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A Summary of a  
State-Driven Research Journey  
Toward Innovative Governance that Achieves  
Greater Environmental Performance

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May 2003

Produced by the  
Multi-State Working Group  
with the  
La Follette School of Public Affairs  
University of Wisconsin–Madison

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Juhie Shinn  
Editor

The Multi-State Working Group for environmental innovation is a state-based network of more than 200 professionals who are interested in systems-based environmental improvement. These professionals come from the government, non-government, business and academic sectors. They work at various organizational levels and represent many disciplines. Many have access to top management or policy advisors. Systems approaches see air, water and land as interconnected, prompting a focus on the root cause of pollution rather than a symptom. MSWG members know there is a need for new policies and tools, such as environmental management systems, contracts, charters and covenants to move forward. MSWG meetings, events and research are focused on people from diverse sectors working to together find better ways to protect the environment within a system of cooperative federalism. See [www.mswg.org](http://www.mswg.org)

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## **Setting the Stage for Change: the World We're in and How Civil Society is Already Adapting**

Graham K. Wilson

The last three decades of the twentieth century witnessed a dramatic growth in knowledge and concern about the damage that humans do to their environment. The quality of the air we breathe, the water we drink, and even the degree to which we are protected from the sun's harmful rays became matters of widespread concern. While very few citizens showed any inclination to abandon or modify seriously the habits, practices, and living arrangements that do much to generate environmental damage, all advanced democracies did experience a powerful demand for action to address these problems. As a consequence, the governments of the advanced industrialized democracies, with varying degrees of enthusiasm and speed, adopted and revised laws intended to promote higher standards of environmental performance. By and large, these laws have had a positive impact. For example, the cleanliness of our lakes and rivers is much better than in the recent past; from Cleveland, Ohio, to London in the United Kingdom, cities understandably and proudly proclaim the return of fish to waters from which they were banished by the industrial revolution and the growth of cities in the nineteenth century. Emissions from individual automobiles are generally less and less damaging than thirty years ago, even though the increase in the total number of automobiles has limited the gains from this change.

Yet far from feeling satisfied or content with the progress that has been made in environmental policy, people most closely involved in the issue have felt that a fundamental reappraisal of environmental policy is needed. This feeling results from the confluence of several different factors.

First, there is widespread recognition of the fact that despite the progress that has been made, environmental problems remain. Indeed, the problems that remain are probably more challenging than those that have been solved; the "soft targets" have already been eliminated and those that remain are important yet hard to hit. Most scientists agree that global warming is occurring with potentially disastrous consequences for many people and even nations. Yet solutions to this problem, particularly politically feasible solutions, are in short supply. Many of the environmental problems we confront do not require tackling the relatively easy to administer and politically targeted point sources of pollution, such as smokestacks of power plants. Rather, they require addressing the difficult-to-administer and politically hard-to-reach, non-point source pollution generated by automobiles, farmers, and many others who have little sense that their activities are damaging the environment.

Second, a variety of factors in recent decades have made industries keenly aware of the importance of containing costs, including the costs of environmental protection. From the oil shocks of the 1970s onwards, pressures to contain costs have been significant. Globalization has intensified the competitive pressures on companies dramatically. Industries such as automobile manufacturing have had strong domestic positions which allowed them to take a somewhat tolerant view of reforms that cost them money. However, even the automobile manufacturing industry became acutely aware of the importance of holding down costs, because of the competition resulting from the successes of first the European and later the Japanese manufacturers. Industries have been understandably inclined to resist regulations that drive up their costs.

Third, there has been considerable questioning of regulation as a form of governance, particularly in the United States. The degree to which regulation has been a subject of controversy has varied from country to country, because the nature of regulation has also varied significantly. In some countries, regulators have shown flexibility and common sense in their work. In other countries, however, regulations have been highly intrusive, mandating action in a way that is cumbersome, costly, and often not very effective in improving the environment. Complaints that the relationship between regulators and the regulated have been legalistic, unduly adversarial, and sometimes more likely to involve "going by the book" than addressing important issues effectively, have been common.

Even where regulation has not had such a poor reputation, however, there has been a decline in the belief that government can carry all the burdens of governance in the environmental sphere as in many others. The three decades after the end of the Second World War were characterized in most advanced industrialized democracies by considerable faith in the capacity of government to solve problems. Admittedly, this confidence varied from country to country. Yet even in a country such as the United States, characterized for most of its history by its

commitment to belief in a limited role for government, the list of problems that government was expected to solve expanded; the state of the economy, access to health care for the old and poor, poverty itself, the quality of education, occupational safety and health, as well as environmental problems, were added to the list of federal government's responsibilities. Government expenditure as a proportion of gross national product expanded significantly in all the wealthy nations, including the United States; by 1980, government spending as a proportion of GNP in the United States had reached a level more associated with "socialistic" countries such as Sweden in the early 1950s.

Predictably, a reaction set in. By the late 1970s, intellectuals speculated that an "overload" had occurred. Government was expected to do more than it could achieve, and as a consequence, it frequently failed. This overload created a damaging contrast between the unrealistically high expectations of government and its actual capacity to deliver. Despite the fact that prominent leaders such as President Reagan and British Prime Minister Thatcher struggled mightily to shrink the size of government, popular support for major government programs such as Social Security (in the United States), the National Health Service (in the U.K.), and of course environmental protection (in both countries) remained high. The criticism of government inefficiency and ineffectiveness expressed by the "overload" theorists was widely accepted, even by many to the left of center in their politics. However, the most obvious solution – that government should simply attempt to do less – was grounded on the rock of the enduring popularity of many government programs, including the most expensive ones. The quest for a "third way" in government in the United States during the Clinton administration, Britain during the Blair government, and to a lesser extent Germany during Schroeder's Chancellorship, reflected a recognition of both the validity of the critiques of government on the one hand and the continuing demand for government programs on the other.

One strategy for reconciling these pressures is to view the responsibility for governance as extending beyond government. Few policy spheres among the advanced industrialized nations have provided more examples of attempts to share governance more widely than has environmental policy. A short list of obvious examples would include:

- attempts to encourage firms to monitor and improve their environmental performance through Environmental Management Systems (EMSs), sometimes externally validated and certified as in the ISO 14001 scheme
- persuading industries and sectors to take responsibility for monitoring and managing their environmental impact as in the EMAS schemes most commonly found in Germany
- having industrial sectors negotiate and commit to environmental improvements as in the Covenant system in the Netherlands or in the sectoral agreements made in the U.K. in which industries receive a reduction in certain taxes if they commit to improving their environmental performance in specified areas
- encouraging financial institutions, particularly as in the U.K. pension funds, to press for improvements in environmental performance
- enlisting accountants in campaigns to insure that businesses identify and ameliorate the environmental risks they create on the grounds that the true state of companies' finances can be assessed only when this has been done
- creating institutions that bring together government, business and environmental groups, in order to recognize and reward superior environmental performance as in the proposed Green Tier program in Wisconsin.

