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A Tale of Two Continents: Environmental Management-Based Regulation in the European Union and the United States

Rachel E. Deming
Barry University

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A TALE OF TWO CONTINENTS: ENVIRONMENTAL MANAGEMENT-BASED REGULATION IN THE EUROPEAN UNION AND THE UNITED STATES

BY

RACHEL E. DEMING*

Many environmental issues, such as addressing climate change and encouraging sustainability, have transcended existing statutory schemes, causing regulators and scholars to evaluate alternative regulatory mechanisms. One area of focus has been the potential for using environmental management systems (EMSs) as a way to leverage governmental regulation of operations that impact the environment. An EMS is a systematic planning, implementation and review process that organizations use to continuously improve environmental performance. While there is some literature on the impact that regulations incorporating EMSs have had, almost nothing has been written from a comparative viewpoint. This Article analyzes what role EMSs have played in governmental regulation by comparing two of the most prominent governmental programs based on EMSs: The European Commission's Eco-Management and Audit Scheme (EMAS) and the United States Environmental Protection Agency's Performance Track program. This comparison is especially useful because governmental regulators in the European Union and the United States took opposite approaches with respect to those programs. The European Union continues to develop and promote EMAS while the United States withdrew its Performance Track program in 2009. The Article concludes that there is strong potential for EMS-based regulations to produce significant environmental performance and compliance benefits, and that more should be done in the United States to evaluate

* Assistant Professor of Law and Director of the Environmental and Earth Law Clinic, Dwayne O. Andreas School of Law, Barry University. The Author thanks Professor Kevin Leske for his comments on this article, Professors Lee Paddock and David Martell for their comments on my chapter, The Role of Environmental Management Systems, in the Encyclopedia of Environmental Law they are compiling and editing which formed the basis for this article, and Professor Judith Koons for her comments on the chapter. The Author also thanks Dean Leticia Diaz of Barry University for her scholarship support, and the University of Massachusetts School of Law – Dartmouth Junior Faculty Scholarship Exchange and Barry Law School Faculty Development Workshop for suggestions and encouragement received. I owe a special debt of gratitude to my research assistant, Denise Cartolano, for her excellent research, thoughtful comments and unflagging support.

lessons learned from Performance Track as well as EMAS developments. Some of the major benefits, such as risk management, avoidance of negative incidents and external engagement, are hard to quantify but could provide the basis for transforming current adversarial relationships among regulated facilities, regulators and other stakeholders into more productive collaborative governance relationships.

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I. INTRODUCTION

Since 1990, Congress has not been able to pass any legislation that addresses the current and emerging global environmental concerns.¹ Most

¹ See Gregg Easterbrook, Opinion, *Let's Modernize Our Pollution Laws*, N.Y. TIMES, Oct. 8, 2015, at A31 (“Our major environmental laws are a generation or more out of date — written for conditions of the past, not the present. The Clean Air Act, signed by President Richard M. Nixon in 1970, has not been amended since 1990, a quarter-century ago. The Clean Water Act, passed in 1972, has not been updated since 1987. The Endangered Species Act, passed in 1973, was last amended in 1982. The National Environmental Policy Act, the law that mandates environmental impact statements, was passed in 1970 and last amended in 1982.”); Michael P. Vanderbergh, *Private Environmental Governance*, 99 CORNELL L. REV. 129, 131 (2013) [hereinafter Vanderbergh, *Private Environmental Governance*] (“Yet no major federal environmental statute has been enacted since the Clean Air Act Amendments of 1990. The period of statutory inaction (1991–2012) now exceeds the period of statutory growth (1970–1990).”). In fact, legislative efforts at the federal level have been blocked. See, e.g., Carl Hulse & David M. Herszenhorn, *Democrats Call Off Climate Bill in Senate*, N.Y. TIMES, July 23, 2010, at A15 (“The effort to advance a major climate change bill through the Senate this summer collapsed.”); Editorial, *G.O.P. Assault on Environmental Laws*, N.Y. TIMES, June 8, 2015, at A20 (“President Obama has announced or will soon propose important protections for clean water, clean air, threatened

environmental control legislation in the United States date back to the 1970s: the National Environmental Policy Act;² the Clean Air Act;³ the Clean Water Act;⁴ the Safe Drinking Water Act;⁵ and the Solid Waste Disposal Act,⁶ which became the Resource Conservation and Recovery Act⁷ (RCRA) when it was amended in 1976. The last major piece of legislation imposing federal control was the enactment of the Clean Air Amendments of 1990.⁸ The three statutes that are focused on controlling pollution from industrial operations, the Clean Air Act, the Clean Water Act, and RCRA, primarily establish command-and-control rules for plants and facilities,⁹ and their purpose was to establish national baselines for emissions, discharges, and waste

species and threatened landscapes. Mitch McConnell, the Senate majority leader, and other Republicans in Congress are trying hard not to let that happen . . .”).

² National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 42 U.S.C. §§ 4321–4370h (2012)).

³ Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (codified as amended at 42 U.S.C. §§ 7401–7671q (2012)).

⁴ Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251–1387 (2012)).

⁵ Safe Drinking Water Act, Pub. L. No. 93-523, 88 Stat. 1660 (1974) (codified as amended at 42 U.S.C. §§ 300f to 300j-26 (2012)).

⁶ Solid Waste Disposal Act, Pub. L. No. 89-272, 79 Stat. 992 (1965).

⁷ Resource Conservation and Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended at 42 U.S.C. §§ 6901–6992k (2012)) (amending the Solid Waste Disposal Act, Pub. L. No. 89-272, 79 Stat. 992 (1965)).

⁸ Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399. *See also* David W. Case, *The Lost Generation: Environmental Regulatory Reform in the Era of Congressional Abdication*, 25 DUKE ENVTL. L. & POL'Y F. 49 (2014) [hereinafter Case, *Lost Generation*]. President Obama did sign recently the Frank R. Lautenberg Chemical Safety for the 21st Century Act, Pub. L. No. 114-182, 130 Stat. 448 (2016) (amending the Toxic Substances Control Act, 15 U.S.C. §§ 2601–2692 (2012)). The Toxic Substances Control Act legislation, however, focuses on disclosure and reporting requirements rather than controlling operations. Prior to that law, the only other significant environmental law enacted on the federal level since the 1990 Clean Air Amendments actually decreased federal control over operations by exempting fracking operations from many of the requirements under the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act and the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 6901–9675 (2012). Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended primarily in scattered sections of 42 U.S.C. (2012)). *See* Editorial, *The Halliburton Loophole*, N.Y. TIMES, Nov. 3, 2009, at A28 (discussing the so-called “Halliburton Loophole” contained in the Energy Policy Act of 2005, which took away federal environmental jurisdiction over hydraulic fracturing operations).

⁹ *See* SCOTT HASSELL ET AL., RAND CORP., AN ASSESSMENT OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY'S NATIONAL ENVIRONMENTAL PERFORMANCE TRACK PROGRAM 5–6 (2010), available at http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR732.pdf [hereinafter RAND ASSESSMENT]. The Clean Air Act Amendments of 1990 did introduce some market incentives into the regulatory scheme. *Id.* at 6; *see also* Case, *Lost Generation*, *supra* note 8, at 77–78 (“[S]tudies by economists have shown that public disclosure of negative environmental information by companies can motivate them to improve their future environmental performance. These studies suggest that, in theory, post-disclosure pressures brought to bear by economic markets and public opinion create market incentives that positively affect the behavior of environmental actors.”(footnote omitted)).

management in order to address impacts that cross state boundaries.¹⁰ Congress assigned the United States Environmental Protection Agency (EPA) the responsibility to implement and enforce those provisions.¹¹ These laws and EPA's compliance and enforcement efforts have made a significant impact on the quality of the environment in the United States.¹² These laws did not, however, empower EPA or any other federal agency to require environmental stewardship or to incentivize improvements beyond compliance with applicable statutes.¹³

As a result of these statutory and regulatory voids, some scholars and regulators have focused on the ability of voluntary regulation to address current environmental concerns.¹⁴ Two of the most well-known and prolific authors writing about voluntary regulation, Cary Coglianese and Jennifer Nash, observed, "[w]ith only remote prospects for statutory and regulatory solutions to environmental concerns about global warming and exposure to toxic substances, among other things, voluntary approaches are one of the few means through which government is currently able to respond."¹⁵

An environmental management system (EMS) is a systematic planning, implementation, and review process that organizations use to continuously improve environmental performance.¹⁶ The importance of EMSs as a well-recognized environmental management tool is demonstrated by the widespread use and steady increase in implementation of EMSs by facilities

¹⁰ See, e.g., JAMES E. MCCARTHY ET AL., CONG. RESEARCH SERV., RL30853, CLEAN AIR ACT: A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS 12 (2011) (noting that establishing a consistent baseline for pollution control is a goal of the Clean Air Act accomplished by New Source Performance Standards); Michael P. Healy, *Still Dirty After Twenty-Five Years: Water Quality Standard Enforcement and the Availability of Citizen Suits*, 24 *ECOLOGY L.Q.* 393, 397 (1997) ("The regulatory scheme adopted in 1972 sought to improve water quality primarily by limiting discharges into regulated waters."); Ali Abazari & Meredith Morse, Development, *Solid Waste*, 45 *TEX. ENVTL. L.J.* 135, 137 (2015). ("RCRA establishes a federal regulatory structure that governs the treatment and disposal of 'hazardous wastes,' which are defined as a subset of 'solid waste' for waste management purposes.")

¹¹ MCCARTHY ET AL., *supra* note 10, at 1 ("The authorities and responsibilities of [EPA] derive primarily from a dozen major environmental statutes.")

¹² RAND ASSESSMENT, *supra* note 9, at 6; see also Case, *Lost Generation*, *supra* note 8, at 61 (noting that the environmental protection statutes from the 1960s and 1970s are "credited with substantial, albeit insufficient success in reducing pollution and improving environmental quality in many ways").

¹³ RAND ASSESSMENT, *supra* note 9 at 5-6; see also MCCARTHY ET AL., *supra* note 10, at 16 ("Like most federal environmental statutes, the Clean Air Act is enforced primarily by states or local governments; they issue most permits, monitor compliance, and conduct the majority of inspections. The federal government functions as a backstop, with authority to review state actions.")

¹⁴ E.g., RAND ASSESSMENT, *supra* note 9, at 77-82; Cary Coglianese & Jennifer Nash, *Performance Track's Postmortem: Lessons From the Rise and Fall of EPA's "Flagship" Voluntary Program*, 38 *HARV. ENVTL. L. REV.* 1, 10 (2014) [hereinafter Coglianese & Nash, *Performance Track's Postmortem*].

¹⁵ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 10.

¹⁶ See discussion *infra* Part II.A.

and organizations throughout the world.¹⁷ The major outlier to this worldwide trend is the United States; EPA shut down an experimental program designed to encourage the implementation of EMSs in facilities in the United States.¹⁸ In contrast, the European Commission has made its EMS-based program a cornerstone of its environmental regulations, and also touts its own participation in that program as leadership-by-example to improve the environment.¹⁹ An analysis of these two management-based regulatory programs is particularly timely in light of the management-based approach included in the 2015 Paris Agreement on climate change,²⁰ and a parallel focus by corporate counsel on compliance and regulatory issues as their top two concerns.²¹ Because management systems such as an EMS employ an integrated and interdisciplinary approach to operations and compliance,²² they also provide a proven framework for compliance

¹⁷ ORG. FOR ECON. CO-OPERATION & DEV., ENSURING ENVIRONMENTAL COMPLIANCE: TRENDS AND GOOD PRACTICES 94–96 (2009) [hereinafter OECD, ENSURING ENVIRONMENTAL COMPLIANCE].

¹⁸ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 8; *see also* Memorandum from Lisa P. Jackson, Adm'r, U.S. Evtl. Prot. Agency, to Performance Track Members, Performance Track Corp. Leaders, and State Evtl. Comm'rs (Mar. 16, 2009), available at http://archive.epa.gov/performance-track/web/pdf/ptclosure_memo_ckent.pdf (halting Performance Track Program, thanking memo recipients for their participation, and making plans for next steps).

