “compulsory disclosure of information can provide the simplest response” to a market failure in the form of an inadequate supply of information); BARDACH & KAGAN, *supra* note 21, at 253 (“Sometimes the market and private sources do *not* produce adequate information, and a mandatory disclosure program might indeed be useful either as a substitute for or as a supplement to direct regulation.”).

322. Sage, *supra* note 211, at 1772. *See also* BARDACH & KAGAN, *supra* note 21, at 249 (observing that “even an imperfectly effective mandatory disclosure program might be preferable to a direct regulation program that is underfunded, politically embattled, and badly administered.”).

323. *See* Sage, *supra* note 211, at 1780–96.

324. *Id.* at 1781.

the means and methods for such reporting are crucial undertakings.³²⁵ Because public regulatory processes may be unable to easily accomplish these tasks, private sector assistance in establishing performance measures and reporting methods may be of significant value.³²⁶

Such private sector assistance is already readily available to governmental policymakers in this country. As described previously, the GRI has undertaken substantial effort to create effective environmental performance reporting criteria and methods. This includes multiple pilot testing processes as well as collaboration with hundreds of stakeholders (from such sectors as business, non-governmental organizations, accounting, investment, and government) worldwide.³²⁷ The GRI process has produced an already widely accepted set of environmental performance indicators presently in use by hundreds of companies annually.³²⁸ Again, the fundamental mission of the GRI is "to build a consensus around a set of reporting guidelines with the aim of achieving worldwide acceptance."³²⁹ It is highly improbable that government could devote the resources to duplicate this level of effort or achievement in the foreseeable future.³³⁰ Indeed, the GRI anticipates that governments may choose to adopt the Guidelines as a regulatory instrument specifically because it is a "cost-effective and ready-to-use" framework.³³¹ This ability to cost-effectively address a key shortcoming of the "performance rationale" for information disclosure laws substantially increases the value of formal corporate environmental reporting as a policy option.

Another important legal justification for mandatory disclosure laws is the "democratic rationale."³³² The democratic rationale recognizes that economic analysis alone cannot satisfactorily resolve all concerns within the sphere of a complex collective choice problem of significant social and political import.³³³ This most certainly includes the multifaceted social problems inherent with society's interaction with the natural environment. The decision-making process in an arena of such complexity is inevitably political and "require[s] balancing individual rights

325. *See id.*

326. *Id.* at 1781-82.

327. *See* GRI, 2002 GUIDELINES, *supra* note 99, at 65-67.

328. GRI, BUSINESS PLAN, *supra* note 107, at 7, 8.

329. GRI, 2002 GUIDELINES, *supra* note 99, at i.

330. As the GRI itself emphasizes, the "GRI has succeeded in bringing diverse stakeholders together to help develop thinking on emerging issues and assist with policy implementation in a low-cost, effective and participative manner that cannot be achieved by governments alone." GRI, BUSINESS PLAN, *supra* note 107, at 9.

331. *Id.* at 14.

332. Sage, *supra* note 99, at 1801.

333. *See id.* at 1802.

and preferences against collective obligations and interests.”³³⁴ Importantly, the democratic rationale recognizes the vital relationship that exists between information and the political process. “[I]nformation allows citizens to form and value beliefs and preferences, and enables deliberative debate.”³³⁵ In this regard, a comprehensive system of corporate environmental reporting would both enable and reinforce principles of representative democracy by assisting society “in bringing difficult decisions into the open and providing the deliberative process with the information needed to resolve them.”³³⁶

Professor William Sage emphasizes that “[t]he democratic rationale for disclosure also applies to information concerning private behavior, if in the aggregate it has public implications.”³³⁷ Drawing parallels with capital investment markets governed by the disclosure requirements of federal securities laws, he suggests that some regulatory fields are “so expensive, so complex, and so essential to social well-being” that a convergence of public and private oversight facilitated by an information-rich political process is warranted.³³⁸ Increasing the transparency of corporate operations and performance within such fields through mandatory disclosure allows two sets of agents—“private and public”—to act in a monitoring role.³³⁹ Thus, a mandatory system of formal corporate environmental reporting would facilitate monitoring of private behavior with substantial public implications by public (governmental) and private (individual citizens and their surrogates, public interest groups) agents.³⁴⁰ Importantly, such a system would also enhance monitoring by the private sector of the performance of public agents in regulating environmental concerns.