All of these measures will be familiar to participants in the Multi-State Working Group (MSWG). The MSWG has brought together participants not only from around the United States, but also from other nations, in pursuit of identifying and encouraging best environmental practices. These examples demonstrate, to some extent, the need for sharing the tasks involved in enhanced environmental governance between government and other actors. They are all, to use a language more familiar perhaps in the discussion of emerging and consolidating democracies, examples of using "civil society" as well as the state to address environmental issues.

We should not be naive in our hopes, however. Just as in the late twentieth century we learned that while government can achieve much, it also has its limits, so in this century we shall undoubtedly become aware of the limits of private sector governance. Some are already evident.

First, we cannot rely entirely on the good will of the private sector. Many corporate leaders are highly publicly spirited and have embraced measures to improve the environment. Others need incentives. Some of these incentives may come from government in the form of tax concessions. The most effective incentive may be provided by other private sector actors that recognize, for example in the case of financial institutions, that an environmentally effective firm is in general a well-managed firm, to which it makes good business sense to extend loans. Yet, at present we do not have the hard evidence we would like to use to show that the commercial performance of firms that use schemes such as ISO 14001 or EMAS is better than that of firms that do not.

Second, we must recognize the danger that a firm's involvement in voluntary action, supposedly to improve the environment, may be a public relations exercise, perhaps motivated in part by a wish to draw attention away from a poor record. There have been a number of disturbing instances, in both the U.S. and the U.K., of firms that have ISO 14001 certification being challenged for failure to honor basic environmental laws and regulations.

Third, private sector governance will invite us to apply President Reagan's policy toward the former Soviet Union: trust but verify. Many proposals for expanding private sector governance rely on the verification by private sector actors of environmental performance by business. There has been much support for trading pollution permits or rights as means of promoting enhanced but economically efficient levels of environmental protection. Trading, like effective self-regulation, requires effective environmental auditing, auditing that will show exactly what is and what is not being emitted or discharged. Yet as the Enron affair in the United States showed, even the long established accounting firms can fail to identify corporate financial weaknesses. The much newer profession of environmental monitoring and auditing will face even greater challenges in securing consistent, meaningful data on firms' environmental performance.

These problems are a reminder that traditional environmental laws and regulations will remain an indispensable bedrock on which private sector governance can build. Yet just as problems with traditional regulation have not invalidated the case for having environmental laws, problems with private sector supplements to regulation should not cause us to believe that they have no contribution to make. The identification and correction of problems in private sector governance will be an important challenge in the years ahead, so that the promise of sharing more widely the challenges of governance can be fulfilled.

## **Change in the Context of Established Policies, Programs, and Infrastructure**

Jeff Smoller

Just as Professor Wilson, in the previous article, documented the dynamics affecting how societies govern themselves around the world, there also are changes in how societies think about themselves and the work they do. Although these changes simply reflect the reality of natural law, it may seem unnatural to some, given the legal and bureaucratic processes and structures created years ago. Systems thinking within an adaptive legal framework is not a subject that engages elected officials and environmental bureaucrats. But it should.

In the last thirty years, science has come to understand with much greater clarity the connections among air, water, land and living things. Environmentally disposed economists have defined “natural capital” as something that can place economic value on the services those resources provide. Provocative thinkers now factor subjects like health, education, income and sense of community into environmental decisions that use the sustainability touchstone.

Indeed, in each of the three topics—environment, economy and community—we now appreciate that things are both connected and in constant flux. It is, perhaps, a biological system that contrasts with many of the underlying assumptions of environmental laws and business environmental practices. Moreover, not only have the roles and consequence of the nation-state, corporation, trade, communications networks and financial systems changed in the last thirty years, but so have the ways humans learn and think about the environment.

The symbolic shift in thinking came in June 1992 at the United Nations Earth Summit in Brazil. To its credit, the business community, as a result of the Summit, decided to respond by creating a new environmental management tool. The International Organization for Standardization (ISO) volunteered to develop a systems standard that was general enough to apply to organizations and facilities throughout the world, but also specific enough to allow anyone using it to ask questions that could move the user far beyond minimal environmental compliance required by law. Thus, ISO 14001 was conceived, a standard that allowed the user to do better than the minimum, but didn't guarantee it.

As might be expected, those in charge of the still imperfect command and control framework were skeptical at best. Many were hostile, especially in the United States, where we were less familiar with systems approaches. This is in contrast to the Europeans, who have been experimenting with systems thinking and approaches for some time. Few in the United States understood what an environmental management system was, and even fewer saw how it could be used, within a regulatory framework, to perform better and thereby meet the challenge of sustainability defined at the Earth Summit. We were suspicious.

Thus, it was within this climate of scientific, economic, social and institutional change and cultural suspicion that the Multi-State Working Group (MSWG) organized. Among its first challenges, the MSWG decided to articulate the questions many were thinking about and search for credible scholars to answer them. This summary is a snapshot of three steps on that search for a better way to protect the environment through innovative public policy and systems thinking.



## Asking Systems Questions: A Research Venue for Moving Beyond Minimum Compliance

De Witt John

Since the International Organization for Standardization (ISO) unveiled its 14001 environmental management standard in 1996, interest in environmental management systems (EMSs) has grown rapidly. An increasing number of corporations are adopting EMSs to identify and manage their environmental risks and impacts. Recently, Ford and General Motors announced that their suppliers would have to develop EMSs that can be certified to the ISO 14001 standard. Environmental regulators, policy analysts, and environmentalists have taken notice.<sup>1</sup> They debate whether EMSs improve firms' environmental performance; whether government agencies should encourage the adoption of EMSs; whether regulatory agencies should treat ISO-certified facilities differently; and whether ISO 14001 could be improved.