¹⁹ *See* Eur. Comm'n Directorate-General, *About Us*, http://ec.europa.eu/dgs/environment/index_en.htm (last visited Nov. 19, 2016); Eur. Comm'n, *EMAS in the European Institutions*, http://ec.europa.eu/environment/emas/emas_registrations/emas_in_the_european_institutions_en.htm (last visited Nov. 19, 2016) (“The European Commission was the first EU Institution to become registered with EMAS. Other EU institutions are also responding to the challenge of taking responsibility for their environmental impacts. The European Commission EMAS team members are proud and honored to have served sometimes as ‘mentors’ to their colleagues in setting up the scheme in other institutions – ‘Walking the talk’, as we say!”). EMAS as an environmental program of the European Union is an appropriate level of governance to compare to Performance Track. The European Union “functions as a form of federal government” and has “nearly unrestricted authority to legislate” in environmental protection matters. Roger Martella & Glory Francke, *Federalism in European Environmental Decision Making*, NAT. RESOURCES & ENV'T, Summer 2012, at 8, 8 (ABA Section of Environment, Energy and Resources).

²⁰ *See* United Nations Framework Convention on Climate Change, *Adoption of the Paris Agreement*, Draft Decision CP.21, GE.15-21932(E), FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015), <https://unfccc.int/resource/docs/2015/cop21/eng/109.pdf> (last visited Nov. 19, 2016) (requesting the Parties to the Paris Agreement enhance understanding, action and support with respect to loss and damage associated with the adverse effects of climate change through a comprehensive risk assessment and management); *see also* Cary Coglianese, Opinion, *When Management-Based Regulation Goes Global*, REG BLOG, Dec. 23, 2015, <http://www.regblog.org/2015/12/23/coglianese-when-management-based-regulation-goes-global> (last visited Nov. 19, 2016) (explaining how the Paris Agreement has management-based regulation at its core and identifying the pros and cons to this approach).

²¹ Sue Reisinger, *Survey: GCs Report an ‘Astounding’ Rise in Regulatory Risk*, CORP. COUNS., Jan. 27, 2016, <http://www.corpcounsel.com/id=1202748157588/Survey-GCs-Report-an-Astounding-Rise-in-Regulatory-Risk?slreturn=20160108124628> (last visited Nov. 19, 2016).

²² Andrew Brengle, *Proving the Value of Environmental Management Systems*, 26 FLETCHER F. WORLD AFF. 205, 206–07 (2002).

programs,²³ and U.S. regulators should reevaluate their potential benefit in the United States.

Accordingly, this Article explores the relationship between government-sponsored programs based on EMSs and their potential to spur improvements in environmental performance in the absence of legislation, as well as to provide a tool for ensuring better compliance. The Article accomplishes this through a comparative analysis of the use of EMSs as a regulatory tool in the European Union and the United States. While there have been other articles and studies addressing the topic of the regulatory value of EMSs, very few have done them on a comparative basis;²⁴ and none of them have compared the studies evaluating the effectiveness of the European Union's Eco-Management and Audit Scheme (EMAS) and EPA's Performance Track program. This comparison is especially timely with the release of a new and comprehensive evaluation of EMAS,²⁵ which as an environmental program of all members of the European Union, is an appropriate level of governance to compare to Performance Track.

Part II describes what EMSs are, how they operate, and why they are important in a global context. Part III discusses how the European Union has utilized EMSs as the base of EMAS, and how EMAS has developed over its 20 years of existence. It also describes how U.S. federal regulators promoted the use of EMSs during the Clinton and Bush presidencies through an initiative that evolved into the Performance Track program, but then reversed that policy and suspended Performance Track at the beginning of the Obama administration. Part IV evaluates the literature on the claimed impact each of these programs has had on environmental performance and compliance. The EU studies have examined a wider range of environmental performance impacts, while the U.S. studies have focused on the delivery of

²³ *Id.* at 205, 207.

²⁴ Ariel Meyerstein, *Transnational Private Financial Regulation and Sustainable Development: An Empirical Assessment of the Implementation of the Equator Principles*, 45 N.Y.U. J. INT'L L. & POL. 487, 533 (2013).

²⁵ See Fabio Iraldo, Presentation on the Policy Case for EMAS: Why Public Bodies Should Promote Voluntary Environmental Measures in Companies at the High Level Conference on EMAS (Nov. 13, 2015) [hereinafter Iraldo Presentation], available at http://ec.europa.eu/environment/emas/pdf/pdf_and_images_HLC_Site/Presentations/Fabio_Iraldo.pdf (last visited Nov. 19, 2016). This presentation was based on a study, *Supporting the Evaluation of the Implementation of the EU Eco-Management and Audit Scheme (EMAS) Regulations 1221/2009*, Service Contract No. 070307/2013/667137/SER/ENV.A1, commissioned by the Directorate-General of the European Commission (DG Environment). The study is currently under review by DG Environment. E-mail from Sébastien Paquot, EMAS Policy Officer, Directorate-Gen. for the Env't, Eur. Comm'n, to Rachel E. Deming, Assistant Professor, Barry Univ. Dwayne O. Andreas Sch. Of Law (Dec. 7, 2016) (on file with author). The authors of the study have been publishing some of the results in journals. See, e.g., Francesco Testa et al., *Public Regulatory Relief and the Adoption of Environmental Management Systems: A European Survey*, 59 J. ENVTL. PLAN. & MGMT. 2231 (2016); Tiberio Daddi et al., *Exploring the Link Between Institutional Pressures and Environmental Management Systems Effectiveness: An Empirical Study*, 183 J. ENVTL. MGMT. 647 (2016).

measurable benefits and compliance.²⁶ Part V discusses the relative merits of two regulatory approaches and suggests possibilities for further research. The Article concludes that the Europe Union's EMAS program demonstrates the potential EMS-based regulations have to produce significant environmental performance and compliance benefits, and that the United States and other nations could benefit from finding ways to utilize EMSs for transforming national governmental environmental regulation from enforcing a set of baseline rules for compliance to instigating actions that improve our global environment.

II. AN EMS PRIMER

EMSs are used in over 170 countries around the globe.²⁷ The emergence of EMSs coincided with the exploration of transforming regulatory systems from governmental command-and-control policies to more flexible regimes that allow private actors a greater range of options to meet governmental requirements.²⁸ At the same time, the laws of individual nation-states have become just one of several considerations operating entities must take into account to compete in an increasingly global marketplace.²⁹

²⁶ See *infra* Part IV.

²⁷ Indep. Int'l Org. for Certification, *Environmental Management ISO 14001*, <http://www.ioc.org/environmental-management-iso-14001> (last visited Nov. 19, 2016) ("Organisations certified to ISO 14001 in over 170 countries is testament to the leading management system in the sustainability field.")

²⁸ Lesley K. McAllister, *Harnessing Private Regulation*, 3 MICH. J. ENVTL. & ADMIN. L. 291, 326-28 (2014).

Private regulation is often viewed as an alternative to public regulation. It tends to develop where there are gaps in public regulation. Private environmental governance has thrived in the United States, for example, in the absence of significant new legislation. Gaps may also be present because existing governmental institutions cannot reach certain activity. Economic globalization has been an important driver of private regulation because governmental actors lack sufficient authority to regulate against many of the negative social externalities of international economic activity.

Id. at 293 (footnotes omitted). "Of-cited advantages of private regulation include the proximity of the regulator to the regulated activity, the flexibility of the regulatory process, greater compliance, and additional regulatory resources." *Id.* at 316; see also Tseming Yang & Robert V. Percival, *The Emergence of Global Environmental Law*, 36 ECOLOGY L.Q. 615, 640 (2009) ("Adoption of ISO standards has encouraged convergence in corporate behavior worldwide. ISO standards and certification are reinforcing the idea within multinational corporations that use of uniform operating standards and practices with respect to pollution, worker safety, and other matters may ultimately be cheaper and more efficient than the maintenance of multiple standards or practices, even when applicable regulatory standards vary across the countries in which the multinational corporations operate. The voluntary adoption of privately promulgated international standards by businesses worldwide has driven convergence of corporate behavior and correspondingly the expectations and norms of the public and government officials.")

²⁹ For example, the Toxic Substances Control Act requires the production of health and environmental studies from parent and affiliates, even if located outside the United States. U.S. ENVTL. PROT. AGENCY, INSTRUCTION MANUAL FOR REPORTING UNDER THE TSCA § 5 NEW

EMSs provide an internationally recognized standard for evaluating environmental processes.³⁰ In addition, they have been suggested as a tool for providing a more uniform global approach to environmental governance³¹ as well as leveraging the capabilities of constrained environmental enforcement agencies, something particularly important for developing nations.³² Despite their widespread prevalence, EMSs are not often mentioned in standard legal textbooks on environmental law,³³ and many legal practitioners and scholars may not be familiar with them. However, as described below, they are an increasingly important mechanism in worldwide environmental governance, compliance programs, and supply chains.³⁴ Therefore, it is important to understand what they are, how they work, and how they interact with regulations and compliance.

A. What Is an EMS?

An EMS is a globally recognized tool for evaluating and improving environmental performance.³⁵ The process underlying an EMS is the establishment of a management system for production that was originally

CHEMICALS PROGRAM 17 (2015), available at http://www.epa.gov/sites/production/files/2015-06/documents/instruction_manual_2015_5-26-2015.pdf.

³⁰ See Yang & Percival, *supra* note 28, at 639–40 (stating that EMSs have become internationally accepted as environmentally responsible best practices).

³¹ See ROBERT P. SROUFE ET AL., ENVIRONMENTAL MANAGEMENT SYSTEMS AS A SOURCE OF COMPETITIVE ADVANTAGE I (1998), available at <http://www.asse.org/assets/1/7/EMS-CA.pdf> (“One of the most important tasks for multinational firms will be to implement uniform environmental management practices and policies as they are driven by the convergence of national compliance requirements. [S]uggest[ing] that international EMS standards will serve as a guideline . . .” (internal citations omitted)).

³² See, e.g., Kulum Ahmed, *Using Supply-Chain Networks to Help Small and Medium-Sized Enterprises Adopt Environmental Management Systems*, in SMALL FIRMS AND THE ENVIRONMENT IN DEVELOPING COUNTRIES: COLLECTIVE IMPACTS, COLLECTIVE ACTION 129, 129 (Allen Blackman ed., 2006) (“To maximize scarce enforcement resources, many developing countries’ governments are increasingly using innovative approaches to promote compliance with environmental regulations.”); Cary Coglianese & Jennifer Nash, *Bolstering Private Environmental Management*, ISSUES IN SCI & TECH, Spring 2001, at 69, 70 [hereinafter Coglianese & Nash, *Bolstering*] (“Such approaches might even improve the efficiency of agency enforcement programs. If regulators know who the ‘bad guys’ are, they can focus their enforcement resources where they will have the greatest impact.”).

³³ See Michael P. Vandenberg, *The Private Life of Public Law*, 105 COLUM. L. REV. 2029, 2067 (2005) (listing textbooks). *But see* J.B. RUHL ET AL., THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW 816–827 (3d ed. 2013).

³⁴ Sara E. Light & Michael P. Vandenberg, *Private Environmental Governance*, in 2 DECISION MAKING IN ENVIRONMENTAL LAW 253, 264 (LeRoy C. Paddock et al. eds., 2016) (“Students of law should be aware of and able to advise clients on private environmental standards, and should have the skills to engage in the private corporate law and administrative law activities that arise from private standard-setting, adjudication, enforcement, and dispute resolution.”).