Indeed, the ability to enable effective environmental performance monitoring appears to be the most critical element to the potential efficacy of environmental informational regulatory tools. This factor should thus weigh heavily in considering the design parameters of new informational regulatory approaches. A recent extensive examination of the TRI as a potential precursor to a “new paradigm” of environmental regulation is inclined to this viewpoint.³⁴¹ In a 2001 *Georgetown Law Journal* article, Professor Bradley Karkkainen lauds the TRI as breaking “critical new ground” in systemic use of internal and external “performance

334. *Id.*

335. *Id.* at 1803.

336. *Id.*

337. *Id.* at 1805.

338. *Id.*

339. *Id.* at 1805–06.

340. *Id.*

341. See Karkkainen, *supra* note 11.

monitoring and benchmarking as regulatory tools.”³⁴² Indeed, the TRI “establishes a novel *performance monitoring* regime; it triggers internal and external monitoring and benchmarking assessments of the environmental performance of firms and facilities, allowing a variety of parties to hold accountable those in the best position to make decisions leading to tangible improvements in environmental outcomes.”³⁴³ Thus, the TRI “point[s] the way toward broader and more effective use of environmental performance measurement as a regulatory tool.”³⁴⁴ At a minimum, however, achieving this goal requires that future disclosure tools be able to overcome deficiencies thus far limiting the effectiveness of the TRI as informational regulation.

Karkkainen describes the TRI as a “crude and underdeveloped” mechanism; “at best, one narrow and potentially highly misleading indicator of environmental performance, measuring releases from major point sources of substances on a short and far-from-complete EPA-compiled list of toxic pollutants.”³⁴⁵ Narrowness, incompleteness, and unreliability of reported data seriously diminish the value of the TRI as a metric of overall firm environmental performance.³⁴⁶ Thus, Karkkainen argues that more comprehensive metrics reflecting other important dimensions of environmental performance are necessary before “TRI-like” performance monitoring and benchmarking regulatory approaches can begin to achieve their full potential.³⁴⁷ In this regard, Karkkainen suggests use of “new performance metrics that would allow external and self-monitoring of environmental performance in critical areas presently beyond the reach of conventional regulation, such as water consumption and wastewater generation, solid waste, or production of CO₂ and other greenhouse gases.”³⁴⁸

As emphasized above, the GRI has already achieved impressive progress in the development of comprehensive environmental performance metrics.³⁴⁹ The Guidelines direct reporters to disclose environmental performance information relevant to ten broad categories: (1) materials usage, (2) energy usage, (3) water usage, (4) biodiversity, (5)

342. *Id.* at 291, 260.

343. *Id.* at 360 (emphasis in original).

344. *Id.* at 291.

345. *Id.* at 262, 331.

346. *Id.* at 262.

347. *Id.* at 331–32.

348. *Id.* at 360.

349. In this regard, Professor Karkkainen commends the “impressive work” of the GRI, CERES, GEMI, and the World Business Council for Sustainable Development in the development of environmental performance measurement criteria, emphasizing that these organizations have already laid “the foundations for a broader set of standardized metrics;” efforts which will likely “bear fruit in the months and years to come.” *Id.* at 367.

emissions, effluents, and waste, (6) environmental performance of suppliers, (7) impacts associated with products and services, (8) legal compliance, (9) organization-related transportation, and (10) overall environmental expenditures.³⁵⁰ Each of these broad categories is broken down into specific "core" and "additional" performance indicators. "Core" indicators are those considered "relevant to most reporting organisations; and of interest to most stakeholders."³⁵¹ "Additional" indicators are those that may "represent a leading practice" in environmental measurement, but are "currently used by few reporting organisations."³⁵² Further, "additional" indicators can constitute an information category "of interest to stakeholders who are particularly important to the reporting entity," and that are considered worthy of testing as potential future "core" indicators.³⁵³

In the 2002 Guidelines, the ten categories of environmental performance are broken down into thirty-five separate indicators (sixteen "core indicators" and nineteen "additional indicators").³⁵⁴ These indicators cover an extremely broad spectrum, including areas suggested by Karkkainen as critical for building comprehensive performance metrics such as greenhouse gas emissions and total water, energy and materials consumption.³⁵⁵ Significantly, however, GRI reporters are not limited to disclosure solely under performance indicators specifically listed in the Guidelines. As emphasized above, the Guidelines encourage reporters to select additional indicators based on information needs derived from consultation with external stakeholders. Thus, the Guidelines anticipate tailored expansion of performance measures to fit specific informational needs and localized environmental conditions.³⁵⁶ Such flexibility reveals a disclosure mechanism that can be improved over time through lessons learned from increased experience with environmental reporting. The GRI framework thus demonstrates the capacity to match the type of "TRI-style performance monitoring" envisioned by Karkkainen; that is, "a performance-based approach to environmental regulation . . . more

350. GRI, 2002 GUIDELINES, *supra* note 99, at 48–51.

351. *Id.* at 12.

