Environmental Leadership Programs: Toward an Empirical Assessment of their Performance[*]

Jonathan C. Borck[+]

Cary Coglianese[++]

Jennifer Nash[+++]

The rise of an extensive environmental regulatory system over the last several decades has corresponded with a period of substantial improvement in overall environmental quality in the United States.[1] Increasingly, however, the U.S. environmental regulatory system has elicited criticisms for a number of purported failings. Some longstanding environmental problems targeted by regulation continue to persist, such as smog, while new problems, such as global climate change, raise growing, serious concerns.[2] In addition, many observers perceive that the

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[+] Associate, Analysis Group, Inc., Boston, Massachusetts.

[++] Associate Dean for Academic Affairs, Edward B. Shils Professor of Law, and Professor of Political Science, University of Pennsylvania Law School.

[+++] Regulation Fellow, Mossavar-Rahmani Center for Business and Government, John F. Kennedy School of Government, Harvard University.

[1] J. CLARENCE DAVIES & JAN MAZUREK, POLLUTION CONTROL IN THE UNITED STATES: EVALUATING THE SYSTEM (1998).

[2] Regulations to control ground-level ozone (or "smog") have been in place for more than three decades, yet in 2006 approximately 77 million people lived in areas where ozone levels exceed current national ambient air quality standards. EPA, PUB. NO. EPA/600/R-07/045F, EPA'S 2008 REPORT ON THE ENVIRONMENT 2-22 to 2-23(2008), *available at* http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=190806. Emissions of carbon dioxide, a primary gas contributing to global warming, have yet to be controlled through national legislation; not surprisingly, CO_2

current system is excessively costly, rigid, and adversarial.[3] Others argue that existing environmental policy fails to motivate firms to find new ways to improve their environmental performance, and that it provides too few incentives for innovations in resource consumption and end-of-life product disposal that could yield substantial environmental benefits.[4] As a practical matter, the existing system may simply be too large to manage. For example, nearly 400,000 facilities in the United States are subject to hazardous waste permitting rules and more than 150,000 require air permits.[5]

In response to the limitations and challenges of traditional environmental regulation, federal and state environmental agencies are experimenting with voluntary programs as tools to achieve overarching environmental policy goals.[6] The term "voluntary program" encompasses a range of meanings. It can mean private sector programs designed to improve environmental performance beyond what regulations require or in areas not addressed by regulation at all.[7] It

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emissions increased by 20 percent in the period 1990 to 2005. *Id.* at 2-65. *See also* THE HEINZ CENTER, KEY FINDINGS *FROM* THE STATE OF THE NATION'S ECOSYSTEMS 2008 1,3 (2008), *available at* http://heinzhome.heinzctrinfo.net/ecosystems/2008report/pdf_files/Key_Findings_Fact_Sheet.pdf (detailing as key findings from the report's section on water quality that "contaminants were detected in virtually all streams" and in 80 percent of freshwater fish tested; also noting that "one-third of U.S. native plant and animal species are at risk of extinction").

[3] *See, e.g.*, Daniel C. Esty & Marian R. Chertow, *Thinking Ecologically: An Introduction*, *in* THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 1–3 (Marian R. Chertow & Daniel C. Esty eds., 1997); NEIL GUNNINGHAM, PETER GRABOWSKY, & DARREN SINCLAIR, SMART REGULATION: DESIGNING ENVIRONMENTAL POLICY 6 (1998); Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1231 (1995); Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 CAP. U. L. REV. 21, 21 (2001).

[4] *See* DANIEL J. FIORINO, THE NEW ENVIRONMENTAL REGULATION 81 (2006) (arguing that traditional environmental regulation "[i]s [i]rrelevant to [m]any [p]roblems and [t]hus [i]neffective").

[5] EPA, Enforcement & Compliance History Online (ECHO), http://www.epa-echo.gov/echo/compliance_report.html (select either "Must Have RCRA ID#" or "Must Have Air Permit" and click "Search") (last visited Sept. 12, 2008).

[6] *See generally* OFFICE OF INSPECTOR GEN., EPA, REP. NO. 2007-P-00003, EVALUATION REPORT: PARTNERSHIP PROGRAMS MAY EXPAND EPA'S INFLUENCE (2006) (noting that voluntary programs may increase the number of participants addressing environmental issues in ways that go beyond regulatory compliance); FIORINO, *supra* note 4 (arguing in favor of voluntary programs as part of a redesigned environmental policy approach); REALITY CHECK: THE NATURE AND PERFORMANCE OF VOLUNTARY ENVIRONMENTAL PROGRAMS IN THE UNITED STATES, EUROPE, AND JAPAN (Richard D. Morgenstern & William A. Pizer eds., 2007).

[7] *See, e.g.*, ASEEM PRAKASH & MATTHEW POTOSKI, THE VOLUNTARY ENVIRONMENTALISTS: GREEN CLUBS, ISO 14001, AND VOLUNTARY ENVIRONMENTAL REGULATIONS 82–92 (2006) (describing ISO 14001, the international environmental management system standard that is an example of a privately initiated voluntary program). *See* Cary Coglianese & Jennifer Nash, *Management-Based Strategies: An Emerging Approach to Environmental Protection*,

can also refer to nonmandatory, government-sponsored initiatives seeking to encourage facilities to go beyond compliance. At the federal level, the U.S. Environmental Protection Agency (EPA) has established dozens of voluntary programs "designed to motivate people and organizations to take actions, not required by regulation, that benefit the environment."[8]

This paper reports findings from an empirical study of a certain kind of voluntary program which EPA and states call environmental leadership programs (ELPs).[9] ELPs are voluntary partnerships between regulatory agencies and private-sector facilities.[10] The government sets the terms of these partnerships, establishing specific criteria that facilities must meet in order to qualify for membership in the partnership program. Businesses that are interested in participating in ELPs apply for membership, and the government, acting a bit like a

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in LEVERAGING THE PRIVATE SECTOR: MANAGEMENT-BASED STRATEGIES FOR IMPROVING ENVIRONMENTAL PROTECTION 3, 13–14 (Cary Coglianese & Jennifer Nash eds., 2006).

[8] OFFICE OF INSPECTOR GEN., EPA, REP. NO. 2007-P-00041, EVALUATION REPORT: VOLUNTARY PROGRAMS COULD BENEFIT FROM INTERNAL POLICY CONTROLS AND A SYSTEMATIC MANAGEMENT APPROACH 4 (2007), *available at* http://www.epa.gov/oig/reports/2007/20070925-2007-P-00041.pdf (quoting EPA, CHARTER FOR COORDINATING AND MANAGING EPA'S VOLUNTARY PROGRAMS (2004)). These government initiatives fall into five general types: educational, financial assistance, recognition, product certification, or partnerships. CARY COGLIANESE & JENNIFER NASH, BEYOND COMPLIANCE: BUSINESS DECISION MAKING AND THE US EPA'S PERFORMANCE TRACK PROGRAM 107 (2006) [hereinafter BEYOND COMPLIANCE].

[9] *See, e.g.*, Mark Stoughton & Elizabeth Levy, *Voluntary Facility-level Sustainability Performance Reporting: Current Status, Relationship to Organization-level Reporting, and Principles for Progress*, 21 PACE ENVTL. L. REV. 265, 266 n.5, 269 n.10 (2004) (giving examples of environmental leadership programs, ways in which members participate, and benefits of participation); George B. Wyeth, *"Standard" and "Alternative" Environmental Protection: The Changing Role of Environmental Agencies*, 31 WM. & MARY ENVTL. L. & POL'Y REV. 5, 41–43 (2006) (describing features of leadership programs). These programs are also sometimes called performance-based environmental programs or performance tracking programs. To the extent that these alternative terms connote that these programs require businesses to achieve any specified level of environmental performance, they are a misnomer. Even the label "leadership" could be misleading if taken to mean that members of these programs necessarily have achieved levels of environmental performance superior to their industry peers. For our purposes, we use the leadership label simply as a concise way to refer to programs exhibiting the kinds of characteristics discussed in the text.

[10] Government organizations also participate in many of these programs. For example, about 15 percent of the members of EPA's National Environmental Performance Track are government facilities. Private, not-for-profit organizations also participate: about 3.5 percent of EPA's Performance Track program report "research and education" as their primary activity. INDUSTRIAL ECONOMICS, INC., MULTIPLE SECTOR ANALYSIS (unpublished spreadsheet, on file with authors). Due to the fact that *most* members are business entities, for the ease of our readers we use terms such as "private-sector facilities" and "businesses" to refer to the members of ELPs.

college admissions office, decides which businesses can join the ELP and receive the benefits bestowed upon its members.[11]

ELPs share a common set of entry criteria and membership requirements.[12] To participate in most such programs, facilities must comply with existing environmental regulations—but compliance alone is not sufficient. ELPs call on facilities to set environmental performance targets that go beyond regulatory requirements. They also call on facilities to make commitments in areas that environmental regulations have not yet addressed, such as energy use, water use, the quantity of solid waste generated, and habitat loss. Businesses must report to agencies on a regular basis on their progress in meeting their commitments, and in some cases they must share performance information with surrounding communities as well. Most ELPs require facilities to implement some form of environmental management system (EMS), and some require that facilities receive external certification that their EMSs meet prevailing standards.[13] In return for meeting these requirements, agencies recognize members and occasionally offer additional benefits, such as regulatory flexibility or less frequent inspections.

EPA's National Environmental Performance Track, established in 2000, exemplifies the ELP approach.[14] Over five hundred facilities belong to this national program that "recognizes and rewards" businesses meeting specific membership requirements established by the agency.[15] Member facilities must have a demonstrated record of complying with environmental laws, a commitment to go beyond compliance with these laws, an independently certified EMS, and a pattern of outreach to their local communities. In return, EPA provides these facilities with

[11] *See* FIORINO, *supra* note 4, at 137–138, 145–146, 171–73; PRAKASH & POTOSKI, *supra* note 7, at 54–57, 62–67.
[12] *See infra* Part II.B.–C. for more detailed descriptions of the criteria mentioned in this paragraph.
[13] *See infra* Part I.A. for a more extensive description of EMSs.
[14] *See, e.g.*, EPA, Nat'l Envtl. Performance Track, Basic Information, http://www.epa.gov/performancetrack/about.htm (last visited Sept. 12, 2008). For a description of Performance Track, see Appendix I.
[15] EPA, Nat'l Envtl. Performance Track, Members, https://yosemite.epa.gov/opei/ptrack.nsf/faMembers?readform (last visited Sept. 12, 2008).

positive publicity, opportunities for networking with agency officials and business leaders, and certain types of relief from regulatory and administrative burdens.[16] Performance Track is hardly alone; over the last decade, twenty-two states have created programs that share many of the same features as Performance Track.[17] According to EPA, "Performance Track and its state counterparts aim to transform the way that government and industry address environmental issues and solve problems."[18]

ELPs have won considerable support from government officials, business leaders, and scholars.[19] EPA Administrator Stephen Johnson has declared that Performance Track "has

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[16] For example, EPA deems Performance Track facilities to be a low priority for routine EPA inspections. *See* Memorandum from Steven A. Herman, Assistant Adm'r, Office of Enforcement & Compliance Assurance, EPA & Richard T. Farrell, Assoc. Adm'r, Office of Policy, Econ. & Innovation, EPA to EPA Adm'r et al. 3 (Jan. 19, 2001), *available at* http://www.epa.gov/performancetrack/downloads/PTComplianceEnforcement.pdf. In addition, Performance Track members that are large-quantity generators of hazardous waste may accumulate such waste on-site for up to two times—and in some cases even three times—the normally allowable time periods. EPA Standards Applicable to Generators of Hazardous Waste, 40 C.F.R. § 262.34(a), (j)(1) (2006). *See also* EPA Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, 40 C.F.R. §§ 264.15(b)(4), 264.174, 264.195(b)–(e), 264.1101(c)(4), 265.15(b)(4), 265.174, 265.195(a)–(d), 265.201(c)–(e), 265.1101(c)(4) (2006) (allowing Performance Track members to reduce inspection frequencies from the normal daily or weekly schedule to a monthly schedule with respect to containers, tank systems, containment buildings, and areas subject to spills).

[17] Industrial Economics, Inc. provided us with a list of state ELPs currently in operation. The list included basic information about each program including the program's name, start date, and number of members. For a description of each state program, see EPA, STATE PERFORMANCE-BASED PROGRAM DIRECTORY (2007), *available at* http://www.epa.gov/performancetrack/partners/StateProgramsDirectoryFinal-May2007.pdf. Several of these state programs were actually established before EPA created its Performance Track. FIORINO, *supra* note 4, at 172.

[18] OFFICE OF POLICY, ECON., & INNOVATION, EPA, PUB NO. 100-R-07-004, PERFORMANCE TRACK FIFTH ANNUAL PROGRESS REPORT 31 (2007), *available at* http://www.epa.gov/perftrac/downloads/PTPRreport_05final.pdf. Some states have sought increased support from EPA for their programs. For example, a report prepared by representatives from several states asserted that "[e]fforts are needed to align the EPA-state relationship to recognize and support performance-based programs and to reduce transaction costs associated with program implementation." ENVTL. COUNCIL OF THE STATES, SURVEY OF STATE SUPPORT FOR PERFORMANCE-BASED ENVIRONMENTAL PROGRAMS AND RECOMMENDATIONS FOR IMPROVED EFFECTIVENESS 7 (2005), *available at* http://www.epa.gov/performancetrack/downloads/ECOS_Report_Final_01-13-05.pdf. EPA and states work closely to implement their respective ELPs, exchanging information in monthly conference calls and, in some cases, signing memoranda of understanding that document their intention to cooperate. EPA, Nat'l Envtl. Performance Track, State Programs, http://www.epa.gov/performancetrack/partners/linkage.htm (last visited Sept. 12, 2008).

[19] *See, e.g.*, FIORINO, *supra* note 4, at 149 (noting that recent EPA Administrators Whitman, Leavitt, and Johnson have strongly endorsed Performance Track); EPA, WHAT MEMBERS HAVE TO SAY ABOUT PERFORMANCE TRACK (2006), *available at* http://www.epa.gov/perftrac/downloads/MemberTestimonials3_06.pdf (providing testimonials for Performance Track from over ten industry representatives); Marc Allen Eisner, *Corporate Environmentalism, Regulatory Reform, and Industry Self-Regulation: Toward Genuine Regulatory Reinvention in the United States*, 17 GOVERNANCE 145, 155 (2004) (noting that "if properly designed and implemented one would expect that this experiment could produce some positive results" and could help "provide a context for innovations that could be

proven to be an important catalyst for helping EPA change the way businesses look at their role in environmental protection" and that it is "delivering impressive environmental results."[20] Harvard University's John F. Kennedy School of Government has recognized both Performance Track and the Wisconsin Green Tier program, a state-run ELP, as among the nation's most noteworthy governmental innovations.[21] Wisconsin Governor Jim Doyle has described his state's Green Tier program as "essential to demonstrating that environmental results and economic gains can be achieved together."[22]

Not all reviews of ELPs have been positive, however. Some environmental advocacy organizations have opposed EPA and state plans to expand ELPs, arguing that claims about these programs' environmental benefits have been exaggerated.[23] EPA's Inspector General has raised

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disseminated across the corporate economy"); Dennis D. Hirsch, *Lean and Green? Environmental Law and Policy and the Flexible Production Economy*, 79 IND. L.J. 611, 646 (2004) (suggesting "that Oregon's performance track program is functioning as a bridge between the environmental regulatory system and a new form of industrial production"); Alfred R. Light, *Environmental Federalism in the United States and the European Union: A Harmonic Convergence?*, 15 ST. THOMAS L. REV. 321, 341 (2002) (characterizing EPA's Performance Track as "[a] symbol of the new 'second generation' approach" to environmental policy).

[20] Stephen L. Johnson, EPA Adm'r, Remarks at the National Environmental Performance Track Awards Dinner (May 9, 2006), *available at* http://yosemite.epa.gov/opa/admpress.nsf/a883dc3da7094f97852572a00065d7d8/d38cc2f12730a7188525716c006f0388!OpenDocument.

[21] Press Release, EPA, Three EPA Programs Nominated for Government 'Oscars' (Mar. 30, 2006), *available at* http://yosemite.epa.gov/opa/admpress.nsf/68b5f2d54f3eefd28525701500517fbf/09d2dfd224b8298f852571410059871a!OpenDocument; News Release, Wis. Dep't of Natural Res., Wisconsin's Green Tier Program finalist for Harvard Innovation Award 1 (May 4, 2006), *available at* http://dnr.wi.gov/org/caer/cea/environmental/media/pressreleases/20060504pressrelease.pdf.

[22] News Release, Wis. Dep't of Natural Res., *supra* note 21, at 1.

[23] In 2005, the Natural Resources Defense Council (NRDC) submitted to EPA a fourteen page letter criticizing EPA's and states' "fixation" with developing incentives to boost facilities' participation in ELPs and satisfying self-serving agendas: "[T]here is scant attention and detail concerning actual superior environmental performance—for example, verifying and quantifying the results under programs to date; comparing those results to results under core environmental programs and evaluating the trade-offs; and analyzing the roles of inspections, enforcement, audits, EMSs and innovations in actually achieving superior performance. For all the talk of 'performance' based programs, there is alarmingly little discussion and evidence of actual superior environmental performance or demonstrated performance that goes beyond compliance." Letter from John Walke, Clean Air Dir., Natural Res. Defense Council, to Office of the Adm'r, Docket ID OA-2005-0003, EPA 1–2 (Nov. 3, 2005), *available at* http://www.regulations.gov/fdmspublic/ContentViewer?objectId=09000064800ad650&disposition=attachment&contentType=pdf. In 2006, the Environmental Integrity Project issued a report charging that some Performance Track members increased emissions of toxic pollutants after joining the program. ENVTL. INTEGRITY PROJECT, WRONG TRACK? SOME PERFORMANCE TRACK FACILITIES REPORT INCREASED LEVELS OF TOXIC POLLUTION 1 (2006), *available at* http://www.environmentalintegrity.org/pubs/performance%20track%20report_feb06.pdf. The report concluded that "Performance Track offers self-policing in its most extreme form, as participants get to pick their

questions about whether Performance Track is achieving its goals[24] and members of Congress have asked whether money spent on Performance Track might be better used to support traditional regulatory programs.[25]

ELPs have now matured into established programs. ELPs in seventeen states have been in place for five years or more, and eight have recently or will soon mark their ten-year anniversaries.[26] Given that these programs have achieved prominence as tools of environmental policy, formal evaluation and analysis of their effectiveness is appropriate. The data ELPs have been collecting about their members' activities over the years might now be useful in evaluating the extent to which these programs succeed in improving the United States' environmental protection system as well as for understanding how government can communicate with the public regarding any successes these programs have achieved. After all, one of the purported benefits of ELPs is that they can enhance information available to regulators and the public.[27]

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subjects, design their own tests, grade themselves, and even change their report cards after the fact to avoid a failing grade." *Id.* at 3.