³⁵ See *infra* notes 40–42.

developed by W. Edwards Deming to improve the quality of products, often called the Deming circle or the “Plan-Do-Check-Act” model.³⁶

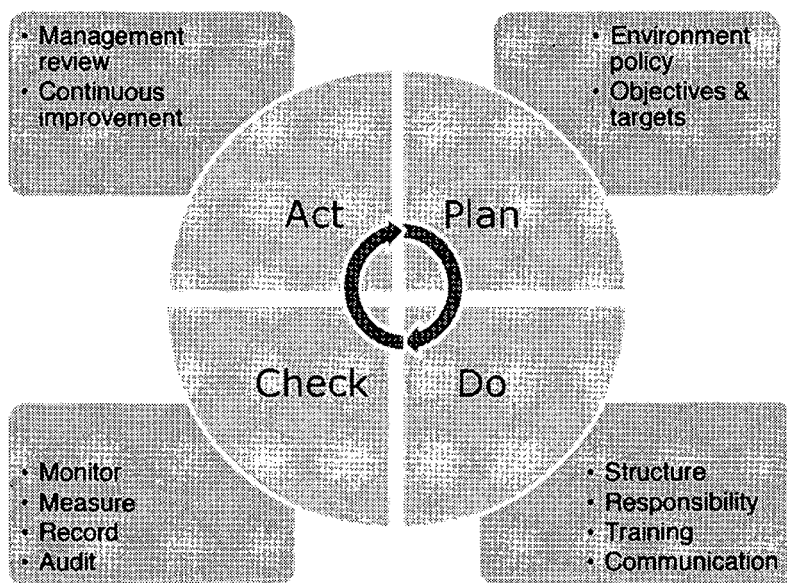


Figure 1. EMAS Diagram³⁷

The most widely used form of EMS in the world was developed by the International Organization for Standardization (ISO) and launched in 1996.³⁸ ISO is a global nongovernmental organization whose members are national standards bodies.³⁹ There are currently members from 163 countries.⁴⁰ ISO

³⁶ 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, 10–11 (Cary Coglianese & Jennifer Nash eds., 2001) [hereinafter Coglianese & Nash, *New Policy Agenda*]; Stepan Wood, *Environmental Management Systems and Public Authority in Canada: Rethinking Environmental Governance*, 10 BUFF. ENVTL. L.J. 129, 135 (2002–2003). The Author is distantly related to W. Edwards Deming, but never had the opportunity to meet him.

³⁷ EUR. COMM'N, PREMIUM ENVIRONMENTAL MANAGEMENT: EU ECO-MANAGEMENT AND AUDIT SCHEME 3 (2016) [hereinafter EUR. COMM'N, PREMIUM ENVIRONMENTAL MANAGEMENT], available at http://ec.europa.eu/environment/emas/pdf/other/EMAS_General_Presentation_2014.pdf.

³⁸ David W. Case, *Changing Corporate Behavior Through Environmental Management Systems*, 31 WM. & MARY ENVTL. L. & POL'Y REV. 75, 87–88 (2006) [hereinafter Case, *Changing Corporate Behavior*]; THEODORE L. BANKS & FREDERICK Z. BANKS, CORPORATE LEGAL COMPLIANCE HANDBOOK 40–6 (2nd ed. Supp. 2016); Wood, *supra* note 36, at 136; Yang & Percival, *supra* note 28, at 640. For a comprehensive history of the establishment of the ISO 14000 series of documents for EMSs, see Donald A. Carr & William L. Thomas, *Devising A Compliance Strategy Under the ISO 14000 International Environmental Management Standards*, 15 PACE ENVTL. L. REV. 85, 143–48 (1997).

³⁹ Int'l Org. for Standardization, *About ISO*, <http://www.iso.org/iso/about.htm> (last visited Nov. 19, 2016).

used the Deming model to develop its 9000 standard series for quality management.⁴¹ ISO then chose that globally successful series as the basis for its ISO 14000 series to improve environmental performance in a manner similar to the improvements achieved for product quality through the implementation of the ISO 9000 series.⁴² The core principle of management systems is the delivery of improved performance through improvements in processes.⁴³

EMSs can be implemented throughout an entire company, for a facility, or just for certain activities.⁴⁴ An essential component of every EMS is the identification of *all* environmental requirements of the operation: governmental laws and regulations, company policies and procedures, and requirements imposed by third-parties, such as customers and trade associations.⁴⁵

⁴⁰ *Id.* Individuals and companies are not permitted to join ISO. Int'l Org. for Standardization, *ISO Members*, http://www.iso.org/iso/home/about/iso_members.htm (last visited Nov. 19, 2016). The member from the United States is the American National Standard Institute, which was founded in 1918. Int'l Org. for Standardization, *United States (ANSI)*, http://www.iso.org/iso/home/about/iso_members/iso_member_body.htm?member_id=2188 (last visited Nov. 19, 2016).

⁴¹ Case, *Changing Corporate Behavior*, *supra* note 38, at 90–91; see also Jennifer Nash & John R. Ehrenfeld, *Factors That Shape EMS Outcomes in Firms*, in REGULATING FROM THE INSIDE: CAN ENVIRONMENTAL MANAGEMENT SYSTEMS ACHIEVE POLICY GOALS?, *supra* note 32, at 61, 77 (discussing how both ISO 9000 and ISO 14001 are grounded in continuous improvement models).

⁴² See sources cited *supra* note 41; Int'l Org. for Standardization, *ISO 14000 - Environmental Management*, <http://www.iso.org/iso/home/standards/management-standards/iso14000.htm> (last visited Nov. 19, 2016) [hereinafter ISO 14000] (explaining the focus of the ISO 14000 series, including ISO 14001).

⁴³ Case, *Changing Corporate Behavior*, *supra* note 38, at 90.

⁴⁴ Brengle, *supra* note 22, at 206.

⁴⁵ Coglianese & Nash, *Bolstering*, *supra* note 32, at 71. Many companies implement EMSs because their trading partners either require or give preference to vendors who have an EMS. Michael P. Vandenbergh, *The New Wal-Mart Effect: The Role of Private Contracting in Global Governance*, 54 UCLA L. REV. 913, 930–31, 956 (2007) [hereinafter Vandenbergh, *Wal-Mart Effect*]. Similarly, in South Africa, international market demands have driven environmental management performance rather than governmental enforcement. Willemien du Plessis & Johan Nel, *Driving Compliance to and Enforcement of South African Legislation by Means of a Hybrid of "New" Environmental Governance Instruments*, in COMPLIANCE AND ENFORCEMENT IN ENVIRONMENTAL LAW: TOWARD MORE EFFECTIVE IMPLEMENTATION 259, 262 (LeRoy Paddock et al. eds., 2011). Some commentators believe that requirements by private parties and organizations have created a new regime of private governance or private regulation. See, e.g., Vandenbergh, *Private Environmental Governance*, *supra* note 1, at 135; Vandenbergh, *Wal-Mart Effect*, *supra* note 45, at 915; McAllister, *supra* note 28, at 293. Two prominent trade association programs based on management systems are Responsible Care for chemical companies and Forest Stewardship Council for forestry. Du Plessis & Nel, *supra* at 45. The Forest Stewardship Council was legally established in 1994 and was a global organization from its inception. Forest Stewardship Council, *History*, <https://fc.fsc.org/en/about-fsc/our-history> (last visited Nov. 19, 2016). Responsible Care started in Canada in the mid-1980s and in the United States in 1988. Am. Chemistry Council, *Responsible Care*, <https://responsiblecare.americanchemistry.com/default.aspx> (last visited Nov. 19, 2016). In 2006, the International Council of Chemical Associations adopted a Responsible Care Global Charter, which was revised in 2014 and

Once a company or facility develops an environmental policy and identifies requirements as well as other desirable environmental endpoints (“plan”), the company or facility implements what is necessary to achieve those endpoints (“do”), then evaluates whether the implementation is successful (“check”), and finally corrects any deficiencies that are found (“act”).⁴⁶ The action to correct the deficiencies then becomes part of a new plan-do-check-act cycle, and should result in continuous environmental improvement.⁴⁷

The widely used ISO 14000 series provides companies with guidance on overall management of their environmental responsibilities.⁴⁸ This series consists of 14001, which establishes the requirements for an EMS meeting ISO standards and gives guidance for use in operations, and several other additional standards for other environmental aspects such as communication, auditing, labeling, and reporting of greenhouse gases.⁴⁹ ISO 14001 was originally adopted in 1996, revised in 2004, and again in 2015, with the newest version referred to as 14001:2015.⁵⁰ Some have criticized ISO 14001 for the focus on improving environmental systems rather than environmental performance, and the lack of disclosure requirements for most environmental information.⁵¹ Changes include incorporating environmental management into an organization’s strategic plan, adding an environmental performance improvement component in addition to the existing environmental management improvement requirement, and developing a communications strategy with equal emphasis on internal and external communications, but without any requirement to engage in external communications.⁵²

contains six elements. INT’L COUNCIL OF CHEM. ASS’NS, YOUR GUIDE TO THE INTERNATIONAL COUNCIL OF CHEMICAL ASSOCIATIONS RESPONSIBLE CARE GLOBAL CHARTER (2015), available at <https://www.icca-chem.org/wp-content/uploads/2015/08/Responsible-Care-Global-Charter-Guide.pdf>.

⁴⁶ Case, *Changing Corporate Behavior*, *supra* note 38, at 89–90.

⁴⁷ *Id.* at 90.

⁴⁸ See ISO 14000, *supra* note 42.

⁴⁹ *Id.*

⁵⁰ That is why the versions of 14001 are often referred to as 14001:2004 and 14001:2015. Int’l Org. for Standardization, *ISO 14001 Environmental Management Systems Revision*, http://www.iso.org/iso/iso14001_revision (last visited Nov. 19, 2016); see also Oren Perez et al., *The Dynamic of Corporate Self-Regulation: ISO 14001, Environmental Commitment, and Organizational Citizenship Behavior*, 43 LAW & SOC’Y REV. 593, 594 (2009) (stating that “ISO 14001 was released in 1996, and a revised version was published in 2004”); ISO 14000, *supra* note 42 (stating that “[t]he ISO 14000 family of standards provides practical tools for companies and organizations of all kinds looking to manage their environmental responsibilities” and “ISO 14001:2015 . . . focus[es] on environmental systems to achieve this”).

⁵¹ Brengle, *supra* note 22, at 210; Case, *Changing Corporate Behavior*, *supra* note 38, at 104.

⁵² Int’l Org. for Standardization, *ISO 14001:2015 - main changes since 2004 edition*, <https://committee.iso.org/sites/tc207sc1/home/projects/published/iso-14001—environmental-manage/main-changes.html> (last visited Nov. 19, 2016).

The ISO 14000 series standards have been recognized as best practices for environmental responsibility,⁵³ and ISO 14001 is a significant component of both the EMAS and Performance Track programs.⁵⁴

B. EMS Use Globally

The importance of EMSs throughout the world is clearly demonstrated by their widespread use and growth. According to the most recent ISO survey for certified 14001 EMSs, there were 319,324 certificates in 2015.⁵⁵ Over 50% of the certifications were in East Asia and the Pacific, 37.5% were in Europe, and North America accounted for only 2.7%.⁵⁶

The growth of EMSs has not been driven by legal requirements. Instead, many governmental organizations developed programs, including EMAS and Performance Track, to incentivize or otherwise to encourage the implementation of EMSs. A good overview of the role EMSs have played to date in governmental programs is given by an Organisation for Economic Co-operation and Development (OECD) study issued in 2009.⁵⁷ The study examined environmental compliance assurance regimes in eight countries representing diverse institutional, legal, and cultural backgrounds, including four European countries, Japan, and the United States, all members of OECD, along with China and Russia, two non-OECD members.⁵⁸

The report found a transition in many OECD countries from traditional regulatory compliance programs to voluntary initiatives more focused on encouraging innovation and sustainability, including the use of EMSs.⁵⁹ One of the study's conclusions was that environmental authorities of OECD countries no longer considered it necessary to promote the implementation of EMSs.⁶⁰ The reason given was that international market pressure was a far

⁵³ Yang & Percival, *supra* note 28, at 639–40.

⁵⁴ EUR. COMM'N, EMAS FACTSHEET (2011), available at http://ec.europa.eu/environment/emas/pdf/factsheets/EMASiso14001_high.pdf (“The ISO 14001 Environmental Management System requirements are an integral part of EMAS.”); Cary Coglianese & Jennifer Nash, *Government Clubs: Theory and Evidence from Voluntary Environmental Programs*, in VOLUNTARY PROGRAMS: A CLUB THEORY PERSPECTIVE 231, 232 (Matthew Potoski & Aseem Prakash eds., 2009) (explaining how ISO 14001 and Performance Track have similar requirements).

⁵⁵ INT'L ORG. FOR STANDARDIZATION, ISO SURVEY OF MANAGEMENT SYSTEM STANDARD CERTIFICATIONS – 2015, at 1 (2015), available at http://www.iso.org/iso/the_iso_survey_of_management_system_standard_certifications_2015.