Those issues framed the discussion at the National Research Summit on Environmental Management Systems, convened by the Multi-State Working Group on Environmental Management Systems, the Brookings Institution, the United States Environmental Protection Agency, the National Academy of Public Administration, and the Council of State Governments on November 2 and 3, 1999, in Washington, D.C. Some forty experts<sup>2</sup> from academia, government, business, finance, environmental advocacy, and think tanks sat around a hollow square to hear presentations on seven research papers and to discuss their significance. Eighty interested observers joined and enriched the discussion. This paper summarizes the research papers presented at the MSWG Research Summit and the discussion.

### *What Are Environmental Management Systems?*

Summit participants spent some time answering this basic question: what is an EMS? This summary adds additional details for the non-expert. EMSs are “formal structures of rules and resources that managers adopt in order to routinize behavior that helps achieve corporate environmental goals,” as **Jennifer Nash** and **John Ehrenfeld** of MIT explained in their paper for the summit.<sup>3</sup> Thus an EMS defines how a corporation (or other organization) manages its potential risks to and impacts on the natural environment and on the health and welfare of the public. Those systems may be relatively informal or designed in accordance with recognized standards such as ISO 14001, the European Commission's Eco-Management and Audit Scheme (EMAS), or the British Standards Institute's ground-breaking BSi 7750 EMS Standard, first published in 1992.

EMSs generally provide that a facility, firm, or organization take the following sequence of actions:<sup>4</sup>

- Establish an environmental policy
- Identify environmental aspects and impacts
- Set priorities
- Assign responsibilities
- Train workers
- Review progress
- Continuously improve

The evolution of EMSs began in the mid-1980s.<sup>5</sup> Early EMSs in the United States were typically focused on due diligence and compliance with laws and regulations, but some also considered issues outside the regulatory box, as a way of focusing attention on opportunities to save money on disposing wastes or treating effluents. EMSs as initially implemented in Europe took a broader and somewhat more progressive approach, aiming beyond mere regulatory compliance and pursuing in some instances revolutionary approaches to environmental risk management.

Also in the 1980s, seven trade associations in the United States developed codes of environmental man-

agement practices that roughly approximate the definition of environmental management systems. The best-known example is the Responsible Care® initiative of the U.S. Chemical Manufacturers Association (CMA). Responsible Care® is a set of guiding principles and management practices governing environmental and safety aspects of the chemical industry, including distribution, product stewardship, and community relations as well as manufacturing. CMA requires that members adopt Responsible Care® as a condition of membership. Other trade associations have adopted EMS-emulating programs that approach Responsible Care® in their comprehensiveness and inclusion of third parties.<sup>6</sup>

In 1993 the International Organization for Standardization convened a process to develop an international environmental management standard. Most of ISO's previous work had focused on product standards precise specifications of product attributes. Developing a standard for environmental management systems required a new approach, which ISO had pioneered with ISO 9000 standards for total quality management systems. Instead of offering detailed prescriptions of operating *practices*, ISO decided to work to define *procedures* that firms must follow to identify environmental impacts, train workers, and document progress. The British Standards Institute (BSI) had utilized this approach in the EMS standard it issued in draft form in 1992. ISO committees followed BSI's lead and drafted an EMS standard they believed was flexible enough to be applicable to any industrial organization.

ISO's work was strongly influenced by the theory of total quality management. Total quality management is based on the idea that greater quality—in the form of fewer defects, faster delivery time, and reduced operating costs—leads to lower costs to the producer and greater customer satisfaction. Under a total quality management framework, all activity flows from an assessment of business issues and a business policy generated by top management. The primary purpose of the management system is to ensure that business activities are carried out in accordance with this policy. Managers periodically check to see whether the organization is on track toward stated system goals and make any necessary corrections. Documentation is called for and includes policies, the names of people responsible, the actions they will take to move the organization toward system goals, and auditing and training procedures. Management systems based on total quality frameworks, like ISO 14001, emphasize management accountability to stated policy goals.

ISO 14001 provides that firms may hire third-party registrars to certify that their management systems comply with the standard. Third-party certification and associated registration is intended to ensure that all elements specified by the standard are in place, employees are aware of their roles and responsibilities, and the system is directed toward achieving the goals the organization has specified for itself in its policy and objectives. Only facilities that have had their systems reviewed and approved by a qualified third-party registrar may be registered to the standard.

Nash and Ehrenfeld reported that as of June 1999, approximately 10,500 organizations had become ISO 14001 registered. Japan had the most: 2,124. In the United States, about 450 organizations had registered to ISO 14001. This total represented only about 1 percent of the number of U.S. facilities that emit toxic air pollutants in quantities sufficient to require reporting to U.S. EPA. The pace of registration in the United States is increasing, however. More than 225 U.S. facilities had registered to the standard during the first three quarters of 1999. It is unknown how many facilities have self-declared conformance with the standard since no organization tracks this information. Many firms have undertaken "gap analyses" to determine the degree to which their EMSs conform to ISO 14001, but again, the number is not known.

### *Do EMSs Lead to Better Environmental Results?*

The summit participants generally agreed that EMSs could provide committed managers with useful tools for improving their facility's environmental performance. Some maintained that EMSs could even improve performance in plants where managers were less committed to environmental goals. EMSs might have this result because they make information about improved environmental practices available more widely, and distribute responsibility for environmental risk management more broadly. Participants also agreed that

use of an EMS would not necessarily lead to an improvement in a facility's environmental performance, unless pursuing and measuring environmental improvement were an integral part of the EMS.

**Richard Florida** of Carnegie Mellon University presented a paper analyzing information about firms that have adopted EMSs.<sup>7</sup> His data are based on a survey completed by 583 firms in Pennsylvania. He found:

- Twenty-four percent of the plants with more than fifty employees have adopted an EMS. In addition, 28 percent have adopted a formal pollution prevention (P2) program, and 18 percent have adopted both an EMS and a P2 program.
- Plants which use both EMSs and P2 programs are much more likely than others to utilize a wide range of advanced management practices, such as total quality management (TQM), employee involvement in the management process, just-in-time inventory control, and ISO 14001 certification. For example, twice as many EMS/P2 plants reported a TQM program.
- EMS/P2 plants were significantly more likely to sponsor community environmental activities (54.8 % versus 20.2 %) and about three times more likely to involve neighbors and citizens in their environmental priority setting and program development (30.6 % versus 12.1 %) and to share environmental information with neighbors and citizens (37.1 versus 13.1 %) and environmental groups (46.8 % versus 12.1 %).
- EMS/P2 plants tended to be significantly larger and have three times the number of dedicated environmental staff.
- Plants said the reasons for adopting EMSs or P2 programs included corporate goals (average of 2.07 on a scale from 1 – most important – to 6), commitment to environmental improvement (2.54), state regulatory climate (3.13), business performance (3.46), federal regulatory climate (3.50), or improved community relations (4.38). Firms with both EMSs and P2 programs reported that key goals included regulatory compliance and cost savings (both 100 %) improved business performance (96.8 %), and self-motivation (93.5 %).