[24] In 2007, EPA's Office of Inspector General (IG) "found that Performance Track did not have clear plans that connected activities with its goals, and did not have performance measures that show if it achieves anticipated results." OFFICE OF INSPECTOR GEN., EPA, REP. NO. 2007-P-00013, EVALUATION REPORT: PERFORMANCE TRACK COULD IMPROVE PROGRAM DESIGN AND MANAGEMENT TO ENSURE VALUE At a Glance (2007), *available at* http://www.epa.gov/oig/reports/2007/20070329-2007-P-00013.pdf. In its response to the Inspector General's report, EPA's Office of Policy, Economics, and Innovation noted that Performance Track encourages facilities to "aim high" and set goals "that present a challenge." *Id*. at 36. A purpose of the program is to encourage innovation, and Performance Track program managers understand that meeting ambitious goals may not always be possible. The program does now expect members to make progress toward achieving two or three of their goals in order to have their memberships renewed. *Id*. at 30.

[25] *See* Letter from the Hon. Albert R. Wynn, Chairman, House Subcommittee on Environment and Hazardous Materials, and the Hon. Bart Stupak, Chairman, House Subcommittee on Oversight and Investigations, to the Hon. Stephen L. Johnson, Adm'r, EPA 2 (Apr. 13, 2007) (noting that legislators "are concerned about taxpayer dollars being wisely used at a time when EPA's core environmental and public health programs, ones that are specifically authorized by Congress, are severely underfunded.").

[26] *See* EPA, *supra* note 17.

[27] *See, e.g.*, David Monsma, *Sustainable Development and the Global Economy: New Systems in Environmental Management*, 24 VT. L. REV. 1245 (2000) ("Measuring, reporting, and knowing the environmental performance levels of an operation in near real-time is what the regulator and public want and need to know. Overall, if a performance track is put in place, it would produce more complete and accurate information . . . ."); FIORINO, *supra* note 4, at 148 (explaining that Performance Track's "goal is . . . to improve the ability of government and firms to measure performance").

Despite their widespread adoption and relative longevity, ELPs have yet to be subject to any formal empirical evaluation. To date, scholarly work has mainly just described the design of a few of these programs or considered why certain businesses participate in them.[28] For example, one of the first academic discussions of ELPs consisted of two state program case studies: Wisconsin's Environmental Cooperation Pilot Program (a predecessor to the state's Green Tier program) and Oregon's Green Permits program.[29] A subsequent study summarized the features of ELPs in six additional states, raising questions about these programs' membership criteria.[30] A related study considered reasons for the slow membership growth experienced by many state ELPs, ultimately recommending that program designers pay greater attention to defining environmental "leadership," offering adequate incentives, and establishing effective approaches to measurement and evaluation.[31]

No one has yet attempted, however, to use the information ELPs collect about members' environmental activities and accomplishments to evaluate these programs formally. The National

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[28] *See, e.g.*, FIORINO, *supra* note 4, at 123–26; Stoughton & Levy, *supra* note 9, at 266 n.5, 269 n.10; 41–43; Wyeth, *supra* note 9, at 41–43; MARC ALLEN EISNER, GOVERNING THE ENVIRONMENT: THE TRANSFORMATION OF ENVIRONMENTAL REGULATION 177–96 (2007). The EPA's IG conducted an internal review of the federal Performance Track; this report, which could be considered an "evaluation" in a certain sense, does not purport to meet the standards for a systematic empirical evaluation seeking to identify the impacts the program has caused in environmental quality. OFFICE OF INSPECTOR GEN., *supra* note 24. The authors of this paper have also been studying empirically why businesses join ELPs; however, even this work does not represent an evaluation of the impact of ELPs on firms' environmental outputs or other performance metrics. *See, e.g.*, Cary Coglianese & Jennifer Nash, *EPA's National Environmental Performance Track: What Is It Tracking? What Role Is It Performing?*, (unpublished manuscript on file with the authors); Cary Coglianese & Jennifer Nash, *Government Clubs: Theory and Evidence from Voluntary Environmental Programs*, in VOLUNTARY PROGRAMS: A CLUB THEORY APPROACH (Matthew Potoski & Aseem Prakash eds., forthcoming 2008).

[29] JERRY SPEIR, GREEN PERMITS AND COOPERATIVE ENVIRONMENTAL AGREEMENTS: A REPORT ON REGULATORY INNOVATION PROGRAMS IN OREGON AND WISCONSIN 5 (2000), *available at* http://www.napawash.org/pc_economy_environment/epafile04.pdf. Both programs were created by state statutes granting environmental regulators flexibility in issuing permits to program members. *See id.* at 7–8.

[30] Jerry Speir, *EMSs and Tiered Regulation: Getting the Deal Right*, *in* REGULATING FROM THE INSIDE: CAN ENVIRONMENTAL MANAGEMENT SYSTEMS ACHIEVE POLICY GOALS? 198, 205–12 (Cary Coglianese & Jennifer Nash eds., 2001). Speir's review questioned whether EMS adoption was a sufficient indicator of sound environmental performance to form the basis for a membership criterion in state programs and argued that preferential treatment should instead be triggered by "a system of information based on performance indicators" that states were "only beginning to build." *Id.* at 217.

[31] Michael Crow, *Beyond Experiments*, THE ENVIRONMENTAL FORUM, May–June 2000, at 20.

Research Council, EPA's Office of Inspector General, and academics[32] have all called for careful review of the role of voluntary environmental programs.[33] To their credit, researchers have produced a steadily growing number of studies on other types of voluntary environmental programs—though not on environmental leadership programs.[34] This gap is all the more surprising because ELPs appear to be rich with data. Many ELPs require facilities to submit annual reports about their activities as a condition of membership. EPA and several states use the data they collect to showcase individual members' accomplishments and to make statements about the overall environmental benefits of the programs. Yet, to our knowledge, neither

[32] *See, e.g.*, Kathryn Harrison, *Talking with the Donkey: Cooperative Approaches to Environmental Protection*, 2 J. INDUS. ECOLOGY 51 (1999); Daniel Press & Daniel A. Mazmanian, *The Greening of Industry: Combining Government Regulation and Voluntary Strategies*, *in* ENVIRONMENTAL POLICY: NEW DIRECTIONS FOR THE TWENTY-FIRST CENTURY (Norman J. Vig & Michael E. Kraft eds., 2006); Cary Coglianese & Lori D. Snyder Bennear, *Program Evaluation of Environmental Policies: Toward Evidence-Based Decision Making*, *in* DECISION MAKING FOR THE ENVIRONMENT: SOCIAL AND BEHAVIORAL SCIENCE RESEARCH PRIORITIES 246, 260 (Garry D. Brewer & Paul C. Stern eds., 2005).

[33] Comm. on the Human Dimensions of Global Change, Ctr. for Governance, Econ., & Int'l Studies, Div. of Behavioral & Soc. Scis. & Educ., Nat'l Research Council, *Decision-Relevant Science for Evidence-Based Environmental Policy*, *in* DECISION MAKING FOR THE ENVIRONMENT: SOCIAL AND BEHAVIORAL SCIENCE RESEARCH PRIORITIES 85, 98–100 (Garry D. Brewer & Paul C. Stern eds., 2005); OFFICE OF INSPECTOR GEN., *supra* note 6, at 1; EPA, EVALUATION REPORT: PARTNERSHIP PROGRAMS MAY EXPAND EPA'S INFLUENCE (Office of the Inspector General, Report No. 2007-P-00003, 2006); EPA, VOLUNTARY PROGRAMS COULD BENEFIT FROM INTERNAL POLICY CONTROLS AND A SYSTEMATIC MANAGEMENT APPROACH (Office of the Inspector General, Report No. 2007-P-00041, 2007).

[34] *See, e.g.*, Kathleen Segerson & Thomas J. Miceli, *Voluntary Environmental Agreements: Good or Bad News for Environmental Protection?*, 36 J. ENVTL. ECON. & MGMT. 109 (1998); Madhu Khanna & Lisa A. Damon, *EPA's Voluntary 33/50 Program: Impact on Toxic Releases and Economic Performance of Firms*, 37 J. ENVTL. ECON. & MGMT. 1 (1999); Madhu Khanna, *Non-Mandatory Approaches to Environmental Protection*, 15 J. ECON. SURVS. 291 (2001); ALFRED A. MARCUS, DONALD A. GEFFEN, & KEN SEXTON, REINVENTING ENVIRONMENTAL REGULATION: LESSONS FROM PROJECT XL (2002); Jennifer Nash, *Tiered Environmental Regulation: Lessons from the StarTrack Program*, *in* INDUSTRIAL TRANSFORMATION: ENVIRONMENTAL POLICY INNOVATION IN THE UNITED STATES AND EUROPE (Theo de Bruijn & Vicki Norberg-Bohm eds., 2005); Matthew Potoski & Aseem Prakash, *Covenants with Weak Swords: ISO 14001 and Facilities' Environmental Performance* 24 J. POL'Y ANALYSIS & MGMT. 745 (2005); Shanti Gamper-Rabindran, *Did the EPA's Voluntary Industrial Toxics Program Reduce Emissions? A GIS Analysis of Distributional Impacts and By-Media Analysis of Substitution*, 52 J. ENVTL. ECON. & MGMT. 391 (2006); Jason Scott Johnston, *The Promise and Limits of Voluntary Management-Based Regulatory Reform: An Analysis of EPA's Strategic Goals Program*, *in* LEVERAGING THE PRIVATE SECTOR: MANAGEMENT-BASED STRATEGIES FOR IMPROVING ENVIRONMENTAL PERFORMANCE 167 (Cary Coglianese & Jennifer Nash eds., 2006); Jorge Rivera, Peter de Leon, & Charles Koerber, *Is Greener Whiter Yet? The Sustainable Slopes Program After Five Years* 34 POL'Y STUD. J. 195 (2006). For a detailed review of the literature on voluntary programs, see JENNIFER NASH & TIM LARSON, PERFORMANCE-BASED ENVIRONMENTAL PROGRAMS: LITERATURE REVIEW (2007) (on file with authors).

government analysts nor academic researchers have sought to make use of these data to assess systematically ELPs' impacts on their objectives.

This paper makes a crucial step toward filling this gap by providing a means for assessing whether environmental leadership programs achieve their goals. Are they a positive force for change? Or do they instead represent symbolic gestures that divert resources from more effective solutions to today's environmental problems? Drawing on archival research and interviews with government officials who manage these programs, we provide the first comprehensive analysis of the characteristics of Performance Track and the seventeen oldest state environmental leadership programs.

After summarizing the primary benefits that policy makers and scholars attribute to ELPs, our analysis proceeds in four parts. We first present information about ELP goals. After all, ELP results should be evaluated in the context of what these programs set out to do. Second, we consider the activities required of facilities to join ELPs and remain members in good standing, as well as activities undertaken by government under the auspices of ELPs. If programs are effective, we would expect to see a clear, logical connection between ELP goals and these activities. Third, we describe in detail how agencies have communicated with the regulated community and the broader public about their ELPs. Effective communication is especially important to program success since facilities, elected officials, and community organizations are unlikely to participate in, or support, programs with which they are unfamiliar. Finally, we consider the information that agencies collect about ELP results. Ideally, this information should be relevant to program goals, of high quality, suitable for drawing conclusions about overall

program effectiveness, and publicly accessible. Such data are not only essential for program evaluation, but also for meeting ELP proponents' aspirations for policy learning.[35]

Our analysis lays the foundation for any future evaluation of ELPs. We encourage researchers to build on this foundation by undertaking full-fledged evaluations of these programs. We highlight some of the challenges associated with such evaluations, particularly with respect to data collection. As we will show, despite ELPs various reporting requirements, agencies do not collect all the information needed to determine whether ELPs are effective. This shortcoming is particularly disappointing given that agencies have looked to ELPs as vehicles for policy learning.

I. Bringing Data to Bear on ELPs' Potential

In launching Performance Track in 2000, then-EPA Administrator Carol Browner emphasized that the program "breaks with the past" approach to environmental policy and "will bring cleaner, cheaper and smarter results."[36] A growing number of supporters argue that ELPs, whether state or federal, can overcome major limitations of the current regulatory approach to environmental protection and forge the way to a new system of environmental policy.[37] As noted, the existing system is said to be too costly, inflexible, and narrowly focused on controlling fewer, older environmental problems to the detriment of addressing newer problems or larger ecosystem impacts.[38] In this Part, we begin by elaborating four benefits that policy makers and

[35] FIORINO, *supra* note 4, at 148–49, 163–65, 223 (emphasizing the important contributions performance tracking programs can make to policy learning).
[36] Carol M. Browner, EPA Adm'r, Remarks Delivered at the Performance Track Launch (June 26, 2000), *available at* http://yosemite.epa.gov/opa/admpress.nsf/d41dcc0e24d31638852572a00065af98/9bfa2a1fa3765d998525701a0052e332!OpenDocument.
[37] FIORINO, *supra* note 4, at 173 ("Performance tracking programs stretch the model of the old regulation . . . . [They] are designed to change the regulatory system."). *See also* sources cited *supra* note 19.
[38] *See, e.g.*, Esty & Chertow, *supra* note 3, at 1–3; DAVIES & MAZUREK *supra* note 1, at 269–87.

scholars suggest ELPs may offer in terms of overcoming limitations of existing environmental law. As compared to traditional state and federal environmental programs, ELPs may allow agencies to address a wider array of environmental problems, achieve environmental benefits at lower cost, reduce adversarialism, and encourage positive culture change. After summarizing these potential benefits, we then explain our research strategy for assessing the goals, activities, communication practices, and information collection strategies of eighteen of the most established ELPs.

A. Potential Benefits of ELPs

Nearly all ELPs require or encourage facilities to implement environmental management systems (EMSs). Given that EMSs are designed to contribute to each of the four potential ELP benefits outlined above, their role merits a detailed elaboration. EMSs constitute internal efforts by facility and corporate level managers to set and meet environmental targets to address the gamut of both regulated and unregulated environmental impacts caused by their facilities Typically, EMSs adhere to what is commonly referred to as the "plan-do-check-act" model—according to which managers develop plans, assign responsibility for implementing the plans, track progress, and adjust and improve the entire system as necessary.[39] In recent years, some managers have chosen to implement EMSs that meet external standards such as those embodied in ISO 14001, a set of nongovernmental, international standards that specify generic

[39] *See* Cary Coglianese & Jennifer Nash, *Environmental Management Systems and the New Policy Agenda, in* REGULATING FROM THE INSIDE: CAN ENVIRONMENTAL MANAGEMENT SYSTEMS ACHIEVE POLICY GOALS? 1, 2 (Cary Coglianese & Jennifer Nash eds., 2001).

requirements for each of the four EMS elements.[40] Some managers also hire third party auditors to certify that their EMSs are consistent with the ISO 14001 standard.[41]

ELPs' first purported benefit is their potential for spurring facilities to address a broad range of pressing environmental problems, including those that are currently subject to regulation (such as emissions of volatile organic compounds) and those that are not (such as water and energy consumption). By encouraging facilities to implement EMSs, ELPs may help set in motion internal processes by which managers identify their businesses' significant environmental impacts, make commitments for reducing them, and monitor progress toward achieving those commitments. Those processes of planning, doing, checking, and acting are designed to endure beyond the tenure of any one employee, becoming embedded in everyday routines even as personnel and production processes change.[42]

Although ELPs have the potential to change the environmental performance of facilities that sign up as members, these programs also may strengthen environmental practices generally, even among facilities that do not join. According to EPA, ELPs have the potential to "improve [environmental] capabilities across the board,"—among not only "top performers" but also "mainstreamers" and "laggards."[43] EPA calls this phenomenon "shifting the curve toward better performance."[44] ELPs could shift the environmental performance curve if "mainstreamers" or "laggards" tried to meet ELP entry requirements to receive the benefits agencies bestow upon

[40] "ISO" is the common abbreviation for the International Organization for Standardization, a transnational organization comprised of representatives from various private and public sector standard-setting organizations. *See* PRAKASH & POTOSKI, *supra* note 7, at 83–84.
[41] *See* PRAKASH & POTOSKI, *supra* note 7, at 92–96. The number of U.S. facilities attaining ISO 14001 certification, as established by a registered third party, reached 5,585 by the end of December 2006. INT'L ORG. FOR STANDARDIZATION, THE ISO SURVEY OF CERTIFICATIONS: 2006 9 (2007), *available at* http://www.iso.org/iso/survey2006.pdf.
[42] Coglianese & Nash, *Environmental Management Systems and the New Policy Agenda*, *supra* note 39, at 1, 11–12..
[43] U.S. ENVTL. PROT. AGENCY, AIMING FOR EXCELLENCE: ACTIONS TO ENCOURAGE STEWARDSHIP AND ACCELERATE ENVIRONMENTAL PROGRESS, REPORT OF THE EPA INNOVATIONS TASK FORCE 6 (1999), *available at* http://www.epa.gov/epainnov/pdf/report99.pdf.
[44] *Id.* at 6.

ELP members. Today, many private sector managers seek to establish strong environmental credentials to appeal to customers, improve their standing with regulators, reduce risks, and attract investors.[45] If facilities and agencies came to view ELP entry criteria as norms for exemplary environmental performance, these programs might influence the practices of even those firms that had no interest in becoming members.[46]

ELPs' second potential benefit is their ability to achieve environmental gains at a lower cost than traditional regulation. Critics of the current regulatory system accuse it of being grossly inefficient, requiring government to enforce arbitrary, uniform rules that compel firms to invest in expensive technologies and time-consuming paperwork, often contributing little to environmental quality.[47] ELPs seek to overcome the costliness of environmental regulation by offering discrete forms of regulatory flexibility to participating businesses.[48] Through ELPs, EPA and some of the states have taken steps to reduce the paperwork burdens associated with regulatory compliance, to lessen the probability that participating facilities will be subjected to government inspections, and to enhance the flexibility of methods used to comply with environmental performance requirements.[49] In addition to lowering bureaucratic costs, ELPs encourage businesses to pursue cost-saving strategies, such as energy and water conservation.[50]

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[45] FOREST L. REINHARDT, DOWN TO EARTH: APPLYING BUSINESS PRINCIPLES TO ENVIRONMENTAL MANAGEMENT 9–13 (2000).