⁵⁶ INT'L ORG. FOR STANDARDIZATION, ISO SURVEY OF MANAGEMENT SYSTEM STANDARD CERTIFICATIONS (1999–2015): ISO 14001 - ENVIRONMENTAL MANAGEMENT SYSTEMS (2015) [hereinafter, 2015 ISO SURVEY DATA], available at http://www.iso.org/iso/iso_14001_iso_survey2015.xls (view “ISO 14001 Overview” sheet).

⁵⁷ OECD, ENSURING ENVIRONMENTAL COMPLIANCE, *supra* note 17, at 24–34.

⁵⁸ *Id.* at 18.

⁵⁹ *Id.* at 94.

⁶⁰ See *id.* at 52–53 (noting a distinct change from the active encouragement of EMSs in the 1990s when governments adopted incentives such as permitting privileges and decreased compliance inspections).

“more powerful factor” than regulatory agencies,⁶¹ including for example, the impact of demands from large corporations on their suppliers for good environmental performance.⁶²

However, this begs the question: Why do these large corporations require EMSs to support their environmental requirements? Could it be because they themselves participate in EMAS, or, at the time, Performance Track, which would mean that these programs still played a role? The report did not answer these questions. Even if governmental incentives were not a major factor, however, the fact that corporations are creating a significant demand for EMSs means that they concluded that EMSs have substantial value.

In contrast, authorities in China continue to actively encourage companies to get EMS certifications.⁶³ China’s State Bureau of Technical and Quality Supervision adopted standards from the ISO 14000 series and approved a national ISO 14001 certification program.⁶⁴ There are also several economic incentives in China for obtaining ISO 14001 certification.⁶⁵

One of the key trends identified in the OECD report, “clearly visible in all the countries,” is the increasing reliance on compliance promotion, which includes encouraging the adoption of EMSs.⁶⁶ Additional trends that can be facilitated by EMSs include targeting compliance monitoring by risk, selfmonitoring by regulated entities, and enhancing transparency and public discussion.⁶⁷

C. The Relationship of EMSs to Environmental Performance and Compliance

EMSs are aptly described as a “holistic approach to environmental compliance, focusing on the entire company’s interaction with the environment and environmental regulations, instead of a piecemeal approach.”⁶⁸ Several different departments, disciplines, and external stakeholders collaborate to implement an EMS, which provides many benefits.⁶⁹ This collaboration promotes “interdisciplinary brainstorming,”⁷⁰

⁶¹ *Id.* at 53.

⁶² *Id.*

⁶³ *Id.* at 186.

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.* at 94–95.

⁶⁷ *Id.*

⁶⁸ BANKS & BANKS, *supra* note 38, at 40-6.

⁶⁹ Brengle, *supra* note 22, at 206–07; Magali Delmas & Michael W. Toffel, *Stakeholders and Environmental Management Practices: An Institutional Framework*, 13 BUS. STRATEGY & ENV’T. 209, 216 (2004) (“Voluntary strategies involve creative problem solving and collaborative interactions with stakeholders. . . . Companies can also work directly with customers and suppliers to improve their environmental performance. Furthermore, they may engage in systematic communication, consultation and collaboration with their key stakeholders. . . [and] host stakeholder forums and establish permanent stakeholder advisory panels at either the

and has been identified as “an important source of technological and social innovation.”⁷¹ The meeting of corporate functions managers with operational employees also results in a more integrated assessment of a facility’s operations and the institutionalization of responses to a full range of environmental concerns.⁷²

In addition, compliance is a required element of most EMSs,⁷³ and EMSs have been recognized as useful in facilitating compliance.⁷⁴ The identification and assessment of legal obligations, in addition to operational requirements and goals, is required; therefore, compliance professionals, including lawyers, should be involved in the EMS process at a facility. This involvement facilitates a better understanding by those compliance professionals of the impact that legal rules have when implemented, while also providing valuable information that can help those compliance officers to better explain legal rules to their clients and coworkers.⁷⁵

Another important benefit of incorporating an ISO 14001 EMS into a company’s compliance structure is that it is a globally recognized process for monitoring compliance and enhancing environmental performance.⁷⁶ The operations of an increasing number of businesses are governed by the laws and regulations of more than one country.⁷⁷ International market demands have also driven the adoption of EMSs.⁷⁸ In fact, some consider the ISO

corporate level, the plant level, or to address a specific issue.” (internal quotation marks omitted)).

⁷⁰ Brengle, *supra* note 22, at 206–07.

⁷¹ Perez et al., *supra* note 50, at 598.

⁷² Case, *Changing Corporate Behavior*, *supra* note 38, at 102–03.

⁷³ One of the few absolute requirements of an ISO 14001 EMS is a commitment to comply with all “applicable legal requirements and with other requirements to which the organization subscribes.” John Barwise & Stephen Battersby, *Environmental Management Systems*, in CLAY’S HANDBOOK OF ENVIRONMENTAL HEALTH 281, 298 (Stephen Battersby, ed., 21st ed. 2017). INT’L ORG. FOR STANDARDIZATION, ISO 14004:2016: ENVIRONMENTAL MANAGEMENT SYSTEMS—GENERAL GUIDELINES ON IMPLEMENTATION, at vi (2016).

⁷⁴ INT’L ORG. FOR STANDARDIZATION, ISO 14001 CONTINUAL IMPROVEMENT SURVEY 2013, at 3 (2014) [hereinafter after ISO 14001 CONTINUAL IMPROVEMENT SURVEY 2013], *available at* http://www.iso.org/iso/iso_14001_survey_2013_-_final_report_and_analysis.pdf; BANKS & BANKS, *supra* note 38, at 40–6; Matthew Potoski & Aseem Prakash, *Green Clubs and Voluntary Compliance: ISO 14001 and Firms’ Regulatory Compliance*, 49 AM. J. POL. SCI. 235, 246 (2005) (“Results from our empirical analysis imply that joining ISO 14001 reduced facilities’ time spent out of compliance by about 7% or 25 days out of a year.”).

⁷⁵ As an environmental counsel for several years to a global Swiss-based manufacturing company, the Author was involved in many aspects of EMSs, which she found to be very beneficial to the implementation of environmental compliance.

⁷⁶ See Theodore Panayotou, *Environmental Management Systems and the Global Economy*, in REGULATING FROM THE INSIDE: CAN ENVIRONMENTAL MANAGEMENT SYSTEMS ACHIEVE POLICY GOALS?, *supra* note 32, at 105, 109, 115, 121; Case, *Changing Corporate Behavior*, *supra* note 38, at 87–88.

⁷⁷ Panayotou, *supra* note 76, at 110.

⁷⁸ Vandenbergh, *Wal-Mart Effect*, *supra* note 45, at 956; du Plessis & Nels, *supra* note 45, at 262. Some of this demand is the result of voluntary codes imposing private standards developed by industry trade associations rather than governmental incentives. See McAllister, *supra* note 28, at 306. These codes may provide a stronger basis for changing corporate culture because

14000 family of standards as contributing to the global “harmonization of environmental standards, primarily by facilitating corporate behavior changes.”⁷⁹ They also “encourage[] convergence in corporate behavior worldwide.”⁸⁰

In addition, if the facility is owned by a corporation with its headquarters in another jurisdiction, the laws of that jurisdiction may also apply to the operation of that facility, either directly⁸¹ or indirectly through corporate policies that seek to have uniform rules apply to all of the corporation’s operations.⁸² Therefore, EMSs can assist lawyers and other compliance personnel trained in the law of one country to better assess a company’s operations in other jurisdictions.⁸³

A main concern regarding the use of EMSs as part of a regulatory regime is whether the information developed by EMSs is sufficiently reliable to determine a facility’s compliance with all requirements and to assess whether an EMS is producing environmental benefits beyond those achieved by compliance.⁸⁴ However, “there is substantial support for the point that implementation of an EMS is associated with better environmental performance, both on regulated emissions and on the use of resources that are not directly regulated.”⁸⁵ There is also evidence that ISO 14001 facilities

groups of companies are acting together. David Morrow & Dennis Rondinelli, *Adopting Corporate Environmental Management Systems: Motivations and Results of ISO 14001 and EMAS Certification*, 20 EUR. MGMT. J. 159, 162 (2002) (“[M]any multinational companies are adopting EMS to satisfy customer pressures and to ensure that their suppliers are operating in environmentally and socially responsible ways. Some are doing so in response to peer pressure as more corporations adopt environmental management systems and require their second and third tier suppliers to do so as well.”).

⁷⁹ Yang & Percival, *supra* note 28, at 639; *see also* Vandenberg, *Wal-Mart Effect*, *supra* note 45, at 915 (“This new global private governance is global, rather than international, in that nation-states are not participants.”).

⁸⁰ Yang & Percival, *supra* note 28, at 640.

⁸¹ *See, e.g.*, U.S. ENVTL. PROT. AGENCY, *supra* note 29, at 17 (noting the Toxic Substances Control Act requirement to produce health and environmental studies from parent companies and affiliates, even if the entity in possession of the date is located outside the United States).

⁸² Yang & Percival, *supra* note 28, at 639–40.

⁸³ *Id.* at 640 n.141.

⁸⁴ Coglianese & Nash, *New Policy Agenda*, *supra* note 36, at 18–19 (identifying the value of systematic management as a benefit, but noting several other reservations about the ability of EMSs to deliver benefits sufficient to justify concessions that might be given to induce their implementation). In particular, they urged policymakers to distinguish between the effects caused by an EMS from those that might have resulted from other factors already in a company. *Id.* In a subsequent study of the Performance Track program in the United States, they confirmed the validity of that concern for that program. Coglianese & Nash, *Performance Track’s Postmortem*, *supra* note 14, at 82.

⁸⁵ Kurt A. Strasser, *Do Voluntary Corporate Efforts Improve Environmental Performance?: The Empirical Literature*, 35 B.C. ENVTL. AFF. L. REV. 533, 554 (2008). The author did question whether EMSs achieved better compliance and urged caution in implementing programs with certain regulatory benefits. *Id.* at 555 (“Better program design, with real monitoring and performance sanctions, and new and better studies, may provide empirical support for incorporating voluntary efforts into the public regulatory system for containing environmental risks. The empirical support is not yet there.”).

have better compliance records.⁸⁶ This is confirmed by the most recent ISO 14001 Continual Improvement Survey from 2013, which included an unprecedented 5,000 participants from 110 countries worldwide responding in 111 different languages.⁸⁷ A majority (54%) of the responses were from user organizations with over 250 employees.⁸⁸ Of the nineteen environmental management concepts identified in a report on future challenges, 77% of environmental managers viewed ISO 14001's ability to meet legal requirements as providing high or very high value.⁸⁹

Another potential benefit that can flow from EMSs is the public disclosure and sharing of information produced by the process, and many EMS standards and guidelines require the production of information to make operations more transparent.⁹⁰ This transparency, in turn, provides information that can be used in many different ways beyond simply improving company operations.⁹¹ Public disclosure of information derived from EMSs can also assist regulators,⁹² as well as facilitate community involvement⁹³ and the achievement of societal environmental goals.⁹⁴

III. EMAS AND PERFORMANCE TRACK

Both EMAS and Performance Track are government-sponsored voluntary programs designed to encourage organizations to improve environmental performance through incentives.⁹⁵ The EMAS regulation was

⁸⁶ Potoski & Prakash, *supra* note 74, at 235 (“The results imply that as a group ISO 14001 certified facilities have better compliance records than if they had not joined the program.”); Benjamin J. Richardson, *Is East Asia Industrializing Too Quickly? Environmental Regulation in Its Special Economic Zones*, 22 UCLA PAC. BASIN L.J. 150, 235–36 (2004) (“Some empirical research in East Asia shows that ISO 14001 certified companies have a record of better compliance with government environmental regulations and standards than non ISO-certified companies.”).

⁸⁷ ISO 14001 CONTINUAL IMPROVEMENT SURVEY 2013, *supra* note 74, at 3.

⁸⁸ *Id.*

⁸⁹ *Id.* at 7.