Florida also noted that “high-performing” plants (with both EMSs and pollution prevention programs), by their own calculations, report causing fewer environmental problems. For example, more than half of EMS/P2 plants reported that their EMS was having a positive impact on community environmental quality compared to 15 percent of other plants. Three-quarters of EMS/P2 plants cited their pollution prevention efforts as having a significant positive impact on community environmental quality, compared to 43.4 percent of other plants. Nearly 60 percent of EMS/P2 plants reported their efforts to increase community awareness of pollution prevention as having a significant positive impact on the environment compared to 35.4 percent of other plants.

In his presentation to the conference, Florida explained that he believes that most of the firms that have adopted EMSs are using them as one of a bundle of new technologies to make the firm more competitive. In the new economy, knowledge and human capital are the critical factors for making a firm competitive, and environmental performance is an arena where it is possible to improve productivity. He suggested one way to think about the strategy of firms using an EMS. In the 1970s, the new paradigm was zero defects; in the 1980s, the new paradigm was zero inventory; now the new paradigm is zero waste and zero emissions. “Lean and green go together,” he said.

Florida's conclusions did not go unchallenged. **Shelley Metzenbaum** of the University of Maryland<sup>8</sup> and Nash both cited a study of TRI emissions at 3,606 facilities that represent 95 percent of the production volume of the chemical industry. The study, by Andrew King and Michael Lenox of MIT, found that plants participating in Responsible Care cut emissions no more quickly than did non-Responsible Care facilities.<sup>9</sup>

Jennifer Nash and John Ehrenfeld said their research shows that firms' approaches to EMSs vary widely. Some see EMSs as “mostly paperwork,” whereas others see them as “opportunities to strengthen already dynamic [environmental management] programs.” Their interview with sixteen firms found that Responsible Care© dramatically changed thinking in three of the 16 firms and was a useful tool in another three. In ten of

the firms, however, Responsible Care® was perceived primarily as a public relations tool that helped with external constituencies but did not significantly change internal behavior.

Nash told the summit that EMSs have recently become symbols -- firms are adopting them in response to cost constraints, business needs, a commitment to environmental excellence, peer pressure, customer demand, or as part of an agency negotiation. EMSs do not force corporations to improve their environmental performance, they said; EMSs are flexible, so their impact depends on the strength of their design and in some cases how strongly corporate leaders push for better performance. As **Jason Morrison** of the Pacific Institute told the summit, though valuable, EMSs are “engines without a steering wheel” because they do not require strong environmental values. Metzenbaum said that EMSs have a greater impact on the process than on environmental results. EMSs can engage stakeholders, provide accountability, and strengthen democracy—all worthwhile, though not directly leading to environmental improvements.

**Scott Butner** of the Pacific Northwest National Laboratory said that EMSs do not necessarily deliver greater public confidence and accountability, especially given distrust of business and government.

**Cary Coglianese** of Harvard's Kennedy School of Government presented a paper in which he also argued that EMSs do not assure good environmental results; some firms may implement their EMS in only a token or ritualistic way. However, the existence of an EMS may “draw in” employees” signaling them to give priority to environmental performance.” Then if the firm backs up its EMS with a credible system of verification, this may “lock in” sustained environmental performance.<sup>10</sup> Coglianese said what was needed was a theory of why EMSs work. “What is it about the EMS,” he asked, “that had the potential to produce results for both the business and society? And how can that theory be tested in the context of both the economic, environmental and social conditions and realities of the day as well as trends that are affecting their interconnected future?” He emphasized the need for research that showed correlation but also causation.

**Suzanne Maria Dickerson** of BMW said that EMSs seem to be leading to better environmental performance within the BMW Group and other organizations she has observed, because EMSs help spread information about best environmental practices. Christian Richter of the National Association of Metal Finishers said that EMSs had been less important than other factors, such as the publication of information about toxic releases by plants in getting his members to reduce emissions, which have dropped sharply in recent years. However, he said that if a firm's EMS adopts ambitious environmental targets and backs them up with third-party auditing and stakeholder involvement, the results could be impressive. Should policymakers encourage adoption of EMSs? Should they encourage something more specific than ISO 14001?

At the opening session of the summit, **Jay Benforado** of the Environmental Protection Agency said that the agency is firmly committed to encouraging adoption of EMSs, including those based on ISO 14001. There was a vigorous debate at the summit about whether and how policymakers might encourage the spread of EMSs and whether it would be useful to focus public policy on EMSs. Some argued that existing voluntary EMSs should be augmented by additional minimum requirements for public reporting and environmental performance achievements, creating an “ISO-plus” or “public policy EMS.” Others argued that it would be a serious mistake to interfere with the voluntary nature of the EMS or to render it more rigid by imposing regulatory mandates on it.

Several speakers identified inadequacies in current public policies for environmental protection. **Marian Chertow** of Yale University said that the current regulatory system is “an inch wide and a mile deep.” That is, it regulates some kinds of pollution in great detail but does not cover many others (notably small- and medium-sized businesses and other small sources) at all. Furthermore, the current system emphasizes compliance with regulatory requirements and gives few incentives for firms to make further improvements in their environmental performance.

ISO 14001, in contrast, requires continuous improvement, and all EMSs provide a framework for firms to consider additional issues beyond compliance, if they choose to do so. **William Moomaw** from Tufts University contended that private mandates may be stronger in producing social value than some of the public ones, especially when considering the issue of sustainability that is not considered by most rules and regulations.

Florida, based on the findings in his paper, argued that regulators should “recognize the potential of EMS” as a predictor or signal of environmental performance. In his view, environmental violations are a symptom of deeper management deficiencies that are making firms less competitive, as well as dirtier. He suggested that regulators should focus their inspection, enforcement, and assistance resources on firms that do not have good EMSs, especially small and medium-sized firms that lack the resources to develop EMSs. If a firm is certified to ISO 14001, regulators should inspect it less often. His paper argues that regulators currently discourage firms from adopting EMSs by focusing so much attention on compliance.