352. *Id.* at 13.

353. *Id.*

354. *Id.* at 49–51.

355. *Id.* at 49–50.

356. In this way, GRI-based corporate environmental reporting potentially will contribute to creation and implementation of "locally tailored environmental protection policies," as local stakeholders, including local governmental officials and citizen groups, are able to influence environmental performance with respect to local environmental problems. Karkkainen, *supra* note 11, at 315.

flexible, dynamic, and sensitive to local context than any we have seen to date."³⁵⁷

The GRI framework also reflects the capacity of formal corporate environmental reporting to achieve a further important improvement over existing government-mandated disclosure programs. Experience with the TRI raises concerns about data accuracy and whether reported data is significantly outdated by the time of public release.³⁵⁸ Due in part to such concerns, many stakeholders, including segments of the financial community, consider TRI emissions data of extremely limited value.³⁵⁹ Importantly, such concerns are exacerbated by the fact that existing government mandated disclosure programs, such as the TRI, are generally historical, not predictive.³⁶⁰ That is, even if completely accurate and reflective of current practices, performance data disclosed by the TRI reflects only what an organization has done in the past, rather than what it is likely to do in the future.

The TRI and other government-mandated disclosure programs generally ignore indicators of an organization's future environmental performance such as the existence of environmental management systems, policies, and practices, projects relating to environmental research and development, or ongoing performance improvement initiatives.³⁶¹ In contrast, when private ratings organizations (i.e., Innovest, SAM Sustainability Group) prepare evaluations of specific company or industry sector environmental performance, such criteria are considered essential predictors of future environmental performance.³⁶² That experts in the field of corporate environmental performance evaluation highly value such information in appraising firm environmental performance is tell-

357. *Id.* at 262.

358. Cohen, *Information as a Policy Instrument*, *supra* note 11, at 10,427. For example, data inaccuracy can occur because required forms are improperly completed or because of transcription mistakes or incorrect interpretation of data during inputting into computer databases. In addition, due to time lags between collection, reporting, and actual public dissemination, TRI data is up to 18 months old by the time it is publicly released by EPA, and therefore is considered to be already outdated at the time of release. *Id.*

359. *Id.* at 10,427; accord Donald J. Reed, The Wall Street Perspective on Corporate Environmental Information Disclosure Information Stream (Sept. 22, 1999) (prepared for joint WRI/EPA conference, "Environmental Policies for a New Millennium: Using Incentives for Ecosystem Protection and Stewardship") (unpublished manuscript on file with author) (criticizing the value of current information disclosure streams in providing information to financial markets).

360. Cohen, *Information as a Policy Instrument*, *supra* note 11, at 10,427.

361. *Id.*

362. *Id.*; see also Kolk, *Evaluating CER*, *supra* note 73, at 228-32 (discussing various approaches, criteria, and indicators used by private ratings organizations in evaluating information disclosed through corporate environmental reports).

ing.³⁶³ Corporate behavior suggesting potential future environmental benefits has at least equal if not greater value in evaluating a firm's environmental performance than ostensibly more objective historical data disseminated under mechanisms such as the TRI.³⁶⁴ For this reason, Professor Cohen asserts that "any proposal to increase government-mandated disclosure should carefully consider the ability of firms to disseminate information about programs in place that are likely to have future environmental benefits."³⁶⁵

Importantly, the flexibility of the formal corporate environmental reporting format allows far-reaching use of both historical *and* predictive indicators of environmental performance. The European Union's revised EMAS regulation reflects a limited example of such flexibility by requiring environmental statements to disclose the organization's environmental policies and describe existing environmental management systems.³⁶⁶ The GRI reporting framework, on the other hand, incorporates indicators predictive of future environmental performance on a far larger scale. A section on "Vision and Strategy" requires the organization to present an "overall vision . . . for its future, particularly with regard to managing the challenges associated with" its environmental performance.³⁶⁷ Reporters are encouraged to use "maximum flexibility and creativity" in outlining this vision, but to anchor the discussion to the reporting organization's key direct and indirect environmental issues and impacts.³⁶⁸ Building on this theme, a section on "Governance Structure and Management Systems" requires "an overview of the governance structure, overarching policies, and management systems in place" to implement the organization's vision and to manage its performance.³⁶⁹ To ensure significant detail in this overview, information must be provided in three broad categories—"Structure and Governance," "Stakeholder Engagement," and "Overarching Policies and Management Systems"—responsive to detailed sub-indicators within each such category.³⁷⁰ Use of such predictive performance indicators further estab-