⁹⁰ Case, *Changing Corporate Behavior*, *supra* note 38, at 103–04; Hope M. Babcock, *Corporate Environmental Social Responsibility: Corporate “Greenwashing” or a Corporate Culture Game Changer?*, 21 FORDHAM ENVTL. L. REV. 1, 59–60, 63–64 (2010) (recommending that voluntary initiatives such as EMSs and Responsible Care could be improved by public disclosure).

⁹¹ See David Walker, *Sustainability: Environmental Management, Transparency, and Competitive Advantage*, 7 J. RETAIL LEISURE & PROP. 119, 129 (2008) (enumerating various potential benefits for companies that disclose data generated by EMSs).

⁹² Du Plessis & Nels, *supra* note 45, at 274.

⁹³ See, e.g., Am. Chemistry Council, *Accountability*, <https://responsiblecare.americanchemistry.com/ResponsibleCare/Performance-Results/Accountability-2/> (last visited Nov. 19, 2016) (discussing community outreach).

⁹⁴ Case, *Changing Corporate Behavior*, *supra* note 38, at 106.

⁹⁵ See Strasser, *supra* note 85, at 535 (describing voluntary commitment programs); Dennis D. Hirsch, *Green Business and the Importance of Reflexive Law: What Michael Porter Didn't Say*, 62 ADMIN. L. REV. 1063, 1118–19 (2010) (discussing positive information strategy used by

introduced by the European Commission in 1993, and formal registration in the program was opened in April 1995.⁹⁶ EPA started pilot programs in the mid-1990s to encourage the use of EMSs, which evolved into the Performance Track program.⁹⁷

A. EMAS

EMAS is an integral part of the European Union's environmental policy. The European Commission of the European Union considers EMAS to be the "most credible and robust environmental management tool on the market, adding several elements on top of the requirements of the international standard for Environmental Management Systems EN ISO 14001:2004"⁹⁸ The European Commission itself registered with EMAS in 2005, and credits EMAS with achieving its own organizational environmental commitments to continuously reduce its environmental impact.⁹⁹

The core of EMAS is an ISO 14001 EMS.¹⁰⁰ However, EMAS has identified several areas where its requirements go beyond the ISO 14001 standard, including a requirement for extensive public disclosure of the environmental performance information of its members.¹⁰¹ A further difference is compliance because EMAS makes participants "demonstrate that they have identified, and know the implications . . . of all applicable legal requirements relating to the environment, . . . provide for legal compliance . . . , and have procedures in place that enable the organisation to meet these requirements on an ongoing basis."¹⁰² EMAS also requires compliance audits.¹⁰³ The most recent EMAS scheme, EMAS III, implemented in 2010, sought to address the continuing concern regarding how to best measure and verify the benefits achieved by facilities and companies incorporating the EMAS requirements into their operations.¹⁰⁴ The current EMAS scheme requires organizations to report on six specific environmental core indicators in an effort to allow "organisations [to] compare their environmental performance both over different reporting periods and with the environmental performance of other organisations."¹⁰⁵ The core

EMAS and Performance Track); Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1233, 1290 (1995) (describing EMAS as reflexive regulation).

⁹⁶ Eur. Comm'n, *Join EMAS: FAQs*, http://ec.europa.eu/environment/emas/join_emas/faqs_en.htm (last visited Nov. 19, 2016).

⁹⁷ Coglianesi & Nash, *Performance Track's Postmortem*, *supra* note 14, at 16–22.

⁹⁸ EUR. COMM'N, EMAS AND ISO 14001: COMPLEMENTARITIES AND DIFFERENCES 1 (2011), available at http://ec.europa.eu/environment/emas/pdf/factsheets/EMASiso14001_high.pdf.

⁹⁹ EUR. COMM'N, 2015 ENVIRONMENTAL STATEMENT 4 (2015), available at http://ec.europa.eu/environment/emas/pdf/other/20160122_ES_2015_Final_10_MB.pdf.

¹⁰⁰ Case, *Changing Corporate Behavior*, *supra* note 38, at 89.

¹⁰¹ *Id.* at 104–05.

¹⁰² Council Regulation 1221/2009, 2009 O.J. (L 342) 1, 25 (EC).

¹⁰³ *Id.* at 32.

¹⁰⁴ *Id.* at 1–2.

¹⁰⁵ *Id.* at 2, 36–37.

indicators are: energy efficiency, material efficiency, water, waste, biodiversity, and emissions.¹⁰⁶

Beyond recognition as a member of EMAS, incentives to join the program have been left to the “competent bodies” of individual nations.¹⁰⁷ The most prevalent incentive used by competent bodies is extending the duration of an organization’s permit.¹⁰⁸ Other measures include reduction of financial guarantees required for some activities, tax reduction, inspection frequency reduction and self-declaration for renewing a permit.¹⁰⁹

Since 2010, the number of organizations participating in EMAS has varied, from a peak of almost 4,700 in April 2011, to a low of under 3,800 in December 2013, with an increase to over 4,000 again in May 2016.¹¹⁰ The number of sites registered with EMAS for the same time period went from a peak of over 10,000 in December 2013, to a low of under 7,000 in March 2014.¹¹¹ The current number is just over 9,000.¹¹² For the years during which Performance Track was in place, there were more than 2,800 organizations and sites registered with EMAS in March 2000,¹¹³ and more than 4,200 organizations and 6,700 sites at the end of 2008.¹¹⁴ EMAS membership may have declined slightly due to the more stringent requirements imposed by the 2010 revision to EMAS III.¹¹⁵

¹⁰⁶ *Id.* at 37.

¹⁰⁷ Orts, *supra* note 95, at 1307 (“Invoking the subsidiarity principle, the EMAS regulation devolves responsibility to the EU Member States to ‘establish a system for the accreditation of independent environmental verifiers’ and to supervise them. Each Member State must either designate a ‘competent body’ for the task or ‘use existing accreditation institutions.’” (footnote omitted) (quoting Council Regulation 1836/93 art. 6(1), 1993 O.J. (L 168) 1, 4 (EC))).

¹⁰⁸ Iraldo Presentation, *supra* note 25, at 20; Testa et al., *supra* note 25, at 2239–40 & fig.1.

¹⁰⁹ Iraldo Presentation, *supra* note 25, at 20.

¹¹⁰ EUR. COMM’N, OFFICIAL STATISTICS OF THE EUROPEAN EMAS HELPDESK, EVOLUTION OF ORGANISATIONS AND SITES (2016), available at http://ec.europa.eu/environment/emas/pdf/statistics/PDF_Statistic_May_2016.pdf [hereinafter EMAS STATISTICS].

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ See EUR. COMM’N, PREMIUM ENVIRONMENTAL MANAGEMENT, *supra* note 37, at 15 (EMAS statistics did not distinguish between organizational and site members until 2004). There is a discrepancy between this chart and the one cited in the previous footnote. The Author requested and received clarification from the EMAS Helpdesk stating that the discrepancy is primarily caused by underreporting by Germany to EMAS of all the registrations in that country. E-mail from EMAS Helpdesk, Directorate-Gen. for the Env’t, Eur. Comm’n, to Rachel E. Deming, Assistant Professor, Barry Univ. Dwayne O. Andreas Sch. Of Law (Feb. 8, 2016) (on file with author). Those numbers have been added to the more recent chart for years 2010–2015. *Id.* It is possible that the numbers reported for years before 2010 were also underreported. The figures from Germany can be independently accessed. Umwelt Gutachter Ausschuss, *EMAS in Zahlen – Statistiken*, <http://www.emas.de/ueber-emas/emas-in-zahlen/> (last visited Nov. 19, 2016).

¹¹⁴ See EUR. COMM’N, PREMIUM ENVIRONMENTAL MANAGEMENT, *supra* note 37, at 15.

¹¹⁵ *Join EMAS: FAQs*, *supra* note 96 (“In 2009 the EMAS Regulation was revised and modified for the second time. Regulation (EC) No 1221/2009 . . . was published on 22 December 2009. The revised EMAS Regulation came into effect on 11 January 2010.”).

B. Performance Track

In contrast with EMAS, Performance Track was never an integral part of environmental policy in the United States. Performance Track began in 1994, when EPA launched a pilot program called the Environmental Leadership Program to encourage operating facilities to implement EMSs.¹¹⁶ This program was merged into Performance Track, which was actively promoted starting in 2000 near the end of the Clinton Administration, and continued to be supported under the Bush Administration.¹¹⁷ It was considered an experimental program that was regularly evaluated for demonstrable environmental benefits.¹¹⁸

EPA was hoping to encourage measurable and meaningful environmental performance by “recogniz[ing] and reward[ing] facilities that consistently exceed regulatory requirements, work closely with their communities, and excel in protecting the environment and public health.”¹¹⁹ It was “based on the premise that government should complement existing programs with new tools and strategies that not only protect people and the environment, but also capture opportunities for reducing costs and spurring technological innovation.”¹²⁰

The key criteria for Performance Track participation were: 1) an audited EMS; 2) a record of compliance; 3) beyond-compliance commitments; and 4) community outreach.¹²¹ In establishing beyond-compliance commitment achievements, EPA selected categories of environmental indicators from which participating facilities could choose, and also set some measuring criteria.¹²² The program was evaluated and criticized by EPA’s Office of Inspector General (OIG) in a 2007 report, as well as by some environmental groups who claimed that the program could not demonstrate environmental improvements.¹²³ The United States House of

¹¹⁶ Coglianese & Nash, *Performance Track’s Postmortem*, *supra* note 14, at 16–18; Case, *Changing Corporate Behavior*, *supra* note 38, at 98.

¹¹⁷ See Coglianese & Nash, *Performance Track’s Postmortem*, *supra* note 14, at 22–24 (noting that EPA published the formal description in the *Federal Register* in July 2000, and did not terminate the program until after President Bush left office).

¹¹⁸ *Id.* at 35–39. Environmental advocacy groups wanted more stringent entry requirements in exchange for the program’s regulatory benefits. *Id.* at 71.

¹¹⁹ OFFICE OF POLICY, ECON., & INNOVATION, U.S. ENVTL. PROT. AGENCY, EPA-100-R-03-004, PERFORMANCE TRACK PROGRESS REPORT: TOP PERFORMERS, SOLID RESULTS 3 (2003).

¹²⁰ *Id.*

¹²¹ Coglianese & Nash, *Performance Track’s Postmortem*, *supra* note 14, at 25–26.

¹²² *Id.* at 26.

¹²³ OFFICE OF INSPECTOR GEN., U.S. ENVTL. PROT. AGENCY, 2007-P-00013, EVALUATION REPORT: PERFORMANCE TRACK COULD IMPROVE PROGRAM DESIGN AND MANAGEMENT TO ENSURE VALUE 11 (2007) [hereinafter OIG PERFORMANCE TRACK REPORT], available at <http://www.epa.gov/sites/production/files/2015-11/documents/20070329-2007-p-00013.pdf>; See also RAND ASSESSMENT, *supra* note 9, at 2 (noting the criticism Performance Track received from OIG and some environmental groups); Coglianese & Nash, *Performance Track’s Postmortem*, *supra* note 14, at 7–8 (same). Environmental advocacy groups wanted more stringent requirements in exchange for regulatory benefits. *Id.* at 7 n.27.

Representatives approved a bill that significantly reduced funding for Performance Track, and shortly thereafter, Lisa P. Jackson, the EPA Administrator appointed by newly elected President Obama, terminated the program.¹²⁴ In the last year of the program's operations, 2008, the number of new participants declined although the total number of participants rose, largely because of an 85% renewal rate, which the Performance Track program sponsors found to be significant given the recession at the time.¹²⁵ The total number of participating facilities on a yearly basis, however, never exceeded 600.¹²⁶ Since the decision to withdraw Performance Track, EPA has not publicly engaged in any further consideration of implementing programs to encourage the use of EMSs.