However, several participants expressed concern that if government agencies start to make inspection and enforcement decisions based on the use of EMSs, firms might adopt an EMS primarily to avoid being targeted for inspections. The decision by GM and Ford to require their suppliers to become ISO certified may further weaken the potential signaling value of EMSs for policymakers. **Walt Carey** of Nestle said that if policymakers do not give firms incentives to adopt EMSs, their popularity and usefulness might decline.

Coglianesse presented several ways that public agencies could encourage adoption of EMSs: by providing technical assistance to firms seeking to develop EMSs; by assuring that information disclosed in EMS documents will not be used against the firm in enforcement actions or citizen litigation; through enforcement forbearance; and through awards of regulatory flexibility of various kinds. He concluded, however, that research has not yet shown clearly that adoption of EMSs leads to better environmental performance, and that it would be premature to redesign environmental policy to reward EMSs. It might never be appropriate to overhaul the regulatory system to rely heavily on EMSs.

Scott Butner also said regulators should not consider EMSs a guarantee of environmental excellence and advised study of EMS goals, objectives, pollution prevention, citizen participation and transparency attributes before considering regulatory flexibility.

**Terry Davies** of Resources for the Future was apprehensive about moving toward a prescriptive “public policy EMS” that might repeat the mistakes of the prescriptive command and control approach.

Virtually any incentives public agencies might deploy to encourage firms to adopt EMSs will be trumped by business relationships, several participants said. For some firms, the most persuasive reason for adopting an EMS would be that a larger firm to which it sells its products demands ISO certification.

Chertow and other participants argued that private contracts between corporations and their suppliers will be far more effective than regulatory incentives or governmental exhortation in spreading strong EMSs. William Moomaw said contract law is the most rigidly enforced law in the United States and suggested that the power of “private mandates” may be stronger than is realized by government regulators and others. He envisioned the accomplishment of “green trade” regions and agreements that produced economic, environmental and social value. Top management in business will begin to see the value in this approach which will make regulatory flexibility meaningful because it will produce social value.

Carey described the spread of ISO 14001 within several Nestle facilities in the United States. Most facility managers resisted at first, maintaining that they were too busy to develop an EMS. One plant manager, however, quickly embraced ISO 14001 and effectively used it to address several problems and improve his plant's bottom line. Others in the corporation noticed the success and decided that it would be prudent to catch up.

**Jerry Speir** of Tulane University presented a paper that asserted that although the limitations of the current regulatory system are “self-evident,” it is not at all clear that EMSs are a necessary part of the solution.<sup>11</sup> He expects that so many factors influence corporate behavior that research will never make a “direct causal link” between EMSs and performance. Speir explored the practical issues that Wisconsin and Oregon are encountering as they construct “performance-track” systems based on the notion that states may be able to encourage firms to adopt EMSs and beyond-compliance strategies by rewarding evidence of good performance with recognition, technical assistance, or regulatory flexibility. Speir noted the difficulty of meshing these approaches with traditional regulatory programs and suggested that a few states should be authorized to conduct bold experiments with a performance-track system.

Nash and Ehrenfeld noted other difficulties with agency programs to reward “excellent” firms for adopting EMSs. Such programs can break down over each party’s difficulty in determining if the other has kept its promise. This depends on three factors: how well the conditions of satisfaction can be specified (specificity), how well these conditions can be observed (observability), and how to handle breaches or failures to keep the promises (enforceability). The same problems of specificity, observability, and enforceability arise in standard contract theory in both the legal and economic contexts.

Moomaw presented a paper making a rather different critique of EMSs and opening a contentious issue about whether the prevailing EMS standards, particularly ISO 14001, should be strengthened in any way.<sup>12</sup> His paper argues that most EMSs focus far too narrowly on pollution. To address root causes, EMSs must incorporate social values such as equity, justice, community values, security, education, and trust. His paper offers case studies of three corporations that have adopted EMSs that do address such broader values. He proposes that policymakers encourage experimentation with “Sustainability Management Systems” rather than EMSs. For example, policymakers might establish “green procurement” programs keyed to such systems. In the discussion following Moomaw’s presentation, several participants suggested that research on EMSs in small and medium-sized enterprises could be revealing.

**Theodore Panayotou** of Harvard University presented research making a different critique and arguing against making ISO 14001 more prescriptive.<sup>13</sup> He argued that the cardinal virtue of EMSs in a rapidly globalizing economy is their flexibility. The ISO 14001 standard, which is only four pages long, provides a common language that is helpful to multinational firms and to international supply chains, because economic and environmental conditions vary so widely. The flexibility of EMSs allows firms to adopt different goals and priorities in different countries. EMSs are not perfect. For example, in emerging economies where regulators sometimes have less influence, EMSs will have relatively more impact on environmental performance than regulations do. In those same countries, however, firms sometimes cannot afford to implement elaborate management systems, so public policies should not make EMSs too broad or impose requirements that would limit flexibility.

In the opening paper to the MSWG Research Summit, **Robert Stephens** of the California Environmental Protection Agency introduced another perspective.<sup>14</sup> Policy, he said, should focus on outcomes, specifically on encouraging firms to do better than simply meet regulatory requirements. Systematic management of environmental affairs will help meet this goal, and EMSs are a tool for such management. Firms can use EMSs to produce quality information about environmental performance and to shape discussions with stakeholders that use this information to set goals, build trust, and monitor progress. Stephens concludes that policymakers should give incentives (such as the voluntary “green tier” programs that Wisconsin and Oregon are designing) to firms that adopt EMSs which make information publicly available and establish such processes.

Several participants agreed with Stephens that “quality information is the most powerful tool” for producing change in environmental performance. But some speakers said that policy should focus directly on information rather than on EMSs. Suellen Keiner of the Environmental Law Institute deplored the “rush to judgment” on using EMSs as a policy tool. She noted that it is difficult to check the quality of information produced under EMSs and said that the first task was to study what kind of information can best drive environmental performance.

ISO 14001 does not require firms to make public the results of internal performance audits. Some critics of the standard maintain that public agencies should not reward firms for ISO 14001 certification unless those firms go beyond the standard and create a more transparent—and standardized—approach to reporting on environmental performance.

**Darlene Pearson** of Canada’s Commission for Environmental Cooperation, speaking for herself, said, “government lives in a goldfish bowl, and businesses are now beginning to recognize that transparency with the public is as important for them. Business already practices transparency in business-to-business relationships that are implemented through contracts. Transnational trade agreement authorities are looking promoting transparency, and public involvement in their policies and EMSs will need to be mindful of that trend.”