[46] *See* ANDREW J. HOFFMAN, FROM HERESY TO DOGMA: AN INSTITUTIONAL HISTORY OF CORPORATE ENVIRONMENTALISM 40–41 (1997) (discussing how external pressures may shape a firm's internal norms and culture).

[47] *See* Stewart, *supra* note 3, at 46.

[48] Browner, *supra* note 36 (promising that "costs will be lower" and "administrative operations will be streamlined" for businesses that join Performance Track).

[49] *See, e.g.*, EPA, MACT INCENTIVE FACT SHEET 1 (2005), *available at* http://www.epa.gov/performancetrack/benefits/regadmin/mact_factsheet.pdf (describing some benefits to Performance Track members including "low inspection priority, . . . regulatory and administrative flexibility," and incentives for "reporting reductions"); VA. DEP'T OF ENVTL. QUALITY, POLLUTION PREVENTION 2005 4–5 (2005), *available at* http://www.deq.virginia.gov/p2/pdf/report05.pdf (explaining the types of "alternative compliance methods" available to certain program participants); Memorandum from John Peter Suarez, Assistant Adm'r, Office of Enforcement & Compliance Assurance, EPA & Jessica L. Furey, Assoc. Adm'r, Office of Policy, Econ., & Innovation, EPA, to EPA Reg'l Adm'rs et al. 2 (Oct. 29, 2003), *available at*

ELPs' third purported benefit lies in their potential for overcoming the adversarialism that many observers find too often surrounds traditional environmental regulation.[51] Instead of policies that pit businesses against government, environmental groups, and local communities, ELPs seek to forge partnerships, foster cooperation, and build trust among these varied actors.[52] Government regulators use ELPs to shift away from a predominantly punitive role, offering carrots in addition to sticks. [53] By fostering trust and cooperation, ELPs also promise to expand possibilities for learning and creative problem-solving.[54] In many ELPs, participating facilities disclose information about their internal management practices, affording government the chance to understand better the constraints and challenges businesses face.[55] By building a climate of openness, ELPs may foster the dissemination of ideas for solving emerging environmental problems or implementing innovative business practices.[56] Through the requirement for EMSs, ELPs may encourage facility managers to take responsibility for regulating the environmental

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http://www.epa.gov/performancetrack/benefits/oeca.pdf (reaffirming EPA's commitment to treat "Performance Track facilities . . . as a low priority for routine inspections"); Tex. Comm'n on Envtl. Quality, Clean Texas Benefits, http://cleantexas.org/docs/CT%20benefits%20summary.pdf (last visited Sept. 20, 2008) (listing benefits to members such as "[r]educed reporting," "[r]educed state inspection frequency," and "[e]xpedited . . . review of state permits").

[50] In many cases, performance commitments that managers choose as part of their ELP memberships result in cost savings. For example, of the 1,170 commitments made by members of EPA's Performance Track program in 2005, 154 (13%) were to reduce water use, 187 (16%) were to reduce energy use, 223 (19%) were to reduce non-hazardous waste generation, and 129 (11%) were to reduce hazardous waste generation. OFFICE OF POLICY, ECON., & INNOVATION, *supra* note 18, at 9. In addition to improving environmental quality, delivering on these commitments can save facilities money. *Id.* at 12–13.

[51] *See generally* Robert A. Kagan, *Adversarial Legalism and American Government*, 10 J. POL'Y ANALYSIS & MGMT. 369 (1991) (discussing adversarial qualities of the American legal system and their costs).

[52] FIORINO, *supra* note 4, at 136–37.

[53] *See* Lester M. Salamon, *The New Governance and the Tools of Public Action: An Introduction*, *in* THE TOOLS OF GOVERNMENT: A GUIDE TO THE NEW GOVERNANCE 1 (Lester M. Salamon ed., 2002); John Braithwaite, *Rewards and Regulation*, 29 J.L.& SOC'Y 12, 12 (2002).

[54] *See* FIORINO, *supra* note 4, at 223.

[55] Cary Coglianese, Richard Zeckhauser, & Edward Parson, *Seeking Truth for Power: Informational Strategy and Regulatory Policymaking*, 89 MINN. L. REV. 277, 314 (2004).

[56] *See* FIORINO, *supra* note 4, at 148.

impacts of their operations, and reducing their perception of the gulf between themselves and regulators.[57]

ELPs may also stimulate improved relationships between business facilities and their local communities. Some ELPs, like EPA's Performance Track, require facilities to develop processes to engage and share information with local residents.[58] To fulfill this requirement, Performance Track members undertake a variety of activities such as hosting recycling drives, assisting local wildlife protection organizations, and posting information about their facilities' environmental progress at local government offices.[59] Facilities involved in ELPs may adopt more collaborative ways of interacting with their neighboring communities, reducing costly conflicts and enhancing public trust.

Relatedly, ELPs' fourth benefit may come from fostering positive cultural change within both business and government. To the extent that the current regulatory system fails to address the values and social structures that underlie environmental degradation and inhibit lasting change,[60] ELPs may better stimulate cultural change by encouraging facility managers to interact more frequently with those outside their organizations who may value environmental protection especially highly.[61] Changing the organizational culture of facilities could result in fundamental value shifts to the point where environmental protection assumes greater importance alongside

[57] Coglianese & Nash, *supra* note 39, at 1–2.

[58] EPA, PUB NO. 240-B-05-003, PERFORMANCE TRACK PROGRAM GUIDE 7 (2005), *available at* http://www.epeat.net/Docs/EPA_PT_Prog_guide.pdf.

[59] EPA requires that facilities report on public outreach and public reporting activities in annual performance reports to the agency. EPA, Nat'l Envtl. Performance Track, Annual Performance Reporting, http://www.epa.gov/performancetrack/program/report.htm (last visited Sept. 12, 2008).

[60] JOHN EHRENFELD, BEYOND SUSTAINABILITY: WHY AN ALL-CONSUMING CAMPAIGN TO REDUCE UNSUSTAINABILITY FAILS 3–4 (2006), *available at* http://www.changethis.com/25.03.BeyondSustain.

[61] Jennifer Nash & John Ehrenfeld, *Codes of Environmental Management Practice: Assessing Their Potential as a Tool for Change* 22 ANN. REV. ENERGY & ENV'T 487, 524 (1997).

traditional business objectives.[62] These programs, in turn, could foster changes in those deeply held, yet frequently unstated, assumptions in organizations and thereby shape workers' everyday tasks.[63] Through a similar process, ELPs may help change the culture of agencies by stimulating more innovative decision making and by challenging their blind adherence to established routines that stand in the way of learning and policy improvement.[64]

B. Sample and Methods

In light of these four potential benefits, it is easy to understand why policy makers and scholars have viewed ELPs so enthusiastically. Yet, to determine whether ELPs actually deliver on some or all of their potential, government decision makers need careful empirical evaluation. As a necessary step toward such research, we have undertaken this study to assess the collection, accessibility, and communication of evaluation-relevant data by eighteen well-established ELPs. In an important sense, our study seeks to evaluate the degree to which ELPs have generated the necessary information to engage in the "systematic lesson drawing" these programs are supposed to foster.[65]

Of the twenty-four ELPs currently in operation (one federal program and twenty-three programs in twenty-two states), we examined EPA's National Environmental Performance Track as well as ELPs operating in the following seventeen states: Colorado, Georgia, Idaho, Louisiana, Maine, Michigan, Missouri, New Mexico, North Carolina, Oklahoma, Oregon, South

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[62] *See* John R. Ehrenfeld, *Cultural Structure and the Challenge of Sustainability*, *in* BETTER ENVIRONMENTAL DECISIONS: STRATEGIES FOR GOVERNMENTS, BUSINESSES, AND COMMUNITIES 223, 228–34 (Ken Sexton, Alfred A. Marcus, K. William Easter, & Timothy D. Burkhardt eds., 1998).

[63] *See* Coglianese & Nash, *supra* note 39, at 11–12. *See generally* JENNIFER A. HOWARD-GRENVILLE, CORPORATE CULTURE AND ENVIRONMENTAL PRACTICE: MAKING CHANGE AT A HIGH-TECHNOLOGY MANUFACTURER (2007) (providing an in-depth account of how a facility's culture affects its environmental practices).

[64] *See* FIORINO, *supra* note 4, at 172–73.

[65] *Id.* at 163.

Carolina, Tennessee, Texas, Vermont, Virginia, and Wisconsin.[66] As noted, we selected these states because their ELPs had all been in place for five years or longer, a reasonable length of time for a program to become established and begin to attract members.[67] Table 1 identifies and provides descriptive information about each of the programs in our sample.

Many of the state programs have multiple "tiers" or levels of participation, each with its own separate requirements and rewards. Where appropriate, we used the tier as our unit of analysis, which meant that instead of just eighteen programs, we actually collected and analyzed data on a total of forty-eight tiers. Moreover, entirely independent from this study, analysts at Industrial Economics, Inc. classified each tier in each program (or the entire program, if it did not have tiers) into one of five categories: (1) Advocate, (2) On-Ramp, (3) Middle, (4) Tracking, and (5) Stewardship.[68] They based their classification on requirements for membership, with On-Ramp tiers being the least demanding on participating facilities and Stewardship tiers being the most demanding. Programs in the Tracking and Stewardship categories shared characteristics equivalent to or more demanding than the EPA's Performance Track. Advocate tiers—which simply recognize those who agree to be supportive of the ELP—are qualitatively different from other tier types which recognize those who have met varying levels of membership requirements for environmental management and compliance.[69]

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[66] INDUSTRIAL ECONOMICS, INC., BASIC INFORMATION ON PERFORMANCE-BASED PROGRAMS (2007) (unpublished report, on file with authors).

[67] Technically, Georgia's and Wisconsin's programs could have been considered as slightly younger than five years at the time of our study since both programs began in their current form in 2004. However, these programs were each based on earlier, similar programs that started prior to 2002. Given their histories, we chose to include both these state programs in our study.

[68] INDUSTRIAL ECONOMICS, INC., *supra* note 66. What we refer to throughout this paper as "tracking" programs Industrial Economics labels as "comparable to Performance Track."

[69] Our sample included two advocate tiers, one in Georgia and the other in Tennessee. Members of Georgia's advocate tier, known as "Champions," include community organizations, environmental organizations, professional associations, universities, and other organizations. Partnership for a Sustainable Georgia: Program Levels and Criteria, http://www.p2ad.org/documents/pp_criteria.html (last visited Sept. 20, 2008); Partnership for a Sustainable Georgia: Champion Criteria, http://www.p2ad.org/files_pdf/ChampionCriteria.pdf (last visited Sept. 20, 2008). They are expected to promote the state's ELP by engaging in activities that encourage facilities to join. *Id.* Similarly,

Table 2 lists each program's tiers and their corresponding category according to the Industrial Economics classification schema. Later in this paper, we use these tier categories to construct three subsamples for analysis: one subsample of all programs and tiers, one subsample of programs and tiers in the top three categories (Middle, Tracking, and Stewardship categories), and one subsample of programs and tiers in the top two categories (Tracking and Stewardship categories).[70]

To begin our research, we gathered and reviewed publicly available documents on each program in our sample, including material available on program websites.[71] During September and October 2007, we collected the following information:

- program application forms and annual reporting templates
- application and annual reporting instructions, if available
- other program materials, such as descriptions of benefits, notices of meetings organized by the program, and press releases
- program legislation (for programs based on a specific authorizing statute)
- reports prepared on an annual basis by some state agencies and EPA summarizing their program's activities and impacts.

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members of Tennessee's advocate tier, known as "Prospects," include schools, households, businesses, and other organizations. Tennessee Pollution Prevention Partnership (TP3) Members, http://www.state.tn.us/environment/ea/tp3/tp3_members.shtml (last visited Sept. 20, 2008). An entity may become a "Prospect" by sending a signup card to the program. Tennessee Pollution Prevention Partnership, TP3 Criteria Overview 1, http://www.state.tn.us/environment/ea/pdf/tp3_criteria_overview.pdf (last visited Sept. 20, 2008).

[70] We initially examined only the first subsample (all programs and tiers). However, since ELPs generally impose few if any requirements on advocate tier members and minimal requirements on on-ramp members, we added a second subsample that excludes these two tier categories. We also undertook a separate analysis of the two most selective tier categories, as reflected in the third subsample.

[71] One of us also participated in two workshops organized by EPA and held during the spring of 2007. The first, on May 8, 2007, in New Orleans, Louisiana, was held in conjunction with the National Environmental Partnership Summit. The second, on June 18, 2007, in Madison, Wisconsin, was part of the annual meeting of the Multi-State Working Group on Environmental Performance. At each workshop, EPA asked participants to describe the goals of ELPs. Participants, who represented state environmental agencies, private sector firms, EPA, environmental advocacy organizations, and private consulting groups, offered a wide range of responses, including directly benefiting the environment, improving the environmental performance of non-participants, and saving costs.

After completing our document review for each program and tier, we contacted the key managers for all of the programs.[72] Our telephone conversations, although conducted in an unstructured format, each covered a common set of topics: program goals, activities (including communications strategies), and data collection.[73] In asking about goals, we attempted to determine the extent to which environmental and social goals both appeared salient and motivated program activities.[74] Interviews ranged in length from twenty to eighty minutes, and we maintained detailed notes of responses. After each interview, we coded the responses according to explicit criteria developed as a research team. The information we collected offers a picture of what ELPs set out to achieve, how they go about accomplishing their objectives, and how they measure and communicate results.

II. Findings from the ELP Study

Each ELP offers at least a slightly different set of goals, activities, communication strategies, and data collection practices. Until now, no systematic evidence existed about what these programs have been designed to accomplish, what they do, and what we can learn from the data they collect. This paper is the first comprehensive analysis of all the established state and federal ELPs, and it is the first to document what these programs in fact seek to accomplish as reflected in their publications and their managers' responses to interview questions. To capture the richness of the variation in our data, we organize our findings around six significant themes:

[72] By program managers, we mean the agency staff members who are responsible for day-to-day ELP operations. If more than one staff member was responsible for running the ELP, we attempted to speak with the most senior member.

[73] We conducted interviews on a "not for attribution" basis. In the sections of this paper where we discuss interview results, we have removed factual details in order not to reveal the identities of the people with whom we spoke. For this same reason we do not include quotations from EPA Performance Track managers, since that program is sufficiently distinct that quotations could disclose interviewees' identities.

[74] For example, we would ask something like, "What are the goals of your program?" If the interviewee did not mention any of the social goals that dominated the discussions at the EPA workshops in New Orleans and Madison (and described *supra* in note 71), we asked follow up questions, such as "Is improving multi-stakeholder relationships a goal?" and "Is changing the culture at facilities and agencies a goal?" We coded responses so as to distinguish those given at the interviewee's initiative from those given in response to any of our follow-on prompts.

program goals; activities required to join; activities required to maintain membership; activities undertaken by agencies; communication; and data collection. In this Part, we present our findings. In Part III, we discuss several of their most important implications.

A. Program Goals

Program goals shape and reflect the priorities of ELPs. Our research examined the extent to which improving environmental quality was an explicit goal of the programs we studied, and the extent to which ELP goals may extend beyond delivering direct environmental benefits or striving to move the overall environmental performance curve. We attempted to determine whether other goals—specifically, improving relationships, changing culture at facilities and agencies, and cost savings—showed up in program documents and were on the minds of the program managers with whom we talked. While this second group of goals, which we call "social goals," might not lead to immediate improvements in environmental performance, it could set the stage for more profound environmental changes over time.

For each program in our study, we recorded whether the goal statements found in program documents or that emerged in our conversations with program managers fit into any of our five general categories: (1) direct environmental benefits; (2) shifting the environmental performance curve;[75] (3) improving multi-stakeholder relationships;[76] (4) changing business or agency culture; and (5) cost-savings. Each program could, of course, have more than one of these goals.

[75] "Shifting the environmental performance curve" refers to the idea that ELPs might prompt an incremental improvement in the environmental performance of all facilities. *See supra* notes 43–46 and accompanying text.
[76] In referring to "multi-stakeholder relationships," we adhere to the usage common among our respondents, according to which individuals and organizations affected by environmental management and policy are characterized as "stakeholders." Specifically, "multi-stakeholder relationships" refers to relationships between businesses, government officials, environmental organizations, community groups, and individuals.

Goal statements were usually straightforward and easy to categorize, but at times determining whether a program shared the five general goals we identified was more difficult. To illustrate, one of our interview respondents stated that the goal of his state's program was "to reduce pollution in the state and make everyone aware of their impact and create networks." This statement most clearly addresses the goal of improving environmental quality, as it begins with the unambiguous phrase "to reduce pollution." In addition, the goal statement includes phrases that might suggest, albeit indirectly and not as clearly, the goals of changing facility culture (by increasing facilities' awareness of their environmental impacts) and improving multi-stakeholder relationships (by creating networks). As a general rule, if program documents or a program official clearly identified one of the five goals we outlined, we coded that clear goal as a program goal. Thus, in the example, we concluded that the program definitely shared the goal of improving environmental quality. When program statements indirectly or ambiguously identified one the five goals we outlined, we coded it as a program goal only if we found additional mention of that goal in another source. Thus, in the example the goal statements "to make everyone aware of their impact" and "create networks" were alone insufficient to conclude that the program shared the goals of changing facility culture or improving multi-stakeholder relationships. To conclude these latter goals were indeed attributable to the program, we needed to find corroborating evidence in other program documents and in our conversations with program managers.

Before the end of each interview, we specifically asked about any of the five goals we outlined that were neither mentioned in the documentation nor by the manager without prompting. For each goal we ultimately attributed to a program, we kept a record of whether our

supporting evidence for that goal came from program documents, unprompted comments from the managers, or comments prompted by a pointed question about a specific goal.

We also distinguished "goals" from "activities." In many cases, program statements would expressly identify as "goals" items that were more properly considered activities or some other means of achieving a larger goal. For example, one state program specified a goal of "provid[ing] pollution prevention education and public recognition" to participants.[77] Another explicitly stated as a goal to "[p]rovide… regulatory incentives to member facilities."[78] These kinds of statements specify a means to an end rather than an end in itself and, accordingly, for coding purposes we considered them to be evidence of *activities*, not goals.