Although Performance Track is gone, some significant U.S. governmental programs acknowledging the value of EMSs remain.¹²⁷ The United States federal government continues to rely on EMSs as the "primary management approach" to achieve its own sustainability goals for all federal agencies.¹²⁸ This effort started in 2000, was expanded in 2007, and was endorsed and expanded again in 2009, shortly after withdrawal of the Performance Track program.¹²⁹ In addition, EPA still allows facilities with violations in connection with an EMS process to receive penalty reductions if those violations are self-reported.¹³⁰ EPA also imposes stringent

¹²⁴ RAND ASSESSMENT, *supra* note 9, at 3 (stating that the United States House of Representatives significantly reduced Performance Track's budget and shortly thereafter EPA Administrator Lisa P. Jackson halted Performance Track); Notice to Terminate the National Environmental Performance Track Program, 74 Fed. Reg. 22,741, 22,742 (May 14, 2009); *see also* Memorandum from Lisa P. Jackson to Performance Track Members, Performance Track Corp. Leaders, and State Env'tl. Comm'rs, *supra* note 18, at 32–33 ("Performance Track was developed in a different era and may not speak to today's challenges.").

¹²⁵ OFFICE OF POLICY, ECON., & INNOVATION, U.S. ENVT'L. PROT. AGENCY, EPA-100-R-09-003, PERFORMANCE TRACK FINAL PROGRESS REPORT 1 (2009) [hereinafter EPA, PERFORMANCE TRACK FINAL REPORT], *available at* http://archive.epa.gov/performancectrack/web/pdf/pt_progrprt_2009_web.pdf.

¹²⁶ Coglianesse & Nash, *Performance Track's Postmortem*, *supra* note 14, at 66.

¹²⁷ *See id.* at 8–9 (listing, among other things, state versions of Performance Track, voluntary EPA programs such as Energy Star, and programs modeled after Performance Track that are run by other agencies).

¹²⁸ Strengthening Federal Environmental, Energy, and Transportation Management, Exec. Order No. 13,423, § 3(b), 3 C.F.R. at 193, 195 (2008).

¹²⁹ Greening the Government Through Leadership in Environmental Management, Exec. Order No. 13,148, § 201, 3 C.F.R. at 241, 242 (2001); Exec. Order No. 13,423, § 3(b), 3 C.F.R. at 193, 195 (2008); Federal Leadership in Environmental, Energy, and Economic Performance, Exec. Order No. 13,514, § 2(j), 3 C.F.R. at 248, 252 (2009).

¹³⁰ Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 65 Fed. Reg. 19,618, 19,621, 19,625 (Apr. 11, 2000); *see also* Timothy F. Malloy, *Regulation, Compliance and the Firm*, 76 TEMP. L. REV. 451, 515 (2003) ("[T]he incentives offered by such programs as Performance Track; the promise of less frequent inspections would be most valued by those firms that are subject to higher numbers of inspections, and that accordingly face a higher likelihood of violations being detected. . . . The added incentive of reduced penalties may result in limited increases in the use of management systems among such firms."); EPA INNOVATIONS TASK FORCE, U.S. ENVT'L. PROT. AGENCY, EPA 100-R-99-006, AIMING FOR EXCELLENCE: ACTIONS TO ENCOURAGE STEWARDSHIP AND ACCELERATE ENVIRONMENTAL

compliance-focused EMSs on some parties entering into consent decree settlements to resolve serious compliance issues.¹³¹ Some states have also retained programs designed to encourage the use of EMSs.¹³²

C. Summary

EMAS membership began five years before Performance Track, but from the outset it generated far more interest than Performance Track. When Performance Track started, EMAS already had over 2,800 organization and site members.¹³³ By the time Performance Track ended, EMAS had increased to more than 4,200 organizations and 6,700 sites,¹³⁴ while Performance Track had 547 members.¹³⁵ Some authors have stated that use of EMAS is very small, especially when compared to ISO 14001 registrations, which bears further research.¹³⁶ However, the number of EMAS registrations compared to Performance Track is striking.

IV. IMPACT ON ENVIRONMENTAL PERFORMANCE

This Part examines two studies commissioned by the European Commission to evaluate EMAS,¹³⁷ a study prepared by EPA OIG,¹³⁸ a study commissioned by EPA,¹³⁹ and an article examining Performance Track, based in part on another study commissioned by EPA that was conducted by

PROGRESS 9 (1999), (“EPA has waived or reduced penalties for companies that voluntarily audit, disclose, and correct environmental violations and that take action to prevent future ones.”).

¹³¹ See ENVTL. L. INST., 1 LAW OF ENVIRONMENTAL PROTECTION § 9:126 (Sheldon M. Novick et al. eds., Spring 2016 ed.) (regarding use in consent decrees).

¹³² Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 33–34, 77–79.

¹³³ EUR. COMM’N, PREMIUM ENVIRONMENTAL MANAGEMENT, *supra* note 37, at 15. Performance Track began being actively promoted in 2000. See *supra* note 117. EMAS did not distinguish between site and organizational members at that time. See *supra* note 113.

¹³⁴ EUR. COMM’N, PREMIUM ENVIRONMENTAL MANAGEMENT, *supra* note 37, at 15. Performance Track ended in 2008. See *supra* note 124 and accompanying text.

¹³⁵ EPA, PERFORMANCE TRACK FINAL REPORT, *supra* note 125, at 3.

¹³⁶ See, e.g., Case, *Changing Corporate Behavior*, *supra* note 38, at 89 (“The perception that EMAS and ISO 14001 were in direct competition contributed to low rates of participation in the EMAS program.”); Frank Watzold et al., *EMAS and Regulatory Relief in Europe: Lessons from National Experience*, 11 EUR. ENV’T 37, 38 (2001) (“Apart from in Germany and Austria, corporate participation in EMAS has remained low throughout the EU, lagging well behind participation in the international environmental management systems standard DIN ISO14001.”).

¹³⁷ JAN VERNON ET AL., MILIEU LTD & RISK & POLICY ANALYSIS LTD, STUDY ON THE COSTS AND BENEFITS OF EMAS TO REGISTERED ORGANISATIONS: FINAL REPORT (Catherine Ganzleben ed., 2009), available at http://ec.europa.eu/environment/emas/pdf/other/costs_and_benefits_of_emas.pdf; Iraldo Presentation, *supra* note 25.

¹³⁸ OIG PERFORMANCE TRACK REPORT, *supra* note 123.

¹³⁹ RAND ASSESSMENT, *supra* note 9.

the authors of the article.¹⁴⁰ These studies were chosen because they were all commissioned or performed by the respective regulatory authority, the Directorate-General of the European Commission (DG Environment)¹⁴¹ and EPA. They are similar in their approach and the information they collected, which included; literature reviews; interviews with regulatory authorities, participants, and stakeholders; and analyses of program data.¹⁴²

It should be noted at the outset, however, that it is very hard to assess the available information on the performance of these voluntary programs. As the RAND Corporation noted in its 2010 study of Performance Track:

[A]s VPs [voluntary programs] have become more common, researchers have developed academic theories to explain why VPs may – or may not – be effective. Some researchers have created economic models of VPs that build on principles of incentives, while others have created theoretical frameworks derived from observing existing programs. However, there is no interdisciplinary consensus on how to study or explain VPs, and there is no generally accepted theory of how VPs should work. Rather, the literature has proposed theories to explain features of VPs and examined the empirical evidence on their impacts.¹⁴³

A report issued by EPA's Environmental Financial Advisory Board (EFAB) also found that there was not sufficient information to quantify the benefits of implementing EMSs in order to achieve recognition in the capital markets.¹⁴⁴

A. EMAS

DG Environment commissioned two comprehensive studies to evaluate the benefits and costs of EMAS registration. The first study, completed in 2009, investigated the benefits and costs to organizations that register with EMAS, as well as incentives and barriers to participation.¹⁴⁵ One of the study's key objectives was to explore the kinds of benefits organizations

¹⁴⁰ Coglianesse & Nash, *Performance Track's Postmortem*, *supra* note 14 (the research underlying the article was partially funded by a grant from EPA's Office of Policy, Economics, and Innovation).

¹⁴¹ Eur. Comm'n, *Environment Directorate-General*, http://ec.europa.eu/dgs/environment/index_en.htm (last visited Nov. 19, 2016) (noting that the DG Environment is the European Commission department responsible for setting environmental policy for the European Union).

¹⁴² JAN VERNON ET AL., *supra* note 137, at i; Iraldo Presentation, *supra* note 25, at 4; Testa et al., *supra* note 25, at 2233–37; Daddi et al., *supra* note 25, at 648–52; OIG PERFORMANCE TRACK REPORT, *supra* note 123, at 3; RAND ASSESSMENT, *supra* note 9, at xiv–xv.

¹⁴³ RAND ASSESSMENT, *supra* note 9, at 80 (citation omitted).

¹⁴⁴ ENVTL. FIN. ADVISORY BD., U.S. ENVTL. PROT. AGENCY, ENVIRONMENTAL MANAGEMENT SYSTEMS AND THE USE OF CORPORATE ENVIRONMENTAL INFORMATION BY THE FINANCIAL COMMUNITY 7 (2008), available at <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AM3C.PDF?Dockkey=P100AM3C.PDF>. The Author was the chair of the EFAB workgroup and primary author of the report.

¹⁴⁵ JAN VERNON ET AL., *supra* note 137, at i.

participating in EMAS receive, and in particular to document “soft” benefits in addition to more easily measured economic costs and benefits.¹⁴⁶ The study included “looking inside the black box of internal organisational management in order to understand what kinds of internal characteristics determine an organisation’s capacity to reap benefits from EMAS, as well as influencing the costs of registration and implementation.”¹⁴⁷

That study concluded that the main benefits to EMAS members were increased efficiency and energy savings, with the results showing “clear evidence of substantial financial savings from reduced energy costs following EMAS.”¹⁴⁸ The study also noted, however, that those benefits are likely to dwindle over time because they will be hard to continuously replicate those savings.¹⁴⁹

The second main benefit was the reduction in negative environmental incidents.¹⁵⁰

The second most widely acknowledged benefit of EMAS in the questionnaire was a reduction in negative incidents. This result was reinforced in follow up interviews, where several manufacturing organisations confirmed that the implementation of a robust EMS had given them an overview of their processes and facilitated greater control, leading to a reduction in incidents and a reduced effort for internal monitoring. This has obvious linkages with benefits relating to improved relations with regulatory authorities. This evidence relating to reduced incidents is important, as similar evidence was not found in the literature review.¹⁵¹

Weighing against the potential gain from avoidance of accidents, EMASs cost on average 48,000 to implement, and the 26,000 annually thereafter to maintain.¹⁵² The most important barrier to registration identified in the study was that the benefits of registration were “unclear of [sic] did not justify the costs” of registration.¹⁵³

DG Environment commissioned another study, the results of which were reported at the High Level Conference on EMAS in November 2015.¹⁵⁴ The key research questions addressed by the study were: 1) If a public body promotes EMAS, is it effectively pursuing environmental improvement; and 2) what are the different roles for a public body?¹⁵⁵ The study included a survey of 467 registered organizations and an analysis of the required

¹⁴⁶ *Id.* at 1.

¹⁴⁷ *Id.*

¹⁴⁸ *Id.* at 92–93.

¹⁴⁹ *Id.* at 93.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 93.

¹⁵² *Id.* at 76. However, costs incurred in responding to accidents far outweigh the costs required to prevent accidents.

¹⁵³ JAN VERNON ET AL., *supra* note 137, at 91.

¹⁵⁴ Iraldo Presentation, *supra* note 25.

¹⁵⁵ *Id.* at 3.

environmental statements submitted by 122 EMAS registered organizations from 2012 to 2014.¹⁵⁶

One of the key findings was that about 75% of the interviewees believed that the prevention of risks and accidents improved, with 30% of all interviewees stating that the improvement was significant.¹⁵⁷ This confirmed the results found in the previous EMAS study, discussed above. The environmental statement analysis found that EMAS members continued to demonstrate improvements in energy use, improved their air and carbon dioxide emissions, had no improvements in water consumption, and had negative results for waste and material efficiency.¹⁵⁸ The interviewees stated that the EMS used to fulfill the EMAS requirements was second only to technical progress as the most important factors for the performance improvements.¹⁵⁹ The study also noted several other improvements in addition to performance, including legislative compliance, and, as mentioned above, reduced risk of environmental sanctions and accidents.¹⁶⁰

B. Performance Track

The beginning of Performance Track's end was heralded by a report by EPA's OIG in 2007. OIG conducted its study during 2006, the same year that Harvard's Kennedy School of Government recognized Performance Track as one of the 50 top innovations in American government, one of only 13 federal programs receiving that recognition.¹⁶¹ The purpose of OIG's study was "to evaluate how effectively Performance Track achieve[d] its environmental goals," specifically how Performance Track "improve[d] environmental performance through pollution prevention and innovation," and how well it accomplished its goal of "recogniz[ing] and encourag[ing] top environmental performers and track[ing] program performance."¹⁶² OIG concluded that the program's design was not clearly linked to intended outcomes, that it did not generally fulfill its "value proposition," and that some members exceeded their sector averages for noncompliance and toxic releases.¹⁶³ While the Performance Track program managers concurred with OIG's recommendations for improvements, they did dispute much of OIG's methodology and analysis, and also believed that OIG did not give sufficient credit for the benefits the program did achieve.¹⁶⁴

¹⁵⁶ *Id.* at 4, 7.