In her research presentation, Metzenbaum said that using EMSs as a policy tool is “not a good idea.” Instead, policy should focus on building a “robust information infrastructure,” which today is sorely lacking. EMSs may make useful information available, but that is not always the case. Furthermore, Metzenbaum argued, developing policies about EMSs might inhibit innovation if policymakers prescribe the characteristics of EMSs, such as the use of full cost accounting methods, eligible for policy rewards. Such process standards could impede innovation by making it less costly for companies to use “approved practices” because the approval process would be faster. This would lessen the incentive for companies and consultants to test and evaluate new methods that might be more effective management systems.

Metzenbaum did urge government to support EMSs or other policies that generate improved environmental information for both companies and the public, including standardized and verified measures and objective case studies of the effectiveness of different environmental management strategies. She also noted the need for stronger, more focused information channels that can deliver information to potential users when they need it and in a form they can use. Finally, she urged more research on how information motivates performance.

Several participants asked whether EMSs will encourage steps to make better data available. Morrison noted that ISO does have “teeth” that will result in better data. It requires certified firms to adopt specific methods to measure performance and to provide this information to workers. **Edward Quevedo** of Pillsbury Madison & Sutro noted that corporate management systems are now starting to take social concerns into account. They want to produce products that are marketable, and this may require demonstrating that the products address individual and social needs, interests, and goals, including, perhaps, those raised by Moomaw.

**Christopher Paterson** of the Green Mountain Institute for Environmental Democracy cautioned that most people do not welcome more information; they are already overwhelmed. Thus as corporations or policymakers consider whether or how to relate EMSs and environmental reporting, they should first consider carefully who will use the information and how.

**Jon Ganzi’s** presentation explored the kinds of information about environmental performance that would be useful to the financial industry. Some analysts have speculated that the financial industry might become a force for better environmental performance if there were reliable information showing a high correlation between environmental performance and the economic success of a firm. Ganzi described the kind of information that the financial industry might find persuasive. Financial analysts prefer seeing large amounts of information that focuses on profitability of specific industries and products. They look for comparable data about firms, especially for information about business strategies and about the “best in class.” They want information that shows correlations between profitability and environmental performance but do not need information that proves causality. They want data that is verified at the plant level. However, Ganzi dismissed information about specific facilities and said that data about the volume of materials used or level of emissions is of little interest.

**Kimberly Nelson** of the Pennsylvania Department of Environmental Protection described an effort in Pennsylvania to make compliance information available on line. States are “scrambling ... all over the park” she said, working on data integration, geographic information systems (GIS), performance data, data standards, and other topics. Little state action is strategic, she said, because there is little agreement about the very different information needs of plant managers, state regulators, EPA oversight staff, and citizens. Clearly it is essential to integrate EPA’s separate databases on water, air, and toxics and to provide real-time information about compliance and key environmental conditions, such as whether specific water bodies are safe for swimming. Nelson said that EPA and state efforts to put information on the Internet will not be effective until they agree on data standards and definitions. The Pennsylvania DEP’s recent efforts to put real-time information about regulatory compliance online had given companies incentives to stay in compliance and to keep the database up to date.

In a luncheon address, **Representative Cal Dooley** of California described a legislative proposal, which he has co-sponsored with moderates from both political parties, to direct EPA to improve the quality of envi-

ronmental information and to authorize EPA to experiment with regulatory flexibility. **Suellen Keiner** of the Environmental Law Institute noted that EPA already has substantial authority but said that Dooley presented a compelling case that congressional direction would help things along.

**Michael Jones** of the United Kingdom's Department of Trade and Industry, also a luncheon speaker, said his government was looking to EMSs as a means to reach small firms that produce up to 70 percent of the pollution. A pilot project with the British Standards Institutions will produce information about a graduated approach to ISO 14001 certification for small business. Regulatory relief may be a possibility for firms that adopt EMSs, he said. "An accurate picture of government support for ISO 14001 cannot be taken by only looking at the U.S.," said IBM's **Gayle Woodside**, who noted some governments are lending various forms of support to firms adopting ISO 14001.

*What are the most important research questions to address?*

One of the goals of the summit was to share information about EMSs. The other was to frame a research agenda that would continue to bring useful information into the policy debate about EMSs and environmental protection. The summit succeeded in generating a long list of ideas for further research. Those ideas fell into four broad categories:

How do EMSs influence environmental and other forms of performance?

To what extent do EMSs encourage progress toward sustainability?

What impact do different public policies have on EMS adoption and environmental performance?

What steps would most improve the environmental information infrastructure?

#### Environmental Performance Questions:

Although there were dissenters, most participants agreed that there is currently a fairly strong *correlation* between EMS adoption and environmental performance, even though the data about actual environmental results is still scarce. Coglianesse said that the most important question is no longer *whether* EMSs are correlated with good performance but *why*. If regulatory agencies plan to take note of EMSs only when they decide how to allocate their resources for permitting and enforcement, they probably do not need to know much more than that ISO-certified firms tend to be "good performers." But if agencies are going to encourage EMSs or accept ISO certification as a reason for regulatory forbearance, they should understand precisely which features of an EMS are likely to result in better environmental performance.

Other participants added that research should ask whether EMSs have a lasting effect on corporate performance or whether, as Walt Carey suggested, they may be gathering "low-hanging fruit" now and have less impact later.

BMW's Dickerson asked whether there were enough good consultants and registrars working with ISO 14001 to accommodate the wave of certifications that would soon follow among suppliers to Ford and GM. Would the quality of the registration process drop and hence would ISO 14001 certification lose some of its value? Numerous participants said that more research is needed to illustrate the strengths and weaknesses of the ISO 14001 registration process.

Government regulators seemed especially concerned about the levels of competency of registrars and opportunities for unethical conduct in certification of systems and results. "Who will certify the certifiers," asked **Richard Minard** of the National Academy of Public Administration as he described research that the Academy is conducting with EPA funds to answer questions about registration practices. That research will be published in late 2000.

**Peter Wise** of the Illinois Department of Environmental Protection said that many firms, especially small businesses, need better information about how best to involve stakeholders in different phases of the EMS process.