With this understanding of our coding in mind, Table 3 and Figure 1 summarize our principal findings with respect to goals. Our primary observations about program goals are as follows:

- For each of the five goals we examined, no fewer than ten of the eighteen programs in our sample shared that goal. Yet only the goal of improving the environment was regularly cited in program documents or mentioned by program officials without prompting. Each of the other four goals was rarely cited in program documents and typically came up in our conversations with program officials only after we prompted them.
- The most commonly cited goal was improving the environment. Documents for all eighteen programs in our sample mentioned this goal, and it also came up without prompting in almost every conversation with program officials. The following are typical responses we heard when we asked about program goals:

[77] Idaho GEMStars, http://www.idahogemstars.org/program/program.html (last visited Sept. 20, 2008).
[78] DIV. OF ENVTL. QUALITY, MO. DEP'T OF NATURAL RES., FACT SHEET ON MISSOURI ENVIRONMENTAL MANAGEMENT PARTNERSHIP 1 (2006), *available at* http://dnr.missouri.gov/pubs/pub2117.pdf.

- "To encourage business to move beyond compliance to becoming stewards of the environment."
- "To recognize companies that are going above and beyond."
- "To increase the number of facilities that have systems in place to better manage their environmental impacts beyond compliance."
- "To encourage innovation that leads down the path to achieving better environmental results."

- The second most commonly cited goal in our sample of programs was the social goal of changing facility and agency culture. Although it was a goal for fourteen of the eighteen programs, it appeared in only four of these programs' documents and never came up in our conversations with program officials without prompting. Typical was one program manager who did not mention the goal of culture change until prompted—but then was emphatic that the program was run independently from the state environmental agency as a way of indicating that the program is not the "enemy" of business.
- Across our interviews, program managers conceptualized the goal of "culture change" broadly. When prompted, some spoke of the general relationship between business and government, rather than the culture within a specific regulatory agency. For others, the term evoked a discussion about how the ELP might change the culture within member facilities.
- The other goals we outlined—reducing costs at facilities and agencies, improving multi-stakeholder relationships, and moving the environmental performance curve—were infrequently cited in program documents and were rarely emphasized by

program managers without prompting in our interviews. A majority of program managers agreed that these were goals, however, once we named them explicitly. For example, one program manager noted that his program is "really about pollution prevention and sustainability," but responded that other goals, once we mentioned them, are also "important parts of it." When we asked specifically about cost savings as a goal, another program manager said, "Absolutely. Pollution prevention always has payback." Yet another answered, "[Cost savings] are not an explicit goal, but we do ask [facilities to provide information] about that in their annual reports. Some cost savings from alternative compliance are very significant." In contrast, one ELP manager said that cost savings was not a goal since implementing an EMS "was not always cost effective." Another program manager felt that his program "can't force these" other goals and that culture change will only occur indirectly over time as a byproduct of the program.

B. Activities Required to Join

No matter what the goal, ELPs with fewer members will have a smaller impact on environmental and social conditions, all other things being equal. As such, a central challenge for government agencies is to set entry criteria so that enough facilities participate to promote agency goals.[79] Most ELPs limit membership to facilities with certain characteristics. For example, many programs restrict participation to facilities with strong compliance histories. Many also require facilities to have implemented an EMS, or to have plans to do so. Programs we studied varied with respect to the stringency of entry criteria—such as the number of years a facility had operated without a compliance problem, or the level of sophistication of its EMS.

[79] PRAKASH & POTOSKI, *supra* note 7, at 54–57, 62–67.

For many states, the mere existence of an EMS was not sufficient for entry; the facility had to have established targets and objectives in line with agency priorities for pollution prevention and continuous improvement.

Fourteen of the programs we studied had multiple tiers with varying levels of entry stringency. For some tiers, programs limited membership to facilities deemed to be top performers, while for other tiers less noteworthy facilities were encouraged to participate as a means of encouraging them to undertake significant beyond-compliance activities.

Just as we did to identify program goals, we reviewed program documents and interviewed program managers to learn about the activities required for facilities to join each program tier. Based on this information, we determined whether facilities were required to engage in any of five common activities: (1) compliance with environmental regulations; (2) implementation of an EMS; (3) independent certification of the EMS; (4) specific environmental performance commitments, and (5) specific commitments to community engagement.

Often the coding of these requirements, like the coding of goals, was straightforward. At other times, however, coding required us to make judgment calls as consistently as possible. For example, we coded "yes" for "compliance with environmental regulations" even if a facility was allowed to have minor noncompliance problems, or even if it could have more substantial compliance problems if accompanied by a plan to resolve the issue. As long as program documents or officials indicated that substantial compliance was expected, we treated compliance as an activity required for membership in the tier. For example, one state reviews applicants' compliance histories over a five-year period to determine their eligibility, but it also emphasizes that records "need not be spotless" and does not specify the precise number or nature of compliance problems that it allows. Another, in contrast, defines its compliance standard in

detail and takes into account compliance issues at the corporate level as well as at the facility. Both levels of compliance screening merited a "yes" designation in our coding.

We also coded "yes" for implementation of an EMS as long as the program tier required facilities to have an environmental plan that included the "plan-do-check-act" system that is the hallmark of a traditional EMS.[80] This meant that we also coded "yes" in cases where a program tier stipulated that a facility must have fully implemented an EMS before being accepted into the tier, as well as in the case of a tier requiring adoption of an EMS within the members' first year in the program. On the other hand, we coded "no" for EMS implementation when a program tier required a facility merely to have in place an environmental policy and a plan for environmental improvement, since this requirement did not call for all elements of the "plan-do-check-act" model.

We analyzed the data for each of three subsamples based on tier types. Table 4 shows our data and Table 5 displays our results. Our primary observations about the activities required to join our sample of ELPs are as follows:

- A vast majority of program tiers (85 percent of all program tiers and 100 percent of program tiers in the highest two tier categories) required potential members to be in compliance with environmental regulations. As noted above, however, compliance did not always have to be complete. Typically, minor episodes of noncompliance, particularly when accompanied by plans to return to compliance, were permissible. For example, one state program tier required a "commitment to regulatory compliance," which included a pledge to resolve any outstanding compliance issues. Similarly, another program required applicants to certify simply that they have "no outstanding unresolved violations."

[80] *See supra* note 39 and accompanying text.

- A vast majority of all program tiers (85 percent) required potential members to make environmental performance commitments. Exceptions were rare; when they occurred, they were typically at the lowest tier of a program. For example, to participate in one state's Advocate tier prospective members needed only to complete a form with their name, contact information, and membership category (school, household, or business) and send it to the state. Another state's initial tier was actually a reward for past environmental achievements and did not require any future commitments for membership.
- Most program tiers (62 percent of all program tiers and 100 percent of program tiers in the highest two tier categories), required potential members to have an EMS in place. EMS requirements varied, however, from adoption of a recognized EMS standard such as ISO 14001 or the Responsible Care Management System, to development of a nonstandard EMS tailored to the facility's needs and resources. Moreover, just over half of the programs and tiers that mandated EMSs also required them to be independently certified.
- A notable minority of all program tiers (42 percent) required members to make community engagement commitments, such as meeting regularly with local officials and community groups. Program tiers in the highest tier categories were substantially more likely to require these types of commitments.
- Program tiers in higher tier categories were also more likely than programs in lower categories to require prospective members to have engaged in all of the five activities shown in Tables 4 and 5. A majority of the program tiers in the highest three tier categories, and no fewer than eleven of thirteen of the program tiers in the top two

tier categories, required all of the five activities. Note, however, that in thirteen of the fifteen states in our sample with tiered ELPs, the highest tiers had the fewest members.[81]

C. Activities Required to Maintain Membership

Each of the ELPs we studied established requirements that facilities needed to meet or maintain after being admitted. These requirements reveal agency expectations for their facility partners. As above, we reviewed program documents and interviewed program managers to learn about the activities required for facilities to maintain membership in each program. Based on the information we gathered, we determined whether member facilities were required to engage in any of five common requirements to *maintain* membership: (1) compliance (or continued compliance) with environmental regulations; (2) continuation or development of an EMS; (3) reporting on performance; (4) progress toward achieving any commitments made in the facility's application; and (5) community engagement.

As with our previous categories, some requirements for continued membership were more clearly stated than others. As with entry requirements, we coded "yes" for "compliance with environmental regulations" even if minor episodes of noncompliance were permitted, as long as program documents or officials stated that substantial compliance was required. In terms of "progress toward achieving commitments," we coded "yes" only if program documents or conversations with program officials indicated that progress was specifically required.

We analyzed the data for each of three subsamples based on tier types. Table 6 shows our data and Table 7 shows our results. Our primary observations are as follows:

- Performance reporting was almost universally required for continued membership, but the form of this performance reporting varied. For example, the primary way that

[81] The exceptions were Colorado and Maine.

members communicated their progress in one state was through an email or a slide presentation at the program's biannual meetings. In another, members submitted success stories. In still other states (as well as with the federal Performance Track), members filled out detailed reports of their pollution levels and community activities.

- A vast majority of program tiers (76 percent of all program tiers and 92 percent of program tiers in the highest two tier categories) required continued compliance with environmental regulations, although, as noted above, minor episodes of noncompliance were typically permissible. For example, one state program allowed a member to experience a compliance problem as long as it promptly disclosed it and developed a plan for correcting it. The manager of another state program noted that a facility's membership in the program would be threatened if it had an "environmental black eye" but not for less consequential instances of noncompliance.
- A minority of program tiers, even in the highest tier categories, expected that members show progress toward achieving their commitments.[82] Many ELPs exhibited the view expressed in the following statement from one program's website: "[The program] does not penalize a facility for lack of improvement as long as [it] is making a good faith effort to improve performance and continues to meet other program criteria (e.g. consistent record of compliance, and EMS criteria specific to each tier)." Many ELPs required facilities not showing any progress to explain why they were not. Only one ELP manager told us that members categorically "must make progress."

[82] If program documents did not include specific language mandating progress, and if program managers did not mention progress as a requirement for continued membership, we concluded that progress was not necessary.

Program tiers in higher tier categories were more likely to require all of the five activities for continued membership, as shown in Tables 6 and 7. For example, four of the five activities were required by more than 75 percent of program tiers in the highest two categories, but only two of five activities were required by more than 75 percent of *all* program tiers.

We should note that even in those cases in which ELPs ostensibly required facilities to maintain compliance or demonstrate progress to remain members, we were unable to determine whether ELP managers enforced these requirements. We did not ask managers how they responded when confronted with members failing to make progress or in noncompliance. We do know, though, that managers of some ELPs (most notably EPA's Performance Track) do ask members to leave the program or deny membership renewal.[83]

D. Activities Undertaken by Agencies

In addition to establishing tier entry requirements, screening members, and ensuring that members continue to meet program requirements throughout their tenure, government agencies themselves undertake a variety of activities under the auspices of ELPs. We reviewed program documents and questioned program managers to learn about these activities. Based on this information, we determined whether agencies engaged in any of four common categories of activities: (1) offering opportunities for members to interact with government officials, the community, and each other; (2) providing mentoring opportunities; (3) providing incentives; and (4) sharing information.[84]

[83] EPA's fourth annual progress report notes that as of the end of 2005, the agency had asked thirty-four facilities to leave Performance Track and had denied renewal to an additional fifteen. OFFICE OF POLICY, ECON., & INNOVATION, U.S. ENVTL. PROT. AGENCY, PUB. NO. 100 R 06 001, LEADING CHANGE: PERFORMANCE TRACK FOURTH ANNUAL PROGRESS REPORT 14 (2006), *available at* http://epa.gov/performancetrack/downloads/PT_4th_Progress_Report.pdf. Reasons for removals or renewal denials included "deficient EMSs" and "failing to submit Annual Performance Reports." *Id.*

[84] Our cursory review of program descriptive materials revealed that these activities were common to many ELPs, so we sought to determine their pervasiveness by further investigation.

We coded "yes" for a broad variety of specific activities within each of the four categories. We coded "yes" for "opportunities for members to interact" even if an agency provided such opportunities infrequently or only for a subset of members. For example, one state offered members the opportunity to meet with environmental agency officials to discuss possible incentives but provided few other chances for interacting. Some states, in contrast, emphasized formal and informal meetings of members, potential members, and agency officials as their programs' most frequent and important activities. We coded "yes" for "providing incentives" for a wide category of possible incentives, including public recognition, the presentation of an award, and regulatory relief. Likewise, we coded "yes" for "information sharing" if the notion of sharing knowledge came up in program documents or in our conversations with program officials, regardless of the means used to do so (for example, through site visits or the distribution of literature).

Table 8 and Figure 2 present our findings. Our primary observations about the activities undertaken by agencies are as follows:

- All eighteen programs offered incentives to members. Most program tiers publicly recognized members as strong environmental performers, sent them a certificate, and allowed them to use the program's logo. Some programs went further, providing discounts to members on permit fees, extensions to the duration of permits, and expedited permitting. Some provided a single point of contact within the agency to handle all of a member's permits. Still others offered "customized variances" in which their states granted flexibility with respect to certain rules at a facility's request (after careful deliberation to determine that the request would not adversely affect

environmental quality), as well as reduced inspection frequency and reduced reporting.

- All but one program explicitly encouraged information sharing, particularly in the areas of pollution prevention and EMS development. Before facilities were admitted to one state's program, for example, program managers visited the site for an "opportunities assessment" in which the agency suggested specific "best practices" that would improve the plant's environmental performance. All members in another program were eligible for free technical assistance. Many programs promised chances for "making contacts and sharing successful project ideas," as stated in one website.
- Most programs (fifteen of eighteen programs, and possibly one more[85]) provided opportunities for members to interact with representatives of government, other firms, and the community, although the degree to which agencies emphasized these opportunities varied. One program manager told us that his program facilitates numerous "incredibly dynamic" working sessions at which companies share experiences about reducing their environmental impacts. At one session, two members discovered that one plant's waste could be an input to the other's manufacturing process. "It [was] a marriage made in heaven," said the program manager. Another told us that networking sessions organized by his program allowed facilities to "borrow wheels instead of inventing them." Successful sessions were not the rule, however. The manager of another program told us that networking sessions "never really took off" in her state due to lack of interest on the part of facilities.

[85] We received conflicting information from different sources about opportunities for interaction in the Texas program.

- A bare majority of programs offered mentoring activities in which members helped prospective members improve their environmental performance. Serving as a mentor was required of members in at least two state program tiers.

E. Communication

ELPs promoted communication in various ways. As noted above, programs expected members to communicate performance information, and agencies were engaged in various networking and recognition activities that help foster learning and diffusion of information. All of the agencies in our sample had developed websites that included basic information about the programs, such as their purpose and major activities. In addition, some agencies communicated with facilities through site visits and technical assistance. Others organized annual meetings for members.

To learn about other methods of communication, we reviewed program documents and interviewed program managers. Based on this information, we determined whether programs engaged in each of several common methods of communication: (1) publishing annual reports about the program on program websites; (2) posting data on individual members on program websites; (3) holding public meetings; and (4) issuing press releases.[86]

We were careful to distinguish between two types of information that programs might post on their websites. We coded "yes" for "annual reports about the program posted on website" as long as a program posted some sort of regular report about aggregate trends among its members, even if its report was incomplete. We coded "yes" for "information on individual members posted on website" as long as a program posted some data about at least a subset of members, even if the data posted did not include all the information submitted by members to the

[86] Our initial review of program descriptive materials revealed that these four communication activities were common to many ELPs, so we sought in our further investigation to determine more precisely how frequently they were used.

program. For example, some programs posted facilities' annual performance reports as well as reports on the programs' accomplishments overall. For such programs, we coded "yes" for both categories. Another program only posted facility reports, while still another only posted a report for the entire program. We gave the former program a "yes" for "information on individual members posted on website" and the latter program a "yes" for "annual reports posted on website."

Table 9 and Figure 3 present our findings. Our primary observations about programs' communication activities are as follows:

- For our sample of programs, press releases were the most common method used to communicate program results. Fourteen of eighteen programs issued press releases. Some programs utilized the news media for publicity more than others. Documents available for one program noted that the news media had published more than fifty stories about its activities, not including stories about individual facilities joining the program. Another program manager worked with the business editors of city newspapers to arrange for weekly columns highlighting the program's members.
- A majority of programs (eleven of eighteen programs, and possibly one more[87]) posted on their websites some information about individual members. Only six programs (and possibly one more[88]) posted annual program reports, however. One program manager told us that she was not sure "what to do with" the information facility managers submitted to her in their annual reports. "In most cases, companies

[87] We received conflicting information from different sources about the availability of online information in the Louisiana program.
[88] We received conflicting information from different sources about the availability of annual program reports for the Louisiana program.

are doing their own showcasing all on their own," she said. "It's difficult for us to make statements about program benefits since everyone tracks things differently."

F. Data Collection

Data collection serves multiple purposes. Facilities that are required to collect and submit data must establish internal procedures for measuring progress toward beyond-compliance commitments. They must share information with agencies and community groups they might otherwise ignore or only communicate with in a more limited fashion. The information they disclose provides a window into internal operations and commitments. Data collected by ELPs serves other important purposes, including performance measurement, communication of results, and program evaluation. We specifically investigated the suitability of these data for evaluating program effectiveness.

In our review, we assessed the data collected by our sample of programs on five dimensions: (1) relevance; (2) quality; (3) aggregational value; (4) inferential value; and (5) accessibility. Table 10 summarizes the criteria we used to assess each dimension.

We considered first whether data submitted by facilities and collected by agencies were *relevant* to the stated goals of the program. Ideally, the data directly captured progress toward the goals of the program. For example, when a program's goal was to improve the environmental performance of facilities, information about such things as facility emissions and resource consumption would be relevant. If a goal were to improve the relationship between businesses and the community, relevant data—whether qualitative or quantitative—would focus on such things as public attitudes toward local businesses.

We also considered data *quality*, that is, the degree to which data were credible and reliable. High-quality data were collected in accordance with clear instructions, and their quality

and completeness were verified. Examples of verification processes used by many programs included third-party EMS verification, site visits, application advisory councils, and review by program staff. Also, many programs required senior-level plant officials to sign off on their facilities' data, possibly lending further credibility to the submitted data.

In order to evaluate program effectiveness overall, data submitted by different facilities need to be aggregated. As such, data will be most useful for evaluation (that is, will have high *aggregational value*) when it is submitted in standard units and includes normalization factors.[89] In our review, we noted whether programs' applications and annual reports required facilities to present information in a standardized and normalized format.