¹⁵⁷ *Id.* at 6.

¹⁵⁸ *Id.* at 8.

¹⁵⁹ *Id.* at 11.

¹⁶⁰ *Id.* at 13.

¹⁶¹ OIG PERFORMANCE TRACK REPORT, *supra* note 123, at 31.

¹⁶² *Id.* at 1.

¹⁶³ *Id.* at 15, 23.

¹⁶⁴ *Id.* at 29.

The RAND Corporation completed its study of Performance Track in 2010, after the program terminated.¹⁶⁵ The study was started, however, in 2008 to address the criticisms in and issues raised by OIG's report, including whether the initial concepts were sound, whether the program design reflected those concepts, and whether the program played a role in delivering environmental improvements.¹⁶⁶ The report confirmed OIG's concern about the lack of detail in the program's concepts.¹⁶⁷ In contrast to OIG's report, it found that Performance Track encouraged a broad range of environmental improvements among most of its members.¹⁶⁸ These improvements were more qualitative and quantitative, including:

the application process taught them how to quantify the broad environmental impacts of their activities and set goals for continuous improvement. Performance Track's members also reported a range of changes in their corporate culture, including increased consideration of environmental issues in formal decision-making processes, greater employee awareness and engagement on environmental issues, the introduction of environmental considerations into informal problem-solving efforts, and improved recruiting results, employee retention, and employee morale.¹⁶⁹

Another finding was that the "brand" of the program was undermined because environmental nongovernmental organizations (NGOs) and some regulators believed membership criteria to be too lenient and some members withdrew because they decided that the costs outweighed the benefits.¹⁷⁰

In response to a final purpose of the report, to evaluate whether there was a regulatory role for the approach represented by Performance Track in combination with other regulatory approaches, the report concluded that voluntary programs, including some of the features of Performance Track, "can complement regulatory approaches to accelerate environmental improvements" and that EPA should continue to experiment with such programs.¹⁷¹ The report gave four conditions for successful experimentation:

- Experimentation—including its risks and benefits—must be welcomed by legislators and regulators at the federal and state levels, environmental NGOs, industry, and academia. . . .

¹⁶⁵ RAND ASSESSMENT, *supra* note 9, at iii. The study included a literature review, review of Performance Track program documents, and interviews and focus groups with EPA staff, environmental groups, state regulators, academics and Performance Track members. *Id.* at xiv.

¹⁶⁶ *Id.* at 2.

¹⁶⁷ *Id.* at 83–84.

¹⁶⁸ *Id.* at 85–87.

¹⁶⁹ *Id.* at 88.

¹⁷⁰ *Id.* at 86.

¹⁷¹ *Id.* at 88–89.

- Experimentation should be viewed as long term, since individual efforts take years to initiate and to produce data that can be analyzed.
- Experimental programs should be developed and operated openly and transparently so that all stakeholders are aware of and discuss key program features
- Regular program evaluations should be conducted, and programs should be modified or terminated if evaluations or other analyses determine that they are not working.¹⁷²

The most recent extensive study of the Performance Track program, by Cary Coglianese and Jennifer Nash, concluded that the program did not have mechanisms to verify that members were top environmental performers, nor did the program deliver additional environmental benefits.¹⁷³ Additional conclusions were: 1) Performance Track attracted facilities that valued recognition and actively sought to engage with regulators and their communities, and therefore Performance Track was not producing actions different than those companies would have done without Performance Track; and 2) companies did not think that voluntary programs with high goals and standards were worth the cost.¹⁷⁴ This last point is particularly noteworthy because the study found that regulatory incentives such as fewer inspections and shorter processing times were not significant enough to offset the perceived costs to meet higher standards, and are inherently limited by the different ways EPA and facility managers value the costs and benefits of voluntary programs.¹⁷⁵ Finally, the authors concluded that voluntary programs will likely never deliver more than “modest additions to core regulatory activities.”¹⁷⁶

C. Comparative Analysis

As explained above, the EMAS program has continued to evaluate ways to develop and improve the program, consistent with the RAND Assessment recommendations for successful implementation of experimental programs and the EMS continuous improvement cycle described above. The EMAS requirements for public disclosure, legal compliance audits, and reports on six core environmental indicators to provide a basis for comparing performance could address the concerns about Performance Track's poor

¹⁷² *Id.* at 89.

¹⁷³ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 82–83.

¹⁷⁴ *Id.* at 82–83.

¹⁷⁵ *Id.* at 83.

¹⁷⁶ *Id.*

compliance records, and the program's failure to clearly and consistently articulate its goals.¹⁷⁷

Another important difference between EMAS and Performance Track is the European Commission's endorsement of the EMAS program and the value of environmental management systems, including European Commission participation in the EMAS program itself and public disclosure of the results of its participation.¹⁷⁸ While successive presidents have ordered all federal agencies to incorporate EMSs into their operations—a clear acknowledgement of their value—there never was any pronouncement endorsing Performance Track throughout the federal government.¹⁷⁹

The EMAS studies also found “[p]ersuasive evidence . . . for a number of benefits arising from EMAS registration, including reduced costs for raw materials and waste management, achieving regulatory compliance, competitive advantage, regulatory relief (manufacturing sector) and improved personnel motivation,¹⁸⁰ and significant decreases in negative environmental incidents.¹⁸¹ This latter finding is particularly noteworthy for environmental protection and was not mentioned in any of the Performance Track evaluations.¹⁸² In fact, the Coglianese and Nash article states that an analysis by a consulting firm retained by the authors found that Performance Track facilities had a “slightly higher-than-average risk to public health” when compared to all facilities required to submit reports under EPA’s toxic release regulations.¹⁸³ That finding is interesting in light of the EMAS studies showing that EMAS produced better risk management.¹⁸⁴ Therefore, there could be an additional benefit from having facilities like these participate in a program like EMAS.

In contrast, OIG’s report and the Coglianese and Nash article questioned the positive results reported by the Performance Track

¹⁷⁷ See *supra* Part IV.B. The RAND Assessment noted concerns about the reliability of facility compliance records. RAND ASSESSMENT, *supra* note 9, at 55. The report stated that regulators at all levels confirmed that EPA databases do not always reflect facility compliance status as recorded by the states who conduct the inspections, and that EPA has “large-scale, systemic, federal-state data-entry and data-sharing problems” which “created an ongoing public-relations problem for Performance Track.” *Id.* Operational issues also complicated the Performance Track program’s relationship with EPA’s Office of Compliance and Enforcement. *Id.* at 73.

¹⁷⁸ Eur. Comm’n, *What is EMAS*, http://ec.europa.eu/environment/emas/index_en.htm (last visited Nov. 19, 2016).

¹⁷⁹ See *supra* Part III.B.

¹⁸⁰ JAN VERNON ET AL., *supra* note 137, at 18.

¹⁸¹ *Id.* at 92–93; Iraldo Presentation, *supra* note 25, at 6. The extent to which insurance companies incorporate the existence of having an EMS would be one way to ascertain this value. However, insurance companies have been reluctant to disclose such information, stating that it is hard to extract one factor from their charges for policies.

¹⁸² In fact, the 2009 study of EMAS was not mentioned in either the RAND Assessment or the Coglianese and Nash article.

¹⁸³ Coglianese & Nash, *Performance Track’s Postmortem*, *supra* note 14, at 82.

¹⁸⁴ JAN VERNON ET AL., *supra* note 137, at 92–93.

program.¹⁸⁵ The article highlighted findings in OIG's report that some Performance Track members had more toxic emissions than the average for their sectors and some had "non-trivial compliance problems."¹⁸⁶ The authors also concluded that the program might not have delivered the claimed environmental benefits because some members who joined were already involved in efforts that would deliver those benefits.¹⁸⁷ OIG, however, found that "most [Performance Track] members outperformed their sectors for compliance and toxic releases."¹⁸⁸ Additionally it noted that "[t]he presence of underperforming facilities reduce[d] the integrity and value of the Performance Track brand."¹⁸⁹

The conclusion drawn in the Coglianese and Nash article, that the program could not demonstrate it attracted "top performers" rather than "extroverts" for membership is particularly interesting.¹⁹⁰ The authors state that Performance Track members had top-level management support, a higher level of support for internal environmental activities, were more interested in opinions from communities and environmental groups, and valued government recognition more than their competitors who did not apply to join Performance Track.¹⁹¹ Yet none of these factors were deemed relevant to superior environmental performance; instead, they were considered factors that made them extroverts.¹⁹² The RAND Assessment, however, found:

¹⁸⁵ OIG PERFORMANCE TRACK REPORT, *supra* note 123, at 19; Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 36 (noting that despite "EPA's claims that Performance Track recognized top performers and helped spur environmental results, voices within the environmental community and within the agency itself began to raise questions at least as early as five years into the program's operation").

¹⁸⁶ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 81-82. The article also states that an analysis by a consulting firm retained by the authors found that Performance Track facilities had a "slightly higher-than-average risk to public health" when compared to all facilities required to submit reports under EPA's toxic release regulations. *Id.* at 82. It is not clear from the article how that risk was measured. However, that finding is interesting in light of the EMAS studies showing that EMAS produced better risk management. See, e.g., Iraldo Presentation, *supra* note 25, at 6, 11-12. Therefore, there could be an additional benefit from having these facilities participate in a program like EMAS.

¹⁸⁷ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 82. See also RAND ASSESSMENT, *supra* note 9, at 46 ("[N]one of these options [benchmarking, continuous improvement, or transaction-based], on its own, provides information about whether a facility's improvement in performance was caused by its participation in the program. In other words, none of these approaches provides a framework for determining a facility's performance *but for* its participation in the program.").

¹⁸⁸ OIG REPORT, *supra* note 123, at 24.

¹⁸⁹ *Id.* at 23.

¹⁹⁰ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 81-82.

¹⁹¹ *Id.* at 61. The management support may have come from foreign parent corporations because implementation of EMSs in the United States were initially spurred by multinational corporations headquartered outside the United States. Magali A. Delmas, *Barriers and Incentives to the Adoption of ISO 14001 by Firms in the United States*, 11 DUKE ENVTL. L. & POL'Y F. 1, 19 (2000).

¹⁹² Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 61, 82.

A broad range of state and federal regulators, environmental NGOs, and members felt that [voluntary programs] provide an effective way to improve the flow of information and create new relationships among facilities and between regulated facilities and regulators. Stakeholders uniformly felt that [voluntary programs] should supplement more-traditional regulatory approaches by identifying and sharing information with firms and facilities to help them improve their environmental performance.¹⁹³

The RAND Assessment finding is consistent with the several benefits EMS disclosures can provide, as described in Part II.C.¹⁹⁴

The Coglianese and Nash article did note that the comparable non-Performance Track companies the authors found to compare with the Performance Track members (to assess whether the claimed benefits were achieved as a result of Performance Track) all had EMSs.¹⁹⁵ The fact that all these comparable companies that had compliance records similar to Performance Track also had EMSs is further evidence that EMSs may play an important role in achieving good compliance.

The studies of both EMAS and Performance Track did have some similar findings. The lack of program recognition was a main factor for organizations deciding not to participate in both programs.¹⁹⁶ Another finding similar to both programs was a concern about the cost of implementing the requirements of each program,¹⁹⁷ although in the 2009 EMAS study 22% of those who withdrew said that the cost was not a factor.¹⁹⁸

One further finding in the Coglianese and Nash article is that there is an inverse relationship between the rewards a governmental program can offer and participation in a voluntary program because of the additional

¹⁹³ RAND ASSESSMENT, *supra* note 9, at 89.