**Richard "Pete" Andrews** of the University of North Carolina at Chapel Hill explained how the Na-

tional Database on Environmental Management Systems can begin to answer these questions.<sup>15</sup> Thanks to the scores of firms participating in MSWG pilots and providing information to the database at UNC, the database will provide a wealth of information about different kinds of EMSs and about different approaches to designing and implementing EMSs. It will provide information about the costs and benefits of EMSs to facilities and to the environment. And it will offer information about how state or federal programs affect these outcomes.

Florida proposed that as researchers study the implementation of EMSs, they should look “inside the black box” of the firm and the agency. Most analysis has assumed that all firms behave in a similar fashion and that agencies are mostly alike. In fact, the behavior of both firms and regulators depends partly on their cultural context. Economists often think in terms of typical organizations and economic rationality, but research on EMSs will require approaches that explain how institutions differ and how they change.

Florida also argued that the MSWG and EPA should encourage the U.S. Census to make data available for this work. The annual census of manufacturing operations gathers extensive information about corporations and small businesses, but the agency is often reluctant to make this information available to researchers, either because of the confidentiality of the data, or because of the trouble it would take to provide the data to researchers. There would be enormous benefits from linking census data with information about EMS adoption and environmental performance, Florida said, recommending that developing a funding proposal for that purpose should be a top priority of the summit participants.

John Ganzi agreed, saying that census data and other secondary information could be helpful in understanding the context of the environmental performance. The financial sector would like easy access to such data.

**Panayotou** called for similar work to be done in emerging economies. It would be useful, he said, to compare the effects of EMSs in emerging economies, Europe, Japan, and North America, as well as inquiring into the ability of EMSs to deal with global environmental problems that may not be regulated today. Are EMSs as effective as supply chains, insurance pools, and global funds in improving environmental performance on those issues?

#### Questions of Scope and Sustainability:

Participants in the summit discussed a broader and more elusive research question. As Coglianese framed it, can EMS encourage or enable firms to make a fundamental shift to “sustainability”? What features of EMSs open minds within corporations to think broadly about sustainability and other social values, such as equity, justice, and community involvement? Do specific features of EMSs help frame these issues in specific terms, engage different stakeholders, open minds, and generate information useful for practical decisions?

**David Monsma** of the Colorado Center for Healthy Communities asked whether it would be possible to agree on fifteen to twenty performance indicators that would give the firms and the public a better picture of how we are progressing. One of the factors emphasized by **Representative Kip Holden** of Louisiana was the ability of society to treat people fairly and without prejudice and to document what is happening system-wide.

#### Public Policy Questions:

One of the fundamental policy questions relating to EMSs is whether governments should try to encourage firms to adopt EMSs or in any way intervene in the private sector's use of the management tools. To answer that political question thoughtfully, policymakers need more information about the extent to which various public policies could influence firms' use of EMSs. For example, will “green tier” programs or other incentives influence decisions by firms? Equally important, Coglianese asked, is whether public strategies to encourage EMSs might not require public agencies to spend more time on firms that are already “good performers” and less time bringing up the bottom or deterring noncompliance. He would favor spending more

resources on the middle tier of firms that are not performing particularly well but who could be influenced to do better.

### Information Questions

The fourth broad research question concerns the possible nexus between EMSs and the systematic creation and use of environmental performance data. As some participants explained it, the data systems that environmental agencies have developed focus largely on failures such as noncompliance rather than on continuous improvement, as is the case with EMSs. Metzenbaum asked whether, if the nation has been able to create a national data system to document agricultural performance, why could it not build a system to measure environmental performance also? Perhaps, said John Ehrenfeld, we should be looking much more closely at EMSs to see if they can help generate the data that we need about environmental performance. Here the research agenda includes strategic questions such as what kinds of information different groups want and how they might use it, technical questions about how to organize databases and define terms, and political questions such as how agencies and the business community can amass the resources and political will required to build a “robust information infrastructure.”

### Next Steps for the Multi-State Working Group and the Broader Community of Interested Parties

The authors of this introduction were impressed by the summit. More than most conferences, the summit brought together a unique mix of academics, state and federal officials, activists and advocates, consultants to government and industry, policy analysts, trade associations, and businesspeople. The debate was lively and substantive, largely because it was based on solid information: the seven research papers commissioned specifically for the event.

The summit capped over two years of hard work by the Multi-State Working Group, which itself is an innovative and impressive institution. The MSWG began as an effort to build a national database about facilities that have adopted EMSs. It could have focused all of its energies on this single task. Instead, in 1998, it convened a series of six academic research roundtables involving faculty from thirty-eight colleges and universities.

From the start, its members have included not only a growing number of state environmental agencies, but also representatives of interested federal agencies (e.g., EPA and the National Institute of Standards and Technology), businesses, environmental NGOs (the Environmental Law Institute, Pacific Institute, and others), and universities (e.g., the University of North Carolina, Tulane). The questions raised at those roundtables and the early involvement of faculty members provided essential groundwork for the summit. The MSWG has created what many talk about and few achieve: a successful learning environment, where people from very different backgrounds, with different values, can meet on a basis of trust to share information, ideas, and opinions.

It will be up to individual research teams to write the proposals, raise the funds, and do the research that the summit has outlined. Beyond that, we have no doubt that the MSWG will find new ways to help raise and answer essential questions as firms, states, and national leaders search for better ways to protect the environment and move toward a sustainable economy.

## **Research Questions**

- 1. How do EMSs influence environmental and other forms of performance?**
  - a. Why do organizations adopt EMSs? Are there important differences among leading and lagging facilities within a single corporate organization, among organizations within the same sector, or between leading and lagging sectors?
  - b. Are there important differences among “early adopters” of EMS and later ones?
  - c. How does the implementation of an EMS affect the organization's internal values and culture and its relationships with the outside: shareholders, the community and the government?
  - d. When and how do EMSs lead to improved environmental performance? Regulatory compliance? Organizational management and effectiveness? Economic performance? Stakeholder relations?
  - e. What are the types of EMSs and how do they correlate with (or cause) better or more credible performance?
  - f. What other kinds of organizations besides industrial facilities can usefully adopt EMSs? What would these EMSs consist of? How would they influence performance?
  
- 2. Do EMSs encourage progress toward sustainability?**
  - a. What can be expected about the continuity, improvement and/or erosion of EMS goals and commitments over time? Do firms remain committed to the EMS process and to continuous-improvement targets through changes in personnel, corporate organization and ownership?
  - b. Do EMSs evolve and “mature” over time, e.g., from an initial focus on compliance assurance to later emphasis on broader unregulated aspects and sustainability?
  - c. Can the data developed under EMSs help achieve a continuous, sustained improvement in environmental, economic, and social performance?
  