We also considered the *inferential value* of the data, that is, whether they could be used to draw broader conclusions about the impact of the program.[90] For data to have inferential value, they need to be coupled with an appropriately measured baseline for the purposes of comparison. One type of baseline is temporal, that is, data collected before as well as after the establishment of an ELP. Another type is comparative or cross-sectional, which calls for the same data from a comparison group of facilities not participating in or affected by the ELP. Information about the comparison group could presumably be gathered by a program office within an agency (such as information on toxic releases from EPA's Toxics Release Inventory), or obtained from other sources (such as information about energy usage from utility companies).

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[89] Absolute reductions in pollution are what ultimately matter for environmental and public health protection. Normalized reductions matter only for purposes of determining program effectiveness. For example, suppose overall pollution decreases. The only way to know whether a program caused the decrease is to control for a number of factors, especially some measure of economic output. The program might be effective if pollution per unit of economic output decreases. But it is almost certainly not effective if pollution per unit of economic output increases, in which case any observed absolute reduction in pollution is due to a decrease in output, not to the program. Similarly, suppose overall pollution increases. If pollution per unit output decreases, then the overall pollution increase is probably due to the increase in economic output. In other words, the program might actually be effective, just not effective enough to overcome the growth in economic output.

[90] See Coglianese & Bennear, *supra* note 32, at 253–55, for a discussion on the several challenges of drawing causal inferences in the context of environmental innovation.

Finally, we considered data *accessibility*. Only data that are accessible can be used for evaluation. As such, we asked: Are data easily accessed by members of the public in a timely manner? Is all collected information or only select portions made available?

As with other features, we reviewed program documents and interviewed program managers to assess the relevance, quality, aggregational value, inferential value, and availability of the data collected by our sample of state programs. We looked separately at the data collected in support of each of the five typical program goals outlined earlier in this paper for each tier of the state programs. In each category, we assessed scores of "H" for high, "M" for medium, and "L" for low based on the criteria shown in Table 10. If a particular program tier did not collect any data in support of a given goal, we coded it as "not applicable."[91]

[91] We assigned ratings of "H," "M," or "L" based on the following considerations. With respect to *relevance*, a program or tier that gathered data that measured a goal or outcome directly earned a rating of "H." A program or tier that gathered data that measured a proxy of the goal or outcome earned a rating of "M." A program or tier that did not gather any relevant data earned a rating of "n/a" for not applicable. With respect to *quality*, we took into account the following five considerations: (1) whether the program offered clear instructions for data collection and reporting; (2) whether it required an EMS that would presumably guide data collection; (3) whether the agency had established a screening process for review of data accuracy and completeness; (4) whether the program conducted site visits to verify data or the EMS; and (5) whether someone at the facility certified the accuracy of the data. For each consideration, we gave each program or tier a "Yes" or "No" determination. When we assessed the quality of data relevant to direct environmental benefits, we weighted each of these considerations equally so that for each "Yes" the program or tier earned one point. A score of 0–1 became a rating of "L," a score of 2–3 became a rating of "M," and a score of 4–5 became a rating of "H." When we assessed the quality of data relevant to *improving stakeholder relationships* and *cost savings for facilities and agencies*, however, we determined that the first criterion—clear instructions for data collection and reporting—should weigh more heavily than the others such that no program or tier that offered *little* guidance for how facilities should collect or report these data could earn greater than a rating of "M" for quality, and no program or tier that offered *no* guidance could earn greater than a rating of "L." We reasoned, for example, that programs or tiers that merely included a column on their annual reporting form with the heading "cost savings," without any information about how facilities should calculate that number, would likely collect data that was neither reliable nor credible. With respect to *aggregational value*, programs or tiers that reported data in standard units and using normalizing factors earned a rating of "H." Programs or tiers that reported either in standard units or using normalizing factors earned a rating of "M." Programs or tiers that used neither standard units nor normalizing factors earned a rating of "L." With respect to *inferential value*, a program that provided both longitudinal data and cross-sectional data earned a rating of "H." A program that provided some longitudinal data, such as performance over time, or the possibility of some cross-sectional data, such as compliance information for non-participants, earned a rating of "M." A program that provided neither longitudinal nor cross-sectional data earned a rating of "L." With respect to *accessibility*, we considered the degree to which a program or tier provided to the public available data on individual members' participation. If it provided all available data, it earned a rating of "H"; if it only provided some data, it earned a rating of "M"; if it provided no data, it earned a rating of "L."

We analyzed the data for each of three subsamples based on tier types. Tables 11, 13, and 15 show the scores we assigned to each data characteristic, and Tables 12, 14, and 16 show aggregate statistics for each of the subsamples. Our primary observations are as follows:

- Programs collected more data to measure "direct environmental benefits" than for any other goal. Almost 90 percent of all program tiers, and 100 percent of the program tiers in the highest two tier categories, collected at least some data that could be used to track environmental benefits.
- The data collected to measure direct environmental benefits scored "high" on relevance across all program tiers. The quality of these data, however, was varied: more tiers scored "medium" or "low" on data quality than scored "high." As one manager noted, "People try hard, but they turn in 'junk information.' They write down kilograms but they mean liters. As a first step, I always do an 'ocular analysis' to flag things that just don't make sense." Another commented that he had "no way of knowing" if the submitted information is correct. "Mostly we take people's word for it. This is a good faith program," he explained. Other program managers were trusting of the data they received. One manager reported that he believes the data members send to him because the members check the information internally and certify its accuracy. Another manager believed that personal relationships ensured the quality of information; he trusted the data "100 percent" because his state is small and all the members knew each other—and him.
- The aggregational and inferential values of data measuring environmental impacts were generally low, even for program tiers in the highest tier categories. As shown in Table 12, less than one-third of all program tiers, and less than one-half of program

tiers in the highest two tier categories, scored "high" on the aggregational value of its data. The inferential value of the data was particularly low. No tier in any tier category scored "high" on the inferential value of their data.[92] In other words, even when programs collected direct measures of environmental impacts, these measures usually lacked some of the essential characteristics needed to be able to use these data to draw conclusions about the aggregate performance of members and the overall impact of the programs. For example, one state program requires applicants to provide detailed and relevant information, with documentation, about their past achievements and future commitments, but it does not require standardized units or normalization, nor does it follow up with any requirement for annual reports that could provide data over time. In some cases, improving data's aggregational value by requiring facilities to standardize and normalize information was perceived to conflict with the desired style of a program. As noted in one program's annual report, "[t]radition might suggest a prescribed format [for reporting by facilities], but that level of prescription is what [our program] challenges us to minimize."[93]

- Many program tiers (exactly half of all program tiers and eleven of thirteen of those in the highest two tier categories) collected some measures of improvement in multi-stakeholder relationships. Although the collected data averaged "medium" in quality, the data cannot confidently be used to assess the impacts of the programs on multi-

[92] Some program tiers did collect "baseline" data on each member's performance when it first joined the program. But even these data, while informative, have quite limited inferential value. To draw confident inferences about the effects of programs, longitudinal data need to include information on members' performance well before they contemplated joining the program. Data over multiple years prior to joining are needed to determine the trends in emissions over time, so as to be able to determine if the program affected these preexisting trends. For a discussion of longitudinal analysis, see Cary Coglianese, *Empirical Analysis and Administrative Law*, 2002 UNI. ILL. L. REV. 11,11–37 (2002).

[93] WIS. DEP'T OF NATURAL RES., 2007 GREEN TIER BIENNIAL PROGRESS REPORT 16 (2007), *available at* http://www.dnr.state.wi.us/org/caer/cea/environmental/reports/2007report.pdf.

stakeholder relationships. As shown in Table 14, no program tier collected data that measured "high" on either aggregational or inferential value. Moreover, far more tiers scored "low" than "medium" on aggregational and inferential value for data on stakeholder relationships, even those tiers in the highest two tier categories.

- Almost half the program tiers collected highly relevant measures of cost savings for facilities and agencies. These data, though, were most often "low" in quality, and as with data collected to measure multi-stakeholder relationships, they cannot confidently be used to infer the overall cost savings provided by the programs. As shown in Table 16, all the program tiers that collect data on cost savings score "medium" on the aggregational value of the data, and most of them score "low" on the inferential value of the data.
- Only one program has collected data to measure progress toward the goals of shifting the environmental performance curve and changing the culture of facilities and agencies. In 2006, EPA surveyed Performance Track members in an attempt to assess the program's impact on environmental performance, relationships with external stakeholders, and culture change.[94] Other than this survey, no program in our sample collected data to measure progress toward these goals, even those programs that cited them as goals. We did not include tables showing the characteristics of data collected in support of these two goals, as they would have been completely full of "not applicables."
- Making data accessible was a challenge for many programs. For each of the three goals discussed above, a majority of tiers that collected data scored "medium" or

[94] ABT ASSOCS., RESULTS OF THE 2006 PERFORMANCE TRACK MEMBERS SURVEY 15–23 (2007), *available at* http://epa.gov/performancetrack/members/downloads/2006MembersSurveyReport-Final062607.pdf.

> "low" on accessibility. Moreover, at least as many program tiers scored "low" on data accessibility as scored "medium." The primary reason for these lower scores was that most programs did not post facility applications and annual performance reports on their websites, even though the documents were generally available upon request. "Companies don't want others to see their environmental impacts and aspects," one manager explained. More commonly, programs posted online selected information, aggregate statistics, or "success stories" that include some data. For example, one state program posted narratives about its members on its website, but did not post the environmental performance data that it collected through its members' detailed annual reports. Selected success stories can certainly provide a basis for useful communication and diffusion of innovations, but for evaluation purposes they are usually of little value because they are not a representative sample of all the facilities affected by the program.

We found that ELPs varied considerably in the amount and type of information they collected. Some programs were information-rich, while others gathered relatively little information about member activities. If the quantity and type of information collected by these programs is central to their ability to contribute to systemic policy learning, then clearly some programs are doing better than others.

Of course, differences in information collection should not be taken to suggest any judgment about the impact or value of the program in terms of environmental protection or the achievement of what we have called ELPs' social goals. We also recognize that the cost of collecting and analyzing data that would meet the criteria we have outlined in Table 10 may be beyond the highly constrained budgets that many states have given their ELPs. On average the

state programs in our sample only had about two staff members—a small number, suggesting that these programs have not been designed to collect and analyze extensive data. Moreover, even though programs that collect large amounts of high-quality data will be easier to evaluate, they are not necessarily more effective in achieving their goals. Some programs with few resources dedicated to data collection could still have significant impacts; such impacts would just be immeasurable ones.

III. Implications for Systematic Policy Learning

When considered in the aggregate, our findings provide insight into larger questions about ELPs' structure and evaluation. In this Part, we draw upon our findings to discuss three issues: variation among programs, the match between program activities and goals, and the role and use of data in learning from and about ELPs.

A. Variations among Programs

Our principal findings reveal significant variation in the range of goals, activities, methods of communication, and data collection undertaken by ELPs. Although EPA and scholars have treated these programs as belonging to a single category of policy instruments, in reality ELPs are a diverse collection of programs.

The greatest similarities can be found in EPA's Performance Track and the highest tier programs in states such as Georgia, Tennessee, Texas, and Virginia. Performance Track exhibits all the characteristics we coded for and collects data that generally score between "high" and "medium" on our criteria. The highest tiers in Georgia's "Partnership for a Sustainable Georgia" and in Texas's "Clean Texas" program pursued all five of the goals, required nine of ten requirements for joining and staying in the program, engaged in four of five of the coded agency activities and two or three methods of communication, and gathered data that generally scored

between “high” and “medium” on our criteria. The highest tiers of Tennessee’s “Pollution Prevention Partnership” program and Virginia’s “Environmental Excellence Program” shared a similar number of characteristics as the programs in Texas and Georgia and gathered data that averaged “medium” according to our criteria.

Other programs, on the other hand, only scored high in specific categories of coded characteristics. For example, six other programs shared four or five of the hypothesized goals; the highest tiers of eight programs required four or five of the common activities for joining the program; and the highest tiers of a similar but not identical set of six programs collected data that averaged at least “medium” on our criteria. These other programs did not, however, match our criteria across the board as completely as Performance Track and the highest tiers of the Georgia, Tennessee, Texas, and Virginia programs.

Moreover, a number of the state programs, even at their highest tiers, displayed less than half of the characteristics we examined.[95] This is perhaps not surprising, since some of these programs, such as New Mexico’s “Green Zia Environmental Excellence Recognition Program,” are just one-time award programs that largely recognized past environmental achievements and collected limited data to document them. Others, such as Idaho’s “GEMStars” program and Louisiana’s “Environmental Leadership Program,” are ongoing membership programs that shared a few of the characteristics in each of our categories and collected data that met a few of our criteria—but were not very expansive in scope or in their activities compared to other programs.

It is critical to reiterate that our findings in this study, and particularly the summaries in the paragraphs above, do not speak to how effectively the programs achieve their goals. It is

[95] In other words, for some states the most stringent tiers were akin to what we have called “Middle” tiers for other states. For example, in Idaho and Louisiana the highest tiers were comparable to “Middle” tiers. New Mexico’s most stringent tier ranked as “Tracking,” but its design was substantially different from other ELPs.

entirely possible that the programs that met most of our coded characteristics and collected data that scored well on our criteria have not met their objectives as well as other programs. We simply cannot say. Our analysis has been intended to provide insight into the structure and operation of ELPs and the characteristics of the data they collect, all as a prelude to systematic program evaluation research. Future research on ELPs must take into account the variation in the programs. Researchers can and should assess how the differences we have documented might influence these programs' effectiveness in terms of achieving environmental and social goals.

B. Mapping Activities to Goals

Another way our study could be used to inform future research on program effectiveness is by linking program activities to program goals. To be effective, a program must presumably design its activities to support its stated goals. In this study, we did not assess the effectiveness of program activities nor did we empirically investigate the links between activities and goals. Nonetheless, we can pose a series of suppositions as to how program activities and goals are currently linked.

For example, the activities most connected with the goal of providing direct environmental benefits might presumably be having members make environmental performance commitments and then make progress toward achieving them. Most program tiers (over 85 percent overall) require environmental performance commitments. But far fewer tiers (less than 33 percent overall and less than 42 percent of tiers in the highest two tier categories) mandate that members show progress toward meeting all those commitments. Thus, even though it would seem that the initial membership requirements of many programs connect well with the goal of improving environmental quality, the activities required to maintain membership in these programs frequently do not seem to connect as well. Surprisingly, in a substantial number of

state programs, facilities may remain members in good standing while achieving little or no progress toward commitments they made.[96]

The goal of improving multi-stakeholder relationships may be advanced when ELPs require members to engage the community as well as when they provide regular opportunities for members to interact with government officials and other companies.[97] Relatively few program tiers (less than 42 percent overall but far more at the higher tier categories) require potential members to establish community engagement goals or commitments, and even fewer (less than 41 percent overall and 75 percent in the highest two tier categories) require members to engage the community to maintain membership. On the other hand, most programs (at least fifteen of eighteen) provide opportunities for interaction among stakeholders.

A government activity closely connected with the goal of shifting the environmental performance curve might be the provision of mentorship opportunities.[98] Over half of the programs in our sample provide such opportunities. Another program feature that might help shift the performance curve could be the establishment of several different membership tiers. Fourteen state programs in our sample have more than one tier, but EPA's Performance Track and three state programs in our sample do not. The existence of multiple tiers may encourage

[96] Some program officials may view the required commitments as spurs for improvement, rather than binding ends themselves. In other words, programs could be designed to allow firms to make "stretch goals" that are hard to attain, if doing so would encourage firms to make good faith efforts to improve their environmental performance beyond what they would otherwise do, even if those improvements fail to meet firms' stated goals. Of course, if government officials do not expect any or much progress toward firms' commitments to remain in ELP programs, it is hard to see how over the long term the process of making commitments—attainable or otherwise—would provide much incentive for firms to engage in costly efforts to improve their environmental performance significantly.

[97] When a facility sponsors a community recycling drive or shares information about its environmental performance with community groups, the assumption is that this will lead to increased trust and cooperation between the facility and the community. Of course, it is also possible that the reverse could occur. Jonathan Borck, Cary Coglianese, & Jennifer Nash, *Evaluating the Social Effects of Performance-Based Environmental Programs*, 38 ENVTL. L. REP. 10,697, 10,698–99 (2008).

[98] For a discussion of shifting the performance curve, see *supra* notes 43-46 and accompanying text.

facilities that would like to improve, even though they might not yet have the resources or expertise to show a high level of achievement.[99]

An activity quite plausibly connected with the goal of changing the culture at facilities is the implementation of an EMS. Almost two-thirds of all program tiers and all tiers in the highest two tier categories required facilities to have an EMS to join the program and to maintain or develop an EMS as a condition for continued membership. Thus, program requirements for some but not all programs could plausibly be said to support the goal of changing facility culture.

An activity connected with the goal of reducing costs for facilities and agencies might be providing incentives of regulatory flexibility to members. While all programs provided some incentives to members, such as recognition, only some of the program tiers offered specific forms of regulatory flexibility, where cost savings would presumably be available.

These observations suggest that notwithstanding the various goals attributed to them, ELPs have not been consistently designed to achieve all of these goals. To be sure, our postulations about the connections between different activities and different goals are by no means complete or definitive. However, they do show how our empirical findings about activities and goals can point the way for future analysis and program evaluation.[100] Such an evaluation might test whether activities do in fact contribute to program goals, through collection and analysis of appropriate data.

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[99] Of course, this does not mean that establishing multiple tiers is always easy for government to do. When it launched Performance Track, EPA initially planned to implement both an Achievement Track and a more rigorous Stewardship Track. *See* U.S. ENVTL. PROT. AGENCY, FIRST PHASE PUBLIC MEETINGS ON THE DESIGN OF THE STEWARDSHIP TRACK 1–2 (n.d.) (unpublished summary of discussions held in the fall of 2000 in Washington, D.C., San Francisco, and Chicago, on file with authors). In the rush to get the program running, EPA postponed development of the Stewardship Track and admitted its first members to the Achievement Track. EPA had trouble articulating what additional requirements should be imposed on Stewardship Track members, so it later abandoned plans for a more demanding tier. EPA's history demonstrates a key challenge of multiple-tiered programs: defining criteria for entry and ongoing membership that are unambiguous and encourage participation.