363. Cohen, *Information as a Policy Instrument*, *supra* note 11, at 10,427.

364. *See id.* at 10,428 ("some experts have argued that the existence of sound environmental management systems and the company's internal policies are as good as or even better indicators of a company's future environmental performance. Thus, there is a good case to be made for the collection and dissemination of information about less objective measures than pounds of toxic emissions.")

365. *Id.* at 10,427.

366. Council Regulation 761/2001, 3.2(b), 2001 O.J. (L 114) 1, 19.

367. GRI, 2002 GUIDELINES, *supra* note 99, at 38.

368. *Id.*

369. *Id.* at 41.

370. *Id.* at 41-43.

lishes the GRI's ability to promote broader and more effective use of information disclosure as a regulatory tool.

CONCLUSION

This Article argues against this country's historically piecemeal attitude toward environmental informational regulation in favor of a more direct approach. The maturation of the voluntary formal corporate environmental reporting regime permits public policymakers an opportunity to initiate a sea change in use of environmental information disclosure as a regulatory instrument. Leadership demonstrated through such initiatives as the GRI and the EMAS regulation has laid the foundation upon which to build comprehensive reporting-based informational regulation in this country. American policymakers should capitalize on this opportunity to improve the existing system's capacity to promote environmental performance improvement beyond that achievable by traditional approaches.

Overlapping economic and legal theory substantiate the potential of formal corporate environmental reporting as an informational regulatory strategy. As the GRI paradigm particularly signifies, formal corporate environmental reporting produces far more comprehensive performance disclosure from environmental actors within a format promoting "standardization, comparability, and computerization" on a level far surpassing existing governmental disclosure programs.³⁷¹ The result is enhanced internal and external monitoring and benchmarking capabilities with concomitant potential for enhanced environmental performance improvements. Law and economic perspectives also suggest that additional benefits of formal reporting-based disclosure are reduced information asymmetries and increased opportunities for efficient bargaining between environmental actors and their stakeholders; reduced monitoring and enforcement transaction costs of environmental regulation; promotion of organizational internalization of appropriate norms of environmental conduct and concomitant self-regulatory behavior; and generation of

371. Karkkainen, *supra* note 11, at 290. Indeed, although utilization of the Internet to publicly disseminate voluntary formal corporate environmental reports has gained considerable momentum over the past few years, companies are only now beginning to scratch the surface of exploiting the seemingly endless capabilities of existing technologies in the area of disseminating information produced in corporate environmental reports online. See, e.g., Kathryn Jones et al., *supra* note 37; Isenmann & Lenz, *supra* note 37; Kristen Shepherd et al., *Online Corporate Environmental Reporting: Improvements and Innovation to Enhance Stakeholder Value*, 8 CORP. ENVTL. STRATEGY J. 307 (2001); ASS'N OF CHARTERED CERTIFIED ACCTS. & NEXT STEP CONSULTING LTD., ENVIRONMENTAL, SOCIAL AND SUSTAINABILITY REPORTING ON THE WORLD WIDE WEB: A GUIDE TO BEST PRACTICES (2001).

valuable information to assist the deliberative political process (and in turn the regulatory process) in making difficult decisions regarding environmental regulation.

To date, information disclosure through formal corporate environmental reporting has evolved within a primarily voluntary regime. This Article argues that this specific disclosure mechanism should be adapted as a mandatory informational regulatory approach. Some observers suggest the better approach would be to allow formal corporate environmental reporting to continue to evolve within the current voluntary regime without government intrusion of any type. This is not a new concern and differing views abound.³⁷² A few concluding thoughts are offered to frame this issue for future consideration.