¹⁹⁴ In fact, because the Coglianese and Nash study indicates there may be no recognizable benefit to being an extrovert it raises the question whether companies should invest in the "extrovert" activities identified, such as top level management support for environmental initiatives, additional environmental personnel or governmental and community relations. See Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 55–56, 82–83.

¹⁹⁵ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 52. Some were third-party verified, some were not. *Id.* at 52 n.359.

¹⁹⁶ JAN VERNON ET AL., *supra* note 137, at 91, 97 (this study identified external barriers including a lack of market recognition of the EMAS logo and lack of recognition by public institutions as key barriers to EMAS registration); see also Jonathan C. Borck & Cary Coglianese, *Beyond Compliance: Explaining Business Participation in Voluntary Environmental Programs*, in EXPLAINING COMPLIANCE: BUSINESS RESPONSES TO REGULATION 139–41 (Christine Parker & Vibike Lehmann Nielsen eds., 2011) (describing how voluntary programs for environmental protection like Performance Track offered positive benefits, such as forms of public recognition, and explaining motivations that encourage businesses to engage in beyond compliance behavior and take voluntary environmental action).

¹⁹⁷ JAN VERNON ET AL., *supra* note 137, at 91; Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 21 ("Managers of facilities in the program raised concerns about the costs of participation and about EPA's failure to deliver promised benefits.").

¹⁹⁸ JAN VERNON ET AL., *supra* note 137, at 33.

requirements needed to justify the rewards,¹⁹⁹ has not been addressed in the EMAS studies.

Because the Performance Track program was never given the opportunity to address the concerns raised and incorporate the suggestions made by OIG and the RAND Assessment, the United States lost the opportunity to make changes to address criticisms and to evaluate the potential for such programs at the federal level.²⁰⁰ This is especially significant given the inability of the United States government to enact any new environmental legislation.

V. CONCLUSION

There is clearly a difference between the adoption of EMSs by facilities and organizations in Europe and the United States that goes beyond the European Union's commitment to its EMAS program compared with the withdrawal of Performance Track in the United States. The number of certified ISO 14001 EMSs in the European Union is currently about eighteen times the number in the United States, and that ratio has not been less than about nine times more certifications since 2006.²⁰¹ In fact, many facilities with EMSs in the United States are multinational corporations with their headquarters located abroad,²⁰² demonstrating an even greater difference between EMS implementation by American companies compared to their foreign counterparts.

A few reasons have been suggested as the underlying cause for this difference. In one study on cross-national variations in the adoption of EMSs by companies, the authors studied the response of firms in the United States, the United Kingdom, and Germany to EMAS and ISO 14001.²⁰³ In the United States and Germany, the relationship between the environmental regulators and the industries is considered adversarial, due to their command-and-control policies as well as the presence of politically strong environmental movements.²⁰⁴ In comparison, British environmental regulation is for the

¹⁹⁹ Coglianesi & Nash, *Performance Track's Postmortem*, *supra* note 14, at 70, 83.

²⁰⁰ RAND ASSESSMENT, *supra* note 9, at 3.

²⁰¹ 2015 ISO SURVEY DATA, *supra* note 56 (compare numbers from European Union countries on "ISO 14001 Europe" sheet with the numbers from the United States on "ISO 14001 America" sheet). The population difference does not explain this multiple because the number of people in the European Union was about 1.6 times larger than in the United States in 2015. World Bank, *Population, total*, <http://data.worldbank.org/indicator/SP.POP.TOTL?locations=US-EU> (last visited Nov. 19, 2016). In addition, the per capita Gross Domestic Product (GDP) in the European Union was 0.67% of the per capita GDP in the United States. World Bank, *GDP per capita, PPP (current international \$)*, <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=US-EU> (last visited on Nov. 19, 2016).

²⁰² Delmás, *supra* note 191, at 19.

²⁰³ Kelly Kollman & Aseem Prakash, *Green by Choice? Cross-National Variations in Firms' Responses to EMS-Based Environmental Regimes*, 53 *WORLD POL.* 399 (2001).

²⁰⁴ *Id.* at 416–19. In fact, German legislators initially "borrowed heavily from the American model." *Id.* at 419. The RAND Assessment noted that stakeholders reasons for objecting to

most part locally based rather than nationally based.²⁰⁵ Companies negotiate operating permits with local authorities who are legally authorized to take local environmental and economic conditions into account and who seldom take violators to court.²⁰⁶

Yet, uptake of EMAS in Germany and ISO 14001 in the United Kingdom is high, but low in the United States, so adversarial environmental regulation does not explain the difference.²⁰⁷ The authors of the study concluded that Germany's passage of detailed laws to implement EMAS in Germany, using EMAS "like a command-and-control instrument designed to oversee and measure firm environmental performance," facilitated the growth of EMAS and ISO 14001.²⁰⁸ In the United States, however, the public's ability to challenge governmental actions in court creates substantive uncertainty about whether a regulation will be upheld and enforced, and creates fears of expensive litigation that affect the willingness of companies to implement EMSs.²⁰⁹ This difference may provide an explanation and helpful insight into the current situation, but should not deter efforts to overcome those hurdles considering the benefits EMSs can produce.

To address today's environmental challenges more effectively, we need to move beyond environmental protection to sustainability.²¹⁰ Although command-and-control regulation has achieved many significant improvements, more recently it has been found to be "too costly, overly-prescriptive and, in some instances, ineffective."²¹¹ Moreover, "[s]ustainability initiatives tend to be characterized by innovation, adaptability, continuous change, and systematic thinking, and these are not always easy to harmonize with a statutorily driven, top-down regulatory

regulatory flexibility and broadly-based recognition programs included that "[r]egulators should avoid or carefully manage collaborative relationships that could interfere with their independence." RAND ASSESSMENT, *supra* note 9, at 78; *see also* Delmas, *supra* note 191, at 29–30 (noting that as much as United States firms fear potential liability costs from the EMS audits under ISO 14001, "it is unclear [as] to what extent the adversarial culture between industry and regulatory agencies has actually tempered. . . enough to effect a positive shift towards the diffusion of ISO 14001 in the U.S.").

²⁰⁵ Kollman & Prakash, *supra* note 203, at 420.

²⁰⁶ *Id.*

²⁰⁷ *Id.* at 404, 422.

²⁰⁸ *Id.* at 424.

²⁰⁹ *Id.* at 427. To satisfy one of the EMS requirements, a firm would need to write its policy on environmental matters, which can be regarded as having established a standard to which they may be held accountable later. Delmas, *supra* note 191, at 13–14. On the other hand, if a firm disclosed certain information or made detailed the environmental effects of its operations in pursuant to ISO 14001, the firm could be opening itself to future litigations—in certain contexts "where potential plaintiffs can access this information through a Freedom of Information Act (FOIA) request." *Id.* at 13 & n.60; *see also* Carr & Thomas, *supra* note 38, at 111 n.59, 119 n.82 ("[T]hird parties could remain free to use audit information disclosed to the government against a company, *e.g.*, in private tort litigation . . .").

²¹⁰ *See generally* George B. Wyeth & Beth Termini, *Regulating for Sustainability*, 45 ENVTL. L. 663 (2015); John C. Dernbach, *National Governance: Still Stumbling Towards Sustainability*, 39 ENVTL. L. REP. (ENVTL. L. INST.) 10,275 (Apr. 2009).

²¹¹ RAND ASSESSMENT, *supra* note 9, at 6 (referencing studies conducted in the 1990s).

system addressing specific issues in a narrowly targeted way.”²¹² The plan-do-check-act cycle of EMSs provide the perfect platform for the “innovation, adaptability, continuous change, and systematic thinking” required for sustainability.²¹³

Given the inherent range of possible benefits EMSs can provide—from interdisciplinary problem solving to systematic assessment and correction—further research, experimentation, and evaluation are warranted to determine which EMS programs to encourage through the enactment of reflexive laws.²¹⁴ These governmental programs need to establish clear goals and concepts before giving significant benefits to regulated entities,²¹⁵ but there can and should be further experimentation to explore the possibilities so that everyone can have more confidence once programs are initiated. The continuing development and evaluation of EMAS provides important additional information and should be examined more closely by EPA.

Areas of focus suggested by the comparison of EMAS and Performance Track include the repeated findings of negative incidence avoidance and risk management in the EMAS studies, which are not mentioned in the Performance Track studies. In fact, EPA does not recognize either of those items as even potential benefits of EMSs on its website.²¹⁶

To achieve sustainability and address the significant environmental issues like climate change, we also need to explore all forms of contribution from all stakeholders, including regulators, industry, communities, and NGOs. One possibility for pulling these diverse groups together in a constructive way is to investigate options for collaborative governance mechanisms. Collaborative governance was an initial cornerstone of President Barack Obama’s presidency:

My Administration is committed to creating an unprecedented level of openness in Government. We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration. Openness will strengthen our democracy and promote efficiency and effectiveness in Government.

....

....

Government should be collaborative. Collaboration actively engages Americans in the work of their Government. Executive departments and agencies should use innovative tools, methods, and systems to cooperate among themselves, across all levels of Government, and with nonprofit

²¹² Wyeth & Termini, *supra* note 210, at 666.

²¹³ *Id.*

²¹⁴ Reflexive law is “law that fosters self-regulation.” Hirsch, *supra* note 95, at 1,069.

²¹⁵ RAND ASSESSMENT, *supra* note 9, at 90.

²¹⁶ U.S. Env’tl. Prot. Agency, *Learn About Environmental Management Systems*, <http://www.epa.gov/ems/learn-about-environmental-management-systems#costs> (last visited Nov. 19, 2016).

organizations, businesses, and individuals in the private sector. Executive departments and agencies should solicit public feedback to assess and improve their level of collaboration and to identify new opportunities for cooperation.²¹⁷

The Collaborative Law movement could be instructive in establishing effective forums and processes. This movement was developed in the early 1990s to overcome the contentious divorce and child custody cases fostered by the adversarial process.²¹⁸ It has transformed the practice of family law.²¹⁹ Given the often adversarial relationships among regulators, regulated facilities, communities, and environmental NGOs, it is worth investigating the Collaborative Law process for ways to move towards sustainability.

Another important question raised by the comparison of the EMAS and Performance Track studies is what value extroverts have in the environmental arena. Because EMSs require the collection of a significant amount of information about environmental operations and governmentally sponsored programs like EMAS integrate the development of that information with disclosure requirements, they could provide a platform for implementing collaborative environmental governance to address the many significant issues we face. As the RAND Assessment concluded, “[e]xperimental programs should be developed and operated openly” with the participation of all stakeholders.²²⁰

Other important questions include: 1) how large an EMAS or Performance Track program should be; and 2) whether it should be inclusive, to encourage as many facilities to join as possible, or exclusive, to recognize top performers who may provide leadership and important innovations.²²¹ The answer to those questions will require further research. The lack of answers, however, should not deter governments from moving forward with program development, especially in light of emerging research that “a regulatory scheme can be designed to exploit certification,” and when combined with traditional enforcement mechanisms “can lead to substantially greater environmental performance.”²²²

EMSs have the potential for delivering significant and continuing value. The United States should revisit voluntary programs like Performance Track, utilizing the information developed by EMAS and other governmental EMS-based programs around the world.

²¹⁷ Memorandum on Transparency and Open Government, 2009 DAILY COMP. PRES. DOC. 10 (Jan. 21, 2009).

²¹⁸ Pauline H. Tesler, *Collaborative Family Law*, 4 PEPP. DISP. RESOL. L.J. 317, 317 (2004).

²¹⁹ *Id.*

²²⁰ RAND ASSESSMENT, *supra* note 9, at 89.

²²¹ Coglianese & Nash, *Performance Track's Postmortem*, *supra* note 14, at 83.

²²² Linus Nyiwul et al., *Prescriptive Measures for Environmental Performance: Emission Standards, Overcompliance, and Monitoring*, 17 CLEAN TECHS. & ENVTL. POL'Y 1077, 1078 (2015).