[100] Such evaluation might begin with the development of a logic model that traces the connection between program goals, activities, and outcomes. *See* EPA, GUIDELINES FOR MEASURING THE PERFORMANCE OF EPA PARTNERSHIP PROGRAMS 8–11 (2006) (on file with authors).

C. Data Collection

Finally, a central purpose of our study has been to assess the characteristics of the data programs collect from their members. As discussed in Part II.F., we observed that most of the data collected pertain to facilities' environmental performance. While we have found that these indicators are usually of reasonable quality and trustworthiness, program and participant data are simply not scrutinized or audited very closely in a number of states.[101] Moreover, due to limitations in aggregational and inferential value, these data cannot generally be used to draw inferences about program efficacy.

Nonetheless, the data being collected may be useful in a number of other ways. For example, program managers and independent analysts can use these data to characterize what member facilities are doing. Government can publicize individual facilities' data in raw form to highlight good (or bad) cases. In many programs, such as EPA's Performance Track, officials can aggregate the data at the program level to describe the collective environmental performance of members. When environmental data from multiple years are available—and often they are—they can show trends in the performance of members over time. Even if the data cannot show that the programs themselves caused these trends (because of the absence of a control group of nonparticipants against which to measure the trends), the data can nevertheless suggest potential changes.

If governments want ELPs to gather data that could be used to assess program effectiveness over time, they would do well to seek data sharing of all of the characteristics identified in Table 10. Data collection and reporting requirements should be designed to maximize relevance, quality, aggregational value, and inferential value. When it comes to environmental performance indicators, where most programs currently fall short is in ensuring

[101] *See supra* Part II.F.

the aggregational and inferential value of the data. Meeting these criteria may require mandating standard units and normalization factors as well as collecting data over time for both member facilities and, crucially, similar nonmember facilities.

To measure progress toward social goals, ELPs have much more to do. Measuring improvements in multi-stakeholder relationships and changes in facility and agency culture requires defining and identifying relevant variables that measure the goals as closely as possible (a challenging task in itself), and then collecting quantitative or qualitative measures for these variables from member and nonmember facilities over time.[102] The task may be difficult but it should not be impossible. Its completion is necessary in order to permit analysts to judge, with any degree of confidence, the effectiveness of these ELPs in terms of their social goals.

To be sure, whether any particular program should engage in this data collection effort is another question entirely. It is true that program effectiveness cannot be determined without such an effort. But collecting the requisite data, particularly for the social goals, will likely be costly and time consuming. It may impose burdens on program members that could discourage participation in what are, after all, voluntary programs.[103] Moreover, the conclusions from the resulting analysis may not end up being valuable or useful enough in terms of what agencies or the public would actually do with that information. Information collection has its own costs, and these costs may well not be justified in some cases, especially if the data will go unanalyzed or ignored. In this paper, we have demonstrated what needs to be done to determine better the effectiveness of ELPs, but the research we have undertaken cannot tell us whether it should be done.

[102] Borck, Coglianese, & Nash, *supra* note 97, at 10,699–701.
[103] BEYOND COMPLIANCE, *supra* note 8, at 7.

Conclusion

Over the past decade, EPA and states have developed ELPs to address an array of environmental and social goals. Although many of these programs have been in place for five years or longer, little systematic research exists about their goals, operations, communications, and data collection practices. This paper, based on a review of program materials and interviews with key program managers, provides a descriptive account of the EPA's Performance Track Program and the most longstanding ELPs in seventeen states.

While improving environmental quality stands out as the most important goal of ELPs, a majority of the programs we studied reflected interest in achieving broader environmental and social goals as well. For ten of the eighteen programs, we found support for the goals of shifting the environmental performance curve, reducing costs, improving relationships, and changing culture at facilities and agencies. Although a majority of programs shared these broader goals, they were clearly secondary goals. Program documents infrequently mentioned them, and program officials rarely identified them as goals until we asked explicitly about them.

Most program tiers required potential members to comply with environmental regulations, to have an EMS in place, and to set environmental performance goals. But those requirements were not maximally stringent. Typically, programs permitted minor episodes of noncompliance, and only a minority of programs required potential members to certify their EMSs through an independent audit. A few tiers, including some in the highest categories, did not require compliance with environmental regulations for continued membership. Moreover, a majority of program tiers, even at the highest levels, did not explicitly require that members demonstrate progress toward their commitments.

Unlike members' activities, programs were more uniform in the types of activities undertaken by the program staff themselves. All programs provided some type of incentive to members, and almost all programs facilitated information sharing and provided opportunities for members to interact with program officials and other stakeholders.

Programs used various methods of communication and sometimes made facility performance data available to the public. A majority of programs issued press releases about members and posted at least some information about members on program websites. EPA and five states posted members' applications and annual performance reports on their websites, and about one-third published annual reports about the overall impact of their programs.

We found that most program tiers in our sample collected highly relevant data to track the goal of improving the environment, and about half of the program tiers collected somewhat relevant data to track the goal of improving multi-stakeholder relationships and highly relevant data to track the goal of reducing costs for facilities and agencies. But, with the exception of EPA's Performance Track, no programs collected data to measure the goals of changing the culture of facilities and agencies or of moving the environmental performance curve, even though both are identified as important goals by officials from a majority of the programs. In other words, the collection of environmental performance data was common, but the collection of measures of other stated goals of ELPs was infrequent or entirely nonexistent.

Our study assessed several important characteristics of the data collected by programs to track progress toward their goals: the quality of the data, the aggregational value of the data, and the inferential value of the data. We used a simple but comprehensive rubric to assign a score of "high," "medium," or "low" on each characteristic to the data collected in support of each

program goal by each program tier. Our assessment of programs' data addressed whether the data collected by programs could be credibly used to analyze program effectiveness.

We found that the data collected are of reasonable quality, but usually possessed only limited aggregational and inferential value, and thus are of limited value in assessing program efficacy. On average, the data collected by programs scored "medium" on quality: most programs' structures and designs provided some but not all potential safeguards for ensuring high-quality data. What the data sorely lacked, however, is aggregational and inferential value. Specifically, the data did not share critical features that would allow them to be added up across all members in a particular program tier and used in empirical analysis to assess program efficacy appropriately. There were exceptions; data from some programs or program tiers actually scored "high" or "medium" on all characteristics. On the whole, however, the data collected by programs in our sample cannot be credibly be used to assess most programs' effectiveness.

These general data weaknesses are significant, even surprising, given the aspirations for ELPs to facilitate policy learning and advocates' claims that ELPs are delivering important environmental benefits.[104] The reality is that governments have not been collecting the data needed to be able to determine whether ELPs are truly making a difference in achieving their goals. The mere fact that ELP members report reductions in their environmental footprints does not answer the question of whether ELPs caused these reductions. After all, businesses do have other reasons to go beyond compliance with existing environmental regulations, including the

[104] *See supra* notes 19–22, 27 and accompanying text. *See also* EPA INNOVATION ACTION COUNCIL, EVERYDAY CHOICES: OPPORTUNITIES FOR ENVIRONMENTAL STEWARDSHIP 14 (2005), *available at* http://www.epa.gov/NCEI/pdf/rpt2admin.pdf (noting that "EPA has used challenge programs successfully" including, in Performance Track, "spurring environmental improvement on a facility-wide basis").

incentive to try to stave off future regulations.[105] Some, if not all, of the environmental changes documented by ELPs may have occurred for other reasons. As such, the empirical inquiry we have provided in this paper charts the course for the kind of data collection and analysis that will be needed to understand whether ELPs truly cause positive change or are merely symbolic gestures distracting attention from the search for more meaningful solutions to today's environmental problems.

[105] *See* REINHARDT, *supra* note 45, at 11; THOMAS P. LYON & JOHN W. MAXWELL, CORPORATE ENVIRONMENTALISM AND PUBLIC POLICY 45–46 (2004) (presenting voluntary, beyond-compliance behavior "as a way to preempt the passage of new government regulations").

Appendix I

EPA's National Environmental Performance Track

Established in 2000, Performance Track is considered one of EPA's most prominent and extensive partnership programs. According to agency documents, the goals of the program are to deliver measurable environmental results, shift the environmental performance curve, and collaborate more effectively by "building partnerships, measuring results more systematically, and creating opportunities for more learning and sharing of information."

To qualify for membership in Performance Track, a facility must meet four criteria. It must:

- have implemented an environmental management system (EMS), and the EMS must have been independently assessed
- have a record of sustained compliance with environmental laws and regulations
- demonstrate specific past environmental achievements and commit to achieving measurable environmental results that go beyond compliance
- provide information to the local community on its environmental activities

To join Performance Track, a facility must complete an application that provides information about its size, sector, EMS, past achievements, future goals, and public outreach and reporting. A key component of the application is the section in which the facility describes its goals for improving its environmental performance in the future. Large facilities must establish four such goals in areas ranging from energy conservation to solid waste reduction, while small facilities need only establish two. A facility must also complete an "Environmental Requirements Checklist" indicating the environmental regulations to which it is subject.

Once admitted, a facility must annually submit to EPA a performance report that provides detailed information about its progress toward meeting its commitments. EPA requires that facilities report on their progress in absolute terms (pounds of pollutant reduced) as well as on a normalized basis (pounds of pollutant reduced, taking into account changes in production). EPA recognizes Performance Track members as top performers, presents opportunities to interact with high-level EPA administrators, limits routine agency inspections, and offers a package of administrative and regulatory incentives.

EPA posts members' applications and annual performance reports on its website. In addition, it annually prepares a report that summarizes members' contributions to environmental protection. According to the agency's most recent report, Performance Track members have collectively reduced the water they use by about 3.5 billion gallons. They have reduced greenhouse gas emissions by more than 97,000 tons and increased their use of recycled materials by 135,000 tons. They have also protected more than 14,000 acres of land.

Membership in Performance Track currently stands at over 500 facilities from across a variety of industrial sectors and from nonprofit and governmental organizations.

Table 1. Programs in Our Sample

	Program Inception	Number of Members as of July 2007	Number of Tiers or Membership Levels	FTEs Assigned to Program
United States EPA National Environmental Performance Track	2000	450	1	19
Colorado Environmental Leadership Program	1998	30	3	1
Georgia Partnership for a Sustainable Georgia	2004, based on an earlier program started in 1998	118	4	6
Idaho GEMStars	1998	20	3	2
Louisiana Environmental Leadership Program	2000	92	1	1
Maine STEP-UP	2000	13	3	0.5
Michigan Clean Corporate Citizen	1997	121	1	1.5
Missouri Environmental Management Partnership	2002	4	4	<1
New Mexico Green Zia Environmental Excellence Recognition Program	1998	4	3	1
North Carolina Environmental Stewardship Initiative	2002	71	3	4.25
Oklahoma Environmental Performance and Recognition Program	2001	0	3	1
Oregon Green Permits Program	1999	3	3	0
South Carolina Environmental Excellence Program	1998	30	1	0.4
Tennessee Pollution Prevention Partnership	2000	613	4	4
Texas Clean Texas	1998	380	4	3
Vermont Business Environmental Partnership	1998	33	2	1
Virginia Environmental Excellence Program	2000	396	3	2
Wisconsin Green Tier	1995; relaunched in 2004	11	2	4

Table 2. Programs Tiers and Tier Types

	Tier or Membership Level	Tier Type or Category	Number of Members as of July 2007
United States EPA National Environmental Performance Track	*Not Applicable*	Tracking	450
Colorado Environmental Leadership Program	Bronze Achiever	On-Ramp	10
	Silver Partner	Middle	0
	Gold Leader	Tracking	20
Georgia Partnership for a Sustainable Georgia	Champion	Advocate	32
	Bronze	On-Ramp	63
	Silver	Middle	14
	Gold	Stewardship	9
Idaho GEMStars	Initial Tier	On-Ramp	20
	Middle Tier	Middle	0
	Highest Tier	Middle	0
Louisiana Environmental Leadership Program	*Not Applicable*	Middle	92
Maine STEP-UP	Commitment Track	Middle	1
	Leadership Track	Middle/Tracking	12
	Sustainability Track	Stewardship	0
Michigan Clean Corporate Citizen	*Not Applicable*	Middle/Tracking	121
Missouri Environmental Management Partnership	Partner	Middle	0
	Certified Partner	Middle	2
	Advanced Partner	Tracking	1
	Certified Advanced Partner	Tracking	0
New Mexico Green Zia Environmental Excellence Recognition Program	Commitment Level	On-Ramp	4
	Achievement Level	Middle	0
	Environmental Excellence Award	Tracking	0
North Carolina Environmental Stewardship Initiative	Partner	On-Ramp	52
	Rising Steward	Middle/Tracking	13
	Steward	Tracking/Stewardship	6
Oklahoma Environmental Performance and Recognition Program	Commitment Level	On-Ramp	0
	Achievement Level	On-Ramp	0
	Excellence Level	Middle	0
Oregon Green Permits Program	Participant	Middle	0
	Achiever	Tracking	3
	Leader	Stewardship	0
South Carolina Environmental Excellence Program	*Not Applicable*	On-Ramp/Middle	30
Tennessee Pollution Prevention Partnership	Prospect Level	Advocate	418
	Pledge Level	On-Ramp	181
	Partner Level	Middle	30
	Performer Level	Middle/Tracking	2
Texas Clean Texas	Bronze Member	On-Ramp	263
	Silver Member	Middle	0
	Gold Member	Middle/Tracking	7
	Platinum Member	Stewardship	10
Vermont Business Environmental Partnership	Environmental Partner	Middle	31
	Environmental Leader	Tracking	2
Virginia Environmental Excellence Program	Environmental Enterprise (E2)	Middle	250
	Exemplary Environmental Enterprise (E3)	Middle	135
	Extraordinary Environmental Enterprise (E4)	Tracking	11
Wisconsin Green Tier	Tier 1	On-Ramp	10
	Tier 2	Middle	1

Table 3. Program Goals

	Do Program Goals Include:				
	Direct Environmental Benefits	Improvements in Multi-Stakeholder Relationships	Moving the Environmental Performance Curve	Culture Change at Facilities and Agencies	Cost Savings for Facilities and Agencies
United States EPA National Environmental Performance Track	Y(DM)	Y(DM)	Y(DM)	Y(DP)	Y(P)
Colorado Environmental Leadership Program	Y (DM)	Y (P)	N (D)	Y (P)	Y (P)
Georgia Partnership for a Sustainable Georgia	Y (DM)	Y (M)	Y (M)	Y (D)	Y (D)
Idaho GEMStars	Y (DM)	N (P)	Y (D), N (P)	N (P)	Y (M)
Louisiana Environmental Leadership Program	Y (DM)	N (P)	N (P)	N (P)	Y (M)
Maine STEP-UP	Y (DM)	N (P)	N (P)	N (P)	N (P)
Michigan Clean Corporate Citizen	Y (DM)	N (D)	N (D)	Y (P)	Y (DP)
Missouri Environmental Management Partnership	Y (DM)	Y (DM)	Y (D), N (P)	Y (DP)	Y (DP)
New Mexico Green Zia Environmental Excellence Recognition Program	Y (DP)	N (DP)	N (DP)	Y (P)	N (DP)
North Carolina Environmental Stewardship Initiative	Y (D)	Y (DP)	Y (P)	Y (P)	Y (D), N (P)
Oklahoma Environmental Performance and Recognition Program	Y (D)	N (D)	N (D)	Y (D)	N (D)
Oregon Green Permits Program	Y (DM)	Y (P)	Y (P)	Y (P)	N (D)
South Carolina Environmental Excellence Program	Y (DP)	Y (P)	Y (P)	Y (P)	N (P)
Tennessee Pollution Prevention Partnership	Y (DM)	Y (M)	Y (P)	Y (P)	Y (P)
Texas Clean Texas	Y (DM)	Y (D), N (P)	Y (P)	Y (P)	Y (P)
Vermont Business Environmental Partnership	Y(DM)	Y(P)	Y(P)	Y(P)	Y(P)
Virginia Environmental Excellence Program	Y(DM)	Y(P)	Y(P)	Y(P)	Y(P)
Wisconsin Green Tier	Y(DM)	Y(DP)	N(P)	N(P)	Y(DP)

Key: D indicates information came from descriptive materials.
M indicates that a program manager mentioned the information during the interview without a prompt from us.
P indicates that a program manager mentioned the information during the interview following a prompt from us.

Figure 1. Typical Program Goals:
How Many Programs Share Them?