Formal voluntary corporate environmental reporting has indeed experienced significant growth over the past decade. Nonetheless, the total number of firms worldwide that engage in this practice remains small. Even within the EMAS program, which includes formal corporate environmental reporting as one component of a voluntary government registration system, participation rates have been disturbingly low. Thus, although market forces and other informational demands have contributed to impressive growth in formal corporate environmental reporting, incentives adequate to induce widespread involvement in voluntary regimes apparently do not yet exist.³⁷³ Accordingly, critical environmental performance information is generally being under-produced within voluntary disclosure systems. Indeed, this mirrors long-standing problems with voluntary environmental regulatory reform programs in general, where a lack of compelling incentives for widespread, or at least adequate, levels of industry participation call into question their overall effectiveness and potential long-term success.³⁷⁴

372. See, e.g., Josephine Maltby, *Setting Its Own Standards and Meeting Those Standards: Voluntarism Versus Regulation in Environmental Reporting*, 6 BUS. STRATEGY & THE ENV'T 83 (1997) (discussing dispute between supporters of voluntary approaches to corporate environmental reporting and those favoring mandatory reporting); Gallhofer & Haslam, *supra* note 72, at 149–165 (contrasting views supporting a voluntary approach to environmental reporting to a critical theoretical justification for an interventionist regulatory approach); Ross & Rowan-Robinson, *supra* note 137, at 113 (noting survey data suggesting that legislation, rather than market forces or voluntary self-regulatory behavior, is the “key motivating factor” behind industry environmental behavior).

373. The GRI itself perceives this as a weakness of the current voluntary regime, emphasizing that “[a]lthough in many other respects voluntarism is an advantage, organisations may choose not to invest in the sometimes significant effort needed to begin reporting on the broad range of sustainability issues if they are under no formal obligation to do so.” GRI, BUSINESS PLAN, *supra* note 107, at 9.

374. See Case, *Regulatory Reform*, *supra* note 4, at 47–48; Kubasek et al., *supra* note 137, at 287–88; accord Stewart, *supra* note 5, at 132 (observing that “large numbers of non-mandated environmental improvements are unlikely to be pursued under . . . an incentive sys-

Economists refer to underproduction of valuable information as a failure of the market to produce a socially optimal supply of a "public good."³⁷⁵ As a public good, economic markets and private providers tend not to provide information efficiently, thereby justifying government intervention which may include a regulatory response.³⁷⁶ As an example, the mandatory disclosure requirements of federal securities laws are often principally justified on the basis of underproduction of valuable financial information by the private sector because of its "public good" character.³⁷⁷ Similarly, "[p]rivate parties . . . generally lack adequate incentives to produce and disclose much of the information relevant to solving environmental problems."³⁷⁸ Thus, the fact that voluntary reporting regimes appear to have failed to induce widespread participation (and, concomitantly, to have produced relatively low amounts of actual information) may be explained, at least in part, by the public good nature of environmental performance information.

Because both involve the public good of information, other justifications in securities law scholarship supporting the mandatory securities disclosure regime also have application to a potential system of formal corporate environmental reporting.³⁷⁹ The function of a mandatory securities disclosure regime is to correct for market failures associated with a voluntary approach that led to most securities issuers significantly un-

tem" based solely on self-regulatory, voluntary environmental initiatives).

375. See *supra* note 319.

376. See, e.g., RUSSELL, *supra* note 2, at 49; OGUS, *supra* note 319, at 33-35, 123-24; Sage, *supra* note 211, at 1771; Coffee, *supra* note 21, at 728.

377. See Sage, *supra* note 211, at 1771; Coffee, *supra* note 21, at 723-728; see also Joel Seligman, *The Historical Need for a Mandatory Corporate Disclosure System*, 9 J. CORP. L. 1, 9 (1983) (discussing principal arguments to justify SEC's mandatory disclosure system).

378. Karkkainen, *supra* note 11, at 283.

379. Scholars debated the desirability of a mandatory, rather than voluntary, disclosure regime in the federal securities law area for decades until "a rough consensus" favoring retention of mandatory disclosure emerged by the mid-1980s. Merritt B. Fox, *Retaining Mandatory Securities Disclosure: Why Issuer Choice Is Not Investor Empowerment*, 85 VA. L. REV. 1335, 1339 (1999). During the mid-1990s, however, a new debate emerged where some scholars, primarily Professors Roberta Romano, Stephen Choi and Andrew Guzman, proposed that the current mandatory system of federal securities laws be replaced by a system of issuer choice. *Id.* at 1337. Instead of the earlier debate between a mandatory regime and non-regulation, this new proposal would replace the mandatory national system with a system of issuer choice between the federal regime, the securities law regime of any of the fifty states, the District of Columbia, or any foreign country. *Id.* at 1337, 1340. For discussions of the issuer choice side of this debate, see Roberta Romano, *Empowering Investors: A Market Approach to Securities Regulation*, 107 YALE L.J. 2359 (1998); Stephen J. Choi & Andrew T. Guzman, *The Dangerous Extraterritoriality of American Securities Law*, 17 NW. J. INT'L L. & BUS. 207 (1996); Stephen J. Choi & Andrew T. Guzman, *Portable Reciprocity: Rethinking the International Reach of Securities Regulation*, 71 S. CAL. L. REV. 903 (1998). For an analysis supporting retention of the current disclosure system and a response to the issuer choice perspective, see Fox, *supra*.