- 3. What impact do public policies have on EMS adoption and use?**
  - a. Are existing federal, state, and local legal and organizational structures, systems and cultures barriers to EMSs? Is the existing regulatory structure a burden or obstacle to using EMSs to achieve better environmental performance, or is it a necessary floor and even a driver of better performance?
  - b. Does regulatory flexibility for facilities/organizations that adopt and/or certify ISO-type EMSs improve their environmental performance?
  - c. Is it an effective use of scarce public funds for agencies to help firms adopt EMSs? Is it an effective use of funds to help high-performing firms innovate?
  - d. Does stakeholder involvement in the adoption and implementation of ISO-type EMSs improve the environmental performance of facilities/organizations that adopt them? What are the costs, benefits, risks, and opportunities of involving non-management individuals in EMSs?
  - e. Does transparency (i.e., public disclosure and reporting of the contents of EMS documents and data reports) improve environmental performance? To what extent would such transparency inhibit firms' adoption of EMSs?
  - f. How can enforceable agreements and contract law influence the development of EMSs?
  
- 4. What would most improve information and dialogue about environmental performance?**
  - a. What incentives could governments provide to encourage all sectors to generate and disseminate credible, timely, and useful performance information?
  - b. What kind of information does the financial sector need to determine the relationship between environmental and economic performance? Can EMSs help produce this information?

- c. What kind of enterprise might best gather and disseminate information about EMSs on a sustained basis?
- d. What kind of enterprise could engage organizations with different cultures and priorities in learning about EMSs and related public policies?

## Notes

<sup>1</sup> Unlike BMW Group, Ford and GM did not give guidance on the design parameters of the EMS which suppliers should implement.

<sup>1</sup> Some of the participants have moved to other positions since Summit #1.

<sup>1</sup> Jennifer Nash and John Ehrenfeld, "Environmental Management Systems and Their Roles in Environmental Policy."

<sup>1</sup> Jennifer Nash. "ISO 14000: Evolution, Scope, and Limitations." In T. Tibor & I. Feldman (eds.), *Implementing ISO 14000*, (pp. 495-510). Chicago: Irwin Professional Publishing. 1997.

<sup>1</sup> EMS evolution should probably be traced at least to the late 1970s, in the pollution-prevention initiatives of leading companies such as 3M ("Pollution Prevention Pays" Program) and Dow (WRAP, "Waste Reduction Always Pays" Program). These programs actually began in leading companies before most others had gotten beyond compliance assessments and due diligence.

<sup>1</sup> Chemical Manufacturers Association (CMA), Responsible Care, 1989; National Association of Chemical Distributors (NACD), Responsible Distribution Process (RDP), 1991; National Association of Chemical Recyclers (NACR), Responsible Recycling, 1993; National Paint and Coatings Association (NPCA), Coatings Care, 1996; American Petroleum Institute (API), Strategies for Today's Environmental Partnership (STEP), 1990; American Forest and Paper Association (AF&PA), Sustainable Forestry Initiative (SFI), 1996; Environmental, Health and Safety Principles, 1995; American Textile Manufacturers Institute (ATMI), Encouraging Environmental Excellence (E3), 1992; Quest for the Best, 1993.

<sup>1</sup> Richard Florida, "Adoption and Impacts of Environmental Management Systems."

<sup>1</sup> Shelley Metzenbaum, "Information Infrastructure and the Use of Environmental Management Systems as a Policy Tool."

<sup>1</sup> Andrew King and Michael Lenox. "Prospects for Industry Self-Regulation Without Sanctions: A Study of Responsible Care in the Chemical Industry." MIT Technology, Business, and the Environment Program, March 15, 1999 (forthcoming article in *The Academy of Management Journal*).

<sup>1</sup> Cary Coglianese. "Policy Implications of Environmental management Systems."

<sup>1</sup> Jerry Speir. "The Environmental Impacts of EMS Implementation."

<sup>1</sup> William Moomaw. "The Social Implications of EMS Implementation."

<sup>1</sup> Theodore Panayotou. "The International Implications of EMS Implementation."

<sup>1</sup> Robert Stephens. "The Multi-State Working Group, Its Vision and Operating Principles."

<sup>1</sup> Richard N.L. Andrews et. al.. "The National Database on Environmental Management Systems (NDEMS): Data Management and Research Program."



## **The MSWG: Convening Diverse Parties to Create Better Policies and Environmental Performance**

Robert Stephens

A community of people gathered in September, 1996, with the common realization that significant changes were occurring in the manner in which the environment was managed. They shared the conviction that these changes were positive and in fact necessary, and that these changes would have considerable impact on public policy. The initial discussions of this “protogroup” led first to a clear consensus that evolution of environmental policy in this country faced numerous challenges. The system of laws, practices, and relationships, built over the past thirty years of environmental protection, have done well by any measure. There did not exist in the broader community, particularly five years ago, anything approaching a consensus that the existing system was yielding diminished returns and that this “first generation” system was unlikely to provide the tools necessary in managing the daunting challenges of sustainability in the twenty-first century. Although new systems such as ISO 14001 and the European EMAS were being implemented, very little information regarding the success and ability of these systems in advancing environmental performance and/or environmental quality existed. In addition, the question of how or whether the advent of new systems tools should be integrated into public policy had not been addressed.

The second consensus reached by the group was that multiple sectors of the community had a fundamental interest in this policy evolution, and therefore, any productive dialogue regarding this evolution required the meaningful and substantive participation of these sectors. Creation of this productive dialogue was the first challenge, for existing policy had been developed over the past three decades using what has been appropriately called the "war model." Undoubtedly, war is not a consensus-yielding model. These two intersections of consensus provided the context for the genesis of the Multi-State Working Group (MSWG). MSWG was thus founded as an organization that convenes government, nongovernment, business and academic interests to conduct research, promote dialogue, create networks and establish partnerships that improve the state of the environment, economy and community through systems-based public and private policy innovation.

The focus and purpose of MSWG are reflected in its mission statement:

MSWG is committed to a nationwide improvement in the state of the environment as measured by a broad base of environmental indicators. For this improvement to be successful, it must be sustained over the long term and integrated into the national culture. The MSWG recognizes the important role states must play in the development and testing of new environmental tools and policies. MSWG's