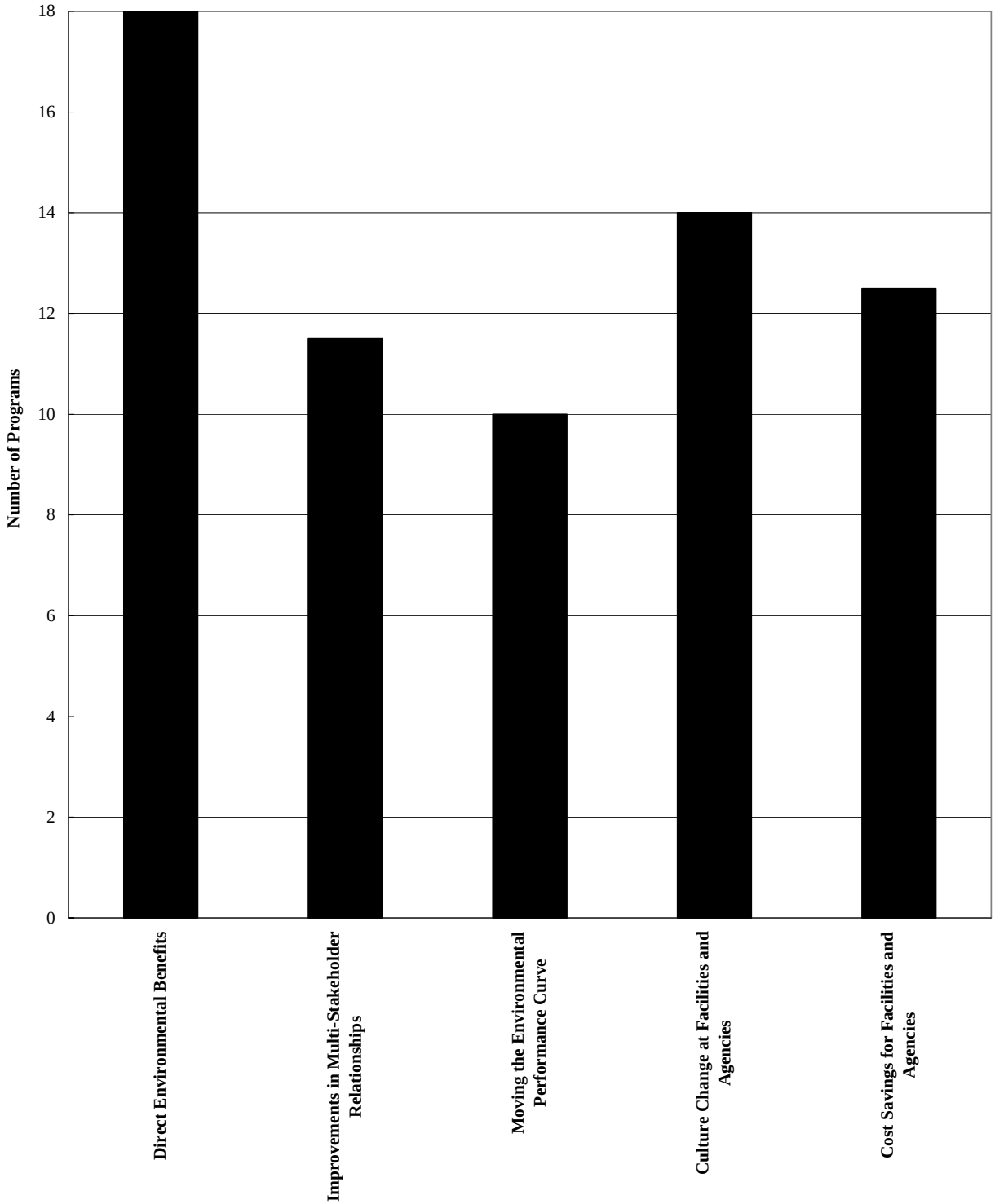

Table 4. Activities Required to Join Programs, by Program and Tier

	Tier or Membership Level	Requirements to Join Program				
		Compliance with Regulations	EMS	Independent EMS Certification	Environmental Performance Commitments	Community Engagement Commitments
United States EPA National Environmental Performance Track	*Not Applicable*	Y	Y	Y	Y	Y
Colorado Environmental Leadership Program	Bronze Achiever	Y	N	N	N	N
	Silver Partner	Y	N	N	Y	N
	Gold Leader	Y	Y	Y	Y	N
Georgia Partnership for a Sustainable Georgia	Champion	N	N	N	N	N
	Bronze	N	N	N	Y	N
	Silver	Y	N	N	Y	Y
	Gold	Y	Y	Y	Y	Y
Idaho GEMStars	Initial Tier	Y	N	N	Y	N
	Middle Tier	Y	N	N	Y	N
	Highest Tier	Y	N	N	Y	N
Louisiana Environmental Leadership Program	*Not Applicable*	Y	N	N	Y	Y
Maine STEP-UP	Commitment Track	Y	Y	Y	Y	N
	Leadership Track	Y	Y	Y	Y	Y
	Sustainability Track	Y	Y	Y	Y	Y
Michigan Clean Corporate Citizen	*Not Applicable*	Y	Y	N	Y	N
Missouri Environmental Management Partnership	Partner	Y	Y	N	Y	N
	Certified Partner	Y	Y	Y	Y	N
	Advanced Partner	Y	Y	N	Y	Y
	Certified Advanced Partner	Y	Y	Y	Y	Y
New Mexico Green Zia Environmental Excellence Recognition Program	Commitment Level	N	N	N	N	N
	Achievement Level	N	Y	N	N	N
	Environmental Excellence Award	Y	Y	N	N	Y
North Carolina Environmental Stewardship Initiative	Partner	Y	N	N	Y	N
	Rising Steward	Y	Y	Y	Y	N
	Steward	Y	Y	Y	Y	Y
Oklahoma Environmental Performance and Recognition Program	Commitment Level	Y	N	N	Y	N
	Achievement Level	Y	Y	N	Y	N
	Excellence Level	Y	Y	N	Y	N
Oregon Green Permits Program	Participant	Y	Y	N	Y	Y
	Achiever	Y	Y	Y	Y	Y
	Leader	Y	Y	Y	Y	Y
South Carolina Environmental Excellence Program	*Not Applicable*	Y	Y	N	Y	Y
Tennessee Pollution Prevention Partnership	Prospect Level	N	N	N	N	N
	Pledge Level	N	N	N	Y	N
	Partner Level	Y	N	N	Y	N
	Performer Level	Y	Y	N	Y	Y
Texas Clean Texas	Bronze Member	Y	N	N	Y	Y
	Silver Member	Y	Y	Y	N	N
	Gold Member	Y	Y	Y	Y	Y
	Platinum Member	Y	Y	Y	Y	Y
Vermont Business Environmental Partnership	Environmental Partner	N	N	N	Y	N
	Environmental Leader	Y	Y	Y	Y	N
Virginia Environmental Excellence Program	Environmental Enterprise (E2)	Y	N	N	Y	N
	Exemplary Environmental Enterprise (E3)	Y	Y	N	Y	N
	Extraordinary Environmental Enterprise (E4)	Y	Y	Y	Y	Y
Wisconsin Green Tier	Tier 1	Y	Y	N	Y	N
	Tier 2	Y	Y	Y	Y	Y

Table 5. Activities Required to Join State and Federal ELPs

Activity Required to Join	All Programs, All Tiers (48 tiers)	Middle, Tracking, and Stewardship Tiers (35 tiers)	Tracking and Stewardship Tiers (13 tiers)
Compliance with Regulations	85.4%	94.3%	100.0%
EMS	62.5%	77.1%	100.0%
Independent EMS Certification	37.5%	51.4%	84.6%
Environmental Performance Commitments	85.4%	91.4%	92.3%
Community Engagement Commitments	41.7%	51.4%	84.6%

Table 6. Activities Required to Remain in Programs, by Program and Tier

	Tier or Membership Level	Requirements to Maintain Membership in Program				
		Compliance with Regulations	Maintain or Develop EMS	Performance Reporting	Progress Toward Achieving Commitments	Community Engagement
United States EPA National Environmental Performance Track	*Not Applicable*	Y	Y	Y	Y	Y
Colorado Environmental Leadership Program	Bronze Achiever	Not Applicable	N	N	Not Applicable	N
	Silver Partner	Y	Y	Y	Y	N
	Gold Leader	Y	Y	Y	Y	N
Georgia Partnership for a Sustainable Georgia	Champion	N	N	Y	N	N
	Bronze	Y	Y	Y	N	N
	Silver	Y	Y	Y	N	Y
	Gold	Y	Y	Y	N	Y
Idaho GEMStars	Initial Tier	N	N	Y	Not Applicable	N
	Middle Tier	N	N	Y		N
	Highest Tier	N	N	Y		N
Louisiana Environmental Leadership Program	*Not Applicable*	Y	N	Y	N	N
Maine STEP-UP	Commitment Track	Y	N	Y	N	N
	Leadership Track	Y	N	Y	N	N
	Sustainability Track	Y	N	Y	N	N
Michigan Clean Corporate Citizen	*Not Applicable*	Y	Y	Y	N *	N
Missouri Environmental Management Partnership	Partner	Y	Y	Y	Y	N
	Certified Partner	Y	Y	Y	Y	N
	Advanced Partner	Y	Y	Y	Y	Y
	Certified Advanced Partner	Y	Y	Y	Y	Y
New Mexico Green Zia Environmental Excellence Recognition Program	Commitment Level	Not Applicable . Facilities Apply Each Year.				
	Achievement Level					
	Environmental Excellence Award					
North Carolina Environmental Stewardship Initiative	Partner	N	Y	Y	N	N
	Rising Steward	N	Y	Y	Y	N
	Steward	N	Y	Y	Y	Y
Oklahoma Environmental Performance and Recognition Program	Commitment Level	Information Not Available.				
	Achievement Level					
	Excellence Level					
Oregon Green Permits Program	Participant	Y	Y	Y	N	Y
	Achiever	Y	Y	Y	N	Y
	Leader	Y	Y	Y	N	Y
South Carolina Environmental Excellence Program	*Not Applicable*	Y	Y	Y	Y	Y
Tennessee Pollution Prevention Partnership	Prospect Level	N	N	N	N	N
	Pledge Level	N	N	N	N	N
	Partner Level	Y	N	Y	N *	N
	Performer Level	Y	Y	Y	N *	Y
Texas Clean Texas	Bronze Member	Y	N	Y	N	Y
	Silver Member	Y	Y	Y	N	N
	Gold Member	Y	Y	Y	N	Y
	Platinum Member	Y	Y	Y	N	Y
Vermont Business Environmental Partnership	Environmental Partner	N	N	Y	N	N
	Environmental Leader	Y	Y	Y	N	N
Virginia Environmental Excellence Program	Environmental Enterprise (E2)	Y	Y	Y	N	N
	Exemplary Environmental Enterprise (E3)	Y	Y	Y	N	Y
	Extraordinary Environmental Enterprise (E4)	Y	Y	Y	N	Y
Wisconsin Green Tier	Tier 1	Y	Y	Y	N	N
	Tier 2	Y	Y	Y	Y	Y

* In each of these cases, we received conflicting information from different sources. In Table 7, we counted each of these as one-half "yes" and one-half "no."

Table 7. Activities Required to Maintain Membership in State and Federal ELPs

Activity Required to Maintain Membership	All Programs, All Tiers (48 tiers)	Middle, Tracking, and Stewardship Tiers (35 tiers)	Tracking and Stewardship Tiers (13 tiers)
Compliance with Regulations	75.6%	84.4%	91.7%
Maintain or Develop EMS	66.7%	75.0%	91.7%
Performance Reporting	92.9%	100.0%	100.0%
Progress Toward Achieving Commitments	32.9%	38.3%	41.7%
Community Engagement	40.5%	46.9%	75.0%

Note: Percentages are calculated excluding any activities determined to be "not applicable," as shown in Table 6.

Table 8. Program Activities

	Does the Program Offer:			
	Opportunities to Interact with Representatives of Government, Other Firms, and the Community	Mentoring	Incentives to Members	Information Sharing
United States EPA National Environmental Performance Track	Y	Y	Y	Y
Colorado Environmental Leadership Program	Y	Y	Y	Y
Georgia Partnership for a Sustainable Georgia	Y	Y	Y	Y
Idaho GEMStars	Y	Y	Y	Y
Louisiana Environmental Leadership Program	Y	N	Y	Y
Maine STEP-UP	Y	Y	Y	Y
Michigan Clean Corporate Citizen	Y	N	Y	Y
Missouri Environmental Management Partnership	Y	N	Y	Y
New Mexico Green Zia Environmental Excellence Recognition Program	Y	Y	Y	Y
North Carolina Environmental Stewardship Initiative	Y	Y	Y	Y
Oklahoma Environmental Performance and Recognition Program	N	N	Y	Y
Oregon Green Permits Program	N	N	Y	N
South Carolina Environmental Excellence Program	Y	Y	Y	Y
Tennessee Pollution Prevention Partnership	Y	Y	Y	Y
Texas Clean Texas	N *	N *	Y	Y
Vermont Business Environmental Partnership	Y	Y	Y	Y
Virginia Environmental Excellence Program	Y	N	Y	Y
Wisconsin Green Tier	Y	N	Y	Y

* In each of these cases, we received conflicting information from different sources. In Figure 2, we counted each of these as one-half "yes" and one-half "no."

Figure 2. Typical Program Activities:
How Many Programs Share Them?

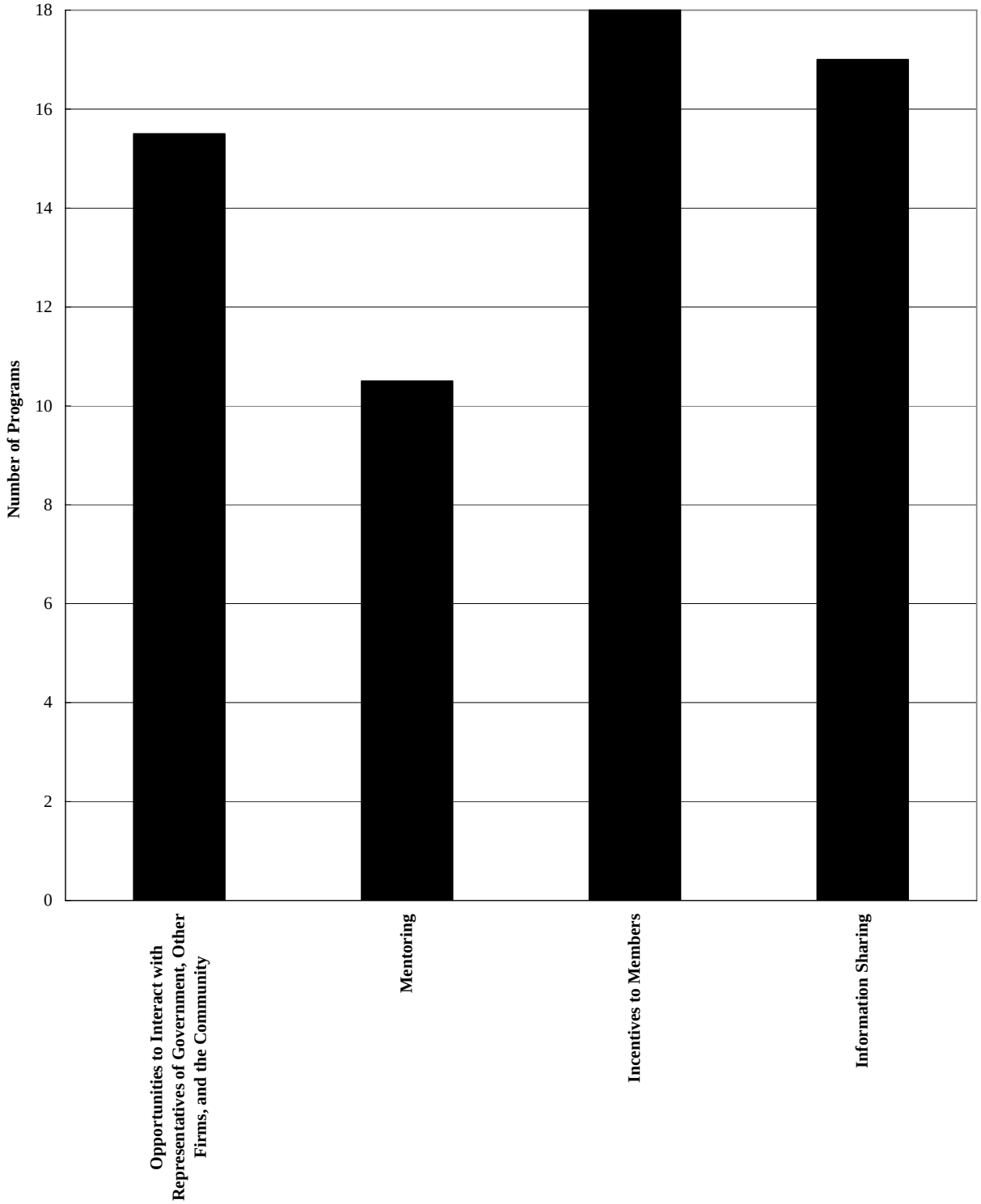

Table 9. Program Communication Strategies

	Does the Program Communicate its Results Thorough:			
	Annual Reports About the Program Posted on Website	Information on Individual Members Posted on Website	Public Meetings	Press Releases
United States EPA National Environmental Performance Track	Y	Y	Y	Y
Colorado Environmental Leadership Program	N	Y	N	Y
Georgia Partnership for a Sustainable Georgia	N	Y	Y	Y
Idaho GEMStars	N	Y	N	Y
Louisiana Environmental Leadership Program	Y *	Y *	N	Y
Maine STEP-UP	N	N	N	Y
Michigan Clean Corporate Citizen	Y	Y	N	N
Missouri Environmental Management Partnership	N	Y	N	N
New Mexico Green Zia Environmental Excellence Recognition Program	Y	Y	N	Y
North Carolina Environmental Stewardship Initiative	Y	Y	Y	Y
Oklahoma Environmental Performance and Recognition Program	N	N	N	N
Oregon Green Permits Program	N	Y	N	N
South Carolina Environmental Excellence Program	N	N	Y	Y
Tennessee Pollution Prevention Partnership	N	Y	Y	Y
Texas Clean Texas	N	N	Y	Y
Vermont Business Environmental Partnership	N	N	Y	Y
Virginia Environmental Excellence Program	Y	N	Y	Y
Wisconsin Green Tier	Y	Y	Y	Y

* In each of these cases, we received conflicting information from different sources. In Figure 3, we counted each of these as one-half "yes" and one-half "no."

Figure 3. Typical Methods of Communication:
How Many Programs Share Them?