derdisclosing critical information.³⁸⁰ These failures result primarily from the fact that the producer of the information is unable to capture all of its benefits to others, including to competitors, suppliers, customers and investors in rival firms.³⁸¹ Because the information is valuable to a firm's own investors, that firm might be willing to disclose the information, but only if other firms are required to do likewise.³⁸² However, the firm will not willingly disclose the information individually because the other firms get to free ride and because of concerns of providing competitive advantage to rival firms.³⁸³ Thus, "[i]n the absence of some requirement or strong inducement to disclose, each firm will want to be a holdout."³⁸⁴ Such "third-party effects" and holdout problems are a justification for mandatory disclosure requirements in the securities area.³⁸⁵

Environmental actors may similarly lack incentives to voluntarily disclose information because of holdouts among other firms as reflected by low levels of participation in extant voluntary formal corporate environmental reporting regimes. This is especially true given that disclosure under contemporary corporate environmental reporting is primarily intended to invite comparisons among firms.³⁸⁶ The risk of disclosing information inviting such comparisons may far outweigh any return in the form of benefits from disclosure. For example, such disclosure may give advantages to non-disclosing firms which get the benefit of such disclosure without any obligation to compensate the disclosing firm or to reciprocate with like disclosures. Accordingly, the firm's incentives to voluntarily disclose such comparative information are poor. Again, this free riding problem tends to support intervention in the form of mandatory disclosure requirements.

Another rationale supporting mandatory disclosure in the federal securities area that is analogous to formal corporate environmental reporting is the desire to promote standardization in reporting.³⁸⁷ As emphasized above, one of the primary goals of the GRI is to establish a single, comprehensive set of environmental reporting standards. However, the ability of voluntary regimes to create a "common language" for disclo-

380. Fox, *supra* note 379, at 1417.

381. *Id.*; accord Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669, 685 (1984).

382. Easterbrook & Fischel, *supra* note 381, at 686.

383. *Id.*

384. *Id.*

385. *Id.* at 714.

386. Professors Easterbrook and Fischel observe a similar free riding concern in the context of disclosure of securities information that facilitates comparisons among firms. *Id.* at 686.

387. *Id.* at 686-87; Merritt B. Fox, *The Securities Globalization Disclosure Debate*, 78 WASH. U. L.Q. 567, 585 (2000).

sure depends upon the incentives of firms to willingly adopt the same format.³⁸⁸ When the point of such standardization is to facilitate comparisons across firms, many firms, for the reasons discussed above, “may not be anxious to cooperate.”³⁸⁹ Accordingly, mandatory disclosure is a means to overcome such an obstacle to achieving standardization.

For such reasons, governmental policy regarding environmental information is critically important to the environmental regulatory arena, thus justifying mandatory disclosure laws to stimulate generation of information and to overcome the failure of the market and private enterprises to do so.³⁹⁰ In this regard, some of the most valuable environmental performance information currently provided—TRI data—is not produced through voluntary means, but by legislative mandate. Absent regulatory intervention, it is highly likely that voluntary formal corporate environmental reporting regimes will continue to produce inadequate supplies of environmental performance information. Thus, a system of mandatory reporting-based disclosure is the superior approach. Indeed, a future convergence of formal corporate environmental reporting and mandatory informational regulatory strategy may well prove to be the key to maximizing the effectiveness of both.

388. See Easterbrook & Fischel, *supra* note 381, at 687; Fox, *supra* note 387, at 585 (discussing the provision of a “common language” in securities disclosure as justification for mandatory disclosure regime).

389. Easterbrook & Fischel, *supra* note 381, at 687.

390. Karkkainen, *supra* note 11, at 283–84; Sage, *supra* note 211, at 1771.