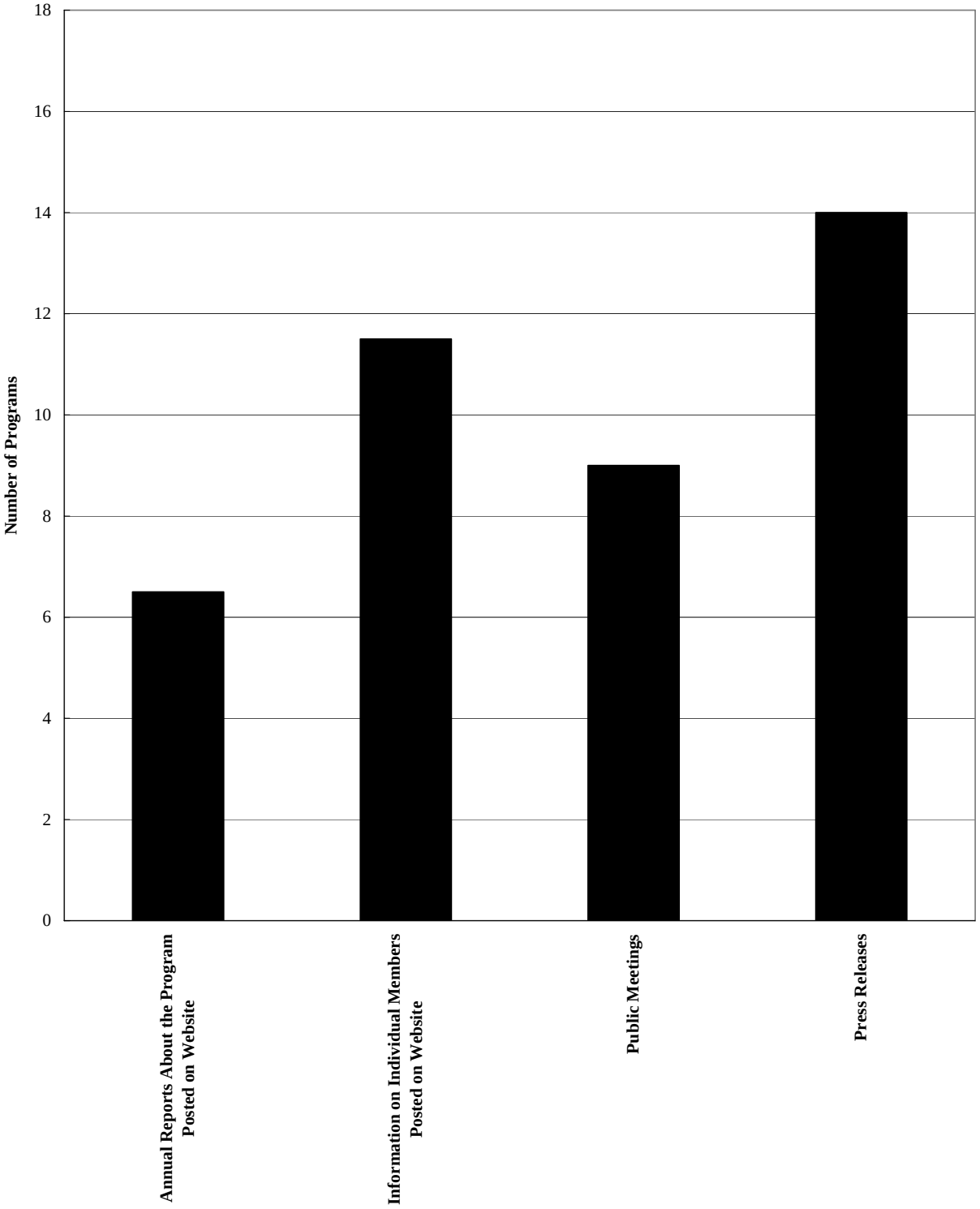

Table 10. Characteristics of Data for Evaluating Results of Environmental Leadership Programs

Relevance	**Do the data measure the stated goals of the program?**
	Best case: Data directly measure the goal or outcome. *Second-best case*: Data measure some proxy of the goal or outcome (a variable highly correlated with the goal or outcome).
Quality	**Are the data credible and reliable?**
	Program provides clear instructions for data collection and reporting. Facilities have an EMS (preferably third-party certified) that helps to guide data collection. Program includes a screening process for review of data accuracy and completeness. Program conducts site visits to verify data or EMS (or both). One or more identifiable individuals certify the accuracy of the data at each facility.
Aggregational Value	**Can the data from individual facilities be aggregated?**
	Data are reported in standard units (quantitative or qualitative). Data include normalization factors where appropriate.
Inferential Value	**Can the data be used to draw broader conclusions about the impact of the environmental program?**
	Longitudinal data are available: • Data on performance of participating facilities over time. • Data on performance of participating facilities before the program began. Cross-sectional data on the performance of nonparticipants are available: • Data specifically gathered by program. • Data not gathered by program but available through other sources.
Accessibility	**Are the data readily available for analysis by members of the public?**
	Data are available to the public in a timely manner. Complete and thorough data are available to the public.

Table 11. Characteristics of Data Collected in Support of the Goal of "Direct Environmental Benefits"

	Tier or Membership Level	Goal: Direct Environmental Benefits				
		Data Relevance	Data Quality	Aggregational Value	Inferential Value	Data Accessibility
United States EPA National Environmental Performance Track	*Not Applicable*	H	H	H	M	H
Colorado Environmental Leadership Program	Bronze Achiever	H	L	L	L	L
	Silver Partner	H	M	L	L	L
	Gold Leader	H	H	H	M	L
Georgia Partnership for a Sustainable Georgia	Champion	n/a	n/a	n/a	n/a	n/a
	Bronze	H	M	M	L	H
	Silver	H	M	H	M	H
	Gold	H	H	H	M	H
Idaho GEMStars	Initial Tier	H	M	L	L	M
	Middle Tier	H	M	L	L	M
	Highest Tier	H	M	L	L	M
Louisiana Environmental Leadership Program	*Not Applicable*	H	L	L	L	L
Maine STEP-UP	Commitment Track	H	M	M	M	L
	Leadership Track	H	M	M	M	L
	Sustainability Track	H	M	M	M	L
Michigan Clean Corporate Citizen	*Not Applicable*	H	M	L	M	M
Missouri Environmental Management Partnership	Partner	H	H	M	M	M
	Certified Partner	H	H	M	M	M
	Advanced Partner	H	H	M	M	M
	Certified Advanced Partner	H	H	M	M	M
New Mexico Green Zia Environmental Excellence Recognition Program	Commitment Level	H	L	L	L	M
	Achievement Level	H	M	L	M	M
	Environmental Excellence Award	H	M	L	M	M
North Carolina Environmental Stewardship Initiative	Partner	H	M	H	M	M
	Rising Steward	H	H	H	M	M
	Steward	H	H	H	M	M
Oklahoma Environmental Performance and Recognition Program	Commitment Level	n/a	n/a	n/a	n/a	n/a
	Achievement Level	n/a	n/a	n/a	n/a	n/a
	Excellence Level	n/a	n/a	n/a	n/a	n/a
Oregon Green Permits Program	Participant	H	H	L	M	H
	Achiever	H	H	L	M	H
	Leader	H	H	L	M	H
South Carolina Environmental Excellence Program	*Not Applicable*	H	M	L	L	L
Tennessee Pollution Prevention Partnership	Prospect Level	n/a	n/a	n/a	n/a	n/a
	Pledge Level	H	L	L	L	L
	Partner Level	H	M	L	L	M
	Performer Level	H	H	L	L	H
Texas Clean Texas	Bronze Member	H	M	H	M	L
	Silver Member	H	H	H	M	L
	Gold Member	H	H	H	M	L
	Platinum Member	H	H	H	M	L
Vermont Business Environmental Partnership	Environmental Partner	H	M	M	L	L
	Environmental Leader	H	H	M	L	L
Virginia Environmental Excellence Program	Environmental Enterprise (E2)	H	M	H	M	L
	Exemplary Environmental Enterprise (E3)	H	H	H	M	L
	Extraordinary Environmental Enterprise (E4)	H	H	H	M	L
Wisconsin Green Tier	Tier 1	H	M	L	L	H
	Tier 2	H	H	L	L	H

Key: "H" indicates "high," our top score in a category. "M" indicates "medium." "L" indicates "low," our bottom score in a category. "n/a" indicates not applicable.

Table 12. Characteristics of Data Collected in Support of the Goal of "Direct Environmental Benefits"

Data Characteristic	Score	All Programs, All Tiers (48 tiers)	Middle, Tracking, and Stewardship Tiers (35 tiers)	Tracking and Stewardship Tiers (13 tiers)
Data Relevance	High	89.6%	97.1%	100%
	Medium	0.0%	0.0%	0.0%
	Low	0.0%	0.0%	0.0%
	n/a	10.4%	2.9%	0.0%
Data Quality	High	41.7%	57.1%	84.6%
	Medium	39.6%	37.1%	15.4%
	Low	8.3%	2.9%	0.0%
	n/a	10.4%	2.9%	0.0%
Aggregational Value	High	29.2%	34.3%	46.2%
	Medium	20.8%	25.7%	30.8%
	Low	39.6%	37.1%	23.1%
	n/a	10.4%	2.9%	0.0%
Inferential Value	High	0.0%	0.0%	0.0%
	Medium	56.2%	71.4%	92.3%
	Low	33.3%	25.7%	7.7%
	n/a	10.4%	2.9%	0.0%
Data Accessibility	High	20.8%	22.9%	30.8%
	Medium	31.2%	34.3%	30.8%
	Low	37.5%	40.0%	38.5%
	n/a	10.4%	2.9%	0.0%

Note: "High" is our top score in a category. "Low" is our bottom score in a category. Percentages based on Table 11.

Table 13. Characteristics of Data Collected in Support of the Goal of "Improvements in Multi-Stakeholder Relationships"

	Tier or Membership Level	Goal: Improvements in Multi-Stakeholder Relationships				
		Data Relevance	Data Quality	Aggregational Value	Inferential Value	Data Accessibility
United States EPA National Environmental Performance Track	*Not Applicable*	M	M	L	L	H
Colorado Environmental Leadership Program	Bronze Achiever	n/a	n/a	n/a	n/a	n/a
	Silver Partner	n/a	n/a	n/a	n/a	n/a
	Gold Leader	M	M	L	L	L
Georgia Partnership for a Sustainable Georgia	Champion	M	M	M	L	H
	Bronze	n/a	n/a	n/a	n/a	n/a
	Silver	M	H	M	L	H
	Gold	M	H	M	L	H
Idaho GEMStars	Initial Tier	n/a	n/a	n/a	n/a	n/a
	Middle Tier	n/a	n/a	n/a	n/a	n/a
	Highest Tier	n/a	n/a	n/a	n/a	n/a
Louisiana Environmental Leadership Program	*Not Applicable*	n/a	n/a	n/a	n/a	n/a
Maine STEP-UP	Commitment Track	n/a	n/a	n/a	n/a	n/a
	Leadership Track	n/a	n/a	n/a	n/a	n/a
	Sustainability Track	n/a	n/a	n/a	n/a	n/a
Michigan Clean Corporate Citizen	*Not Applicable*	n/a	n/a	n/a	n/a	n/a
Missouri Environmental Management Partnership	Partner	n/a	n/a	n/a	n/a	n/a
	Certified Partner	n/a	n/a	n/a	n/a	n/a
	Advanced Partner	M	M	M	M	M
	Certified Advanced Partner	M	M	M	M	M
New Mexico Green Zia Environmental Excellence Recognition Program	Commitment Level	L	L	L	L	M
	Achievement Level	L	L	L	L	M
	Environmental Excellence Award	L	L	L	L	M
North Carolina Environmental Stewardship Initiative	Partner	n/a	n/a	n/a	n/a	n/a
	Rising Steward	n/a	n/a	n/a	n/a	n/a
	Steward	L	M	M	L	M
Oklahoma Environmental Performance and Recognition Program	Commitment Level	n/a	n/a	n/a	n/a	n/a
	Achievement Level	n/a	n/a	n/a	n/a	n/a
	Excellence Level	n/a	n/a	n/a	n/a	n/a
Oregon Green Permits Program	Participant	M	H	L	L	H
	Achiever	M	H	L	L	H
	Leader	M	H	L	L	H
South Carolina Environmental Excellence Program	*Not Applicable*	M	M	L	L	L
Tennessee Pollution Prevention Partnership	Prospect Level	n/a	n/a	n/a	n/a	n/a
	Pledge Level	n/a	n/a	n/a	n/a	n/a
	Partner Level	n/a	n/a	n/a	n/a	n/a
	Performer Level	M	H	L	L	M
Texas Clean Texas	Bronze Member	M	M	M	L	L
	Silver Member	n/a	n/a	n/a	n/a	n/a
	Gold Member	M	H	M	L	L
	Platinum Member	M	H	M	L	L
Vermont Business Environmental Partnership	Environmental Partner	n/a	n/a	n/a	n/a	n/a
	Environmental Leader	n/a	n/a	n/a	n/a	n/a
Virginia Environmental Excellence Program	Environmental Enterprise (E2)	M	L	L	L	L
	Exemplary Environmental Enterprise (E3)	M	M	L	L	L
	Extraordinary Environmental Enterprise (E4)	M	M	L	L	L
Wisconsin Green Tier	Tier 1	M	L	L	L	H
	Tier 2	M	L	L	L	H

Key: "H" indicates "high," our top score in a category. "M" indicates "medium." "L" indicates "low," our bottom score in a category. "n/a" indicates not applicable.

Table 14. Characteristics of Data Collected in Support of the Goal of "Improvements in Multi-Stakeholder Relationships"

Data Characteristic	Score	All Programs, All Tiers (48 tiers)	Middle, Tracking, and Stewardship Tiers (35 tiers)	Tracking and Stewardship Tiers (13 tiers)
Data Relevance	High	0.0%	0.0%	0.0%
	Medium	41.7%	45.7%	69.2%
	Low	8.3%	8.6%	15.4%
	n/a	50.0%	45.7%	15.4%
Data Quality	High	16.7%	22.9%	30.8%
	Medium	20.8%	20.0%	46.2%
	Low	12.5%	11.4%	7.7%
	n/a	50.0%	45.7%	15.4%
Aggregational Value	High	0.0%	0.0%	0.0%
	Medium	18.8%	20.0%	38.5%
	Low	31.2%	34.3%	46.2%
	n/a	50.0%	45.7%	15.4%
Inferential Value	High	0.0%	0.0%	0.0%
	Medium	4.2%	5.7%	15.4%
	Low	45.8%	48.6%	69.2%
	n/a	50.0%	45.7%	15.4%
Data Accessibility	High	18.8%	20.0%	30.8%
	Medium	14.6%	17.1%	30.8%
	Low	16.7%	17.1%	23.1%
	n/a	50.0%	45.7%	15.4%

Note: "High" is our top score in a category. "Low" is our bottom score in a category. Percentages based on Table 13.

Table 15. Characteristics of Data Collected in Support of the Goal of "Cost Savings for Facilities and Agencies"

	Tier or Membership Level	Goal: Cost Savings for Facilities and Agencies				
		Data Relevance	Data Quality	Aggregational Value	Inferential Value	Data Accessibility
United States EPA National Environmental Performance Track	*Not Applicable*	n/a	n/a	n/a	n/a	n/a
Colorado Environmental Leadership Program	Bronze Achiever	n/a	n/a	n/a	n/a	n/a
	Silver Partner	n/a	n/a	n/a	n/a	n/a
	Gold Leader	n/a	n/a	n/a	n/a	n/a
Georgia Partnership for a Sustainable Georgia	Champion	n/a	n/a	n/a	n/a	n/a
	Bronze	n/a	n/a	n/a	n/a	n/a
	Silver	H	L	M	L	H
	Gold	H	L	M	L	H
Idaho GEMStars	Initial Tier	H	M	M	L	M
	Middle Tier	H	M	M	L	M
	Highest Tier	H	M	M	L	M
Louisiana Environmental Leadership Program	*Not Applicable*	H	L	M	L	L
Maine STEP-UP	Commitment Track	n/a	n/a	n/a	n/a	n/a
	Leadership Track	n/a	n/a	n/a	n/a	n/a
	Sustainability Track	n/a	n/a	n/a	n/a	n/a
Michigan Clean Corporate Citizen	*Not Applicable*	H	M	M	L	L
Missouri Environmental Management Partnership	Partner	n/a	n/a	n/a	n/a	n/a
	Certified Partner	n/a	n/a	n/a	n/a	n/a
	Advanced Partner	n/a	n/a	n/a	n/a	n/a
	Certified Advanced Partner	n/a	n/a	n/a	n/a	n/a
New Mexico Green Zia Environmental Excellence Recognition Program	Commitment Level	n/a	n/a	n/a	n/a	n/a
	Achievement Level	H	M	M	L	M
	Environmental Excellence Award	H	M	M	L	M
North Carolina Environmental Stewardship Initiative	Partner	n/a	n/a	n/a	n/a	n/a
	Rising Steward	H	H	M	L	L
	Steward	H	H	M	L	L
Oklahoma Environmental Performance and Recognition Program	Commitment Level	n/a	n/a	n/a	n/a	n/a
	Achievement Level	n/a	n/a	n/a	n/a	n/a
	Excellence Level	n/a	n/a	n/a	n/a	n/a
Oregon Green Permits Program	Participant	n/a	n/a	n/a	n/a	n/a
	Achiever	n/a	n/a	n/a	n/a	n/a
	Leader	n/a	n/a	n/a	n/a	n/a
South Carolina Environmental Excellence Program	*Not Applicable*	n/a	n/a	n/a	n/a	n/a
Tennessee Pollution Prevention Partnership	Prospect Level	n/a	n/a	n/a	n/a	n/a
	Pledge Level	n/a	n/a	n/a	n/a	n/a
	Partner Level	n/a	n/a	n/a	n/a	n/a
	Performer Level	H	L	M	L	M
Texas Clean Texas	Bronze Member	H	L	M	M	L
	Silver Member	H	L	M	M	L
	Gold Member	H	L	M	M	L
	Platinum Member	H	L	M	M	L
Vermont Business Environmental Partnership	Environmental Partner	H	L	M	L	L
	Environmental Leader	H	L	M	L	L
Virginia Environmental Excellence Program	Environmental Enterprise (E2)	H	L	M	L	L
	Exemplary Environmental Enterprise (E3)	H	L	M	L	L
	Extraordinary Environmental Enterprise (E4)	H	L	M	L	L
Wisconsin Green Tier	Tier 1	H	L	M	L	H
	Tier 2	H	L	M	L	H

Key: "H" indicates "high," our top score in a category. "M" indicates "medium." "L" indicates "low," our bottom score in a category. "n/a" indicates not applicable.

Table 16. Characteristics of Data Collected in Support of the Goal of "Cost Savings for Facilities and Agencies"

Data Characteristic	Score	All Programs, All Tiers (48 tiers)	Middle, Tracking, and Stewardship Tiers (35 tiers)	Tracking and Stewardship Tiers (13 tiers)
Data Relevance	High	47.9%	57.1%	46.2%
	Medium	0.0%	0.0%	0.0%
	Low	0.0%	0.0%	0.0%
	n/a	52.1%	42.9%	53.8%
Data Quality	High	4.2%	5.7%	7.7%
	Medium	12.5%	14.3%	7.7%
	Low	31.2%	37.1%	30.8%
	n/a	52.1%	42.9%	53.8%
Aggregational Value	High	0.0%	0.0%	0.0%
	Medium	47.9%	57.1%	46.2%
	Low	0.0%	0.0%	0.0%
	n/a	52.1%	42.9%	53.8%
Inferential Value	High	0.0%	0.0%	0.0%
	Medium	8.3%	8.6%	7.7%
	Low	39.6%	48.6%	38.5%
	n/a	52.1%	42.9%	53.8%
Data Accessibility	High	8.3%	8.6%	7.7%
	Medium	12.5%	14.3%	7.7%
	Low	27.1%	34.3%	30.8%
	n/a	52.1%	42.9%	53.8%

Note: "High" is our top score in a category. "Low" is our bottom score in a category. Percentages based on Table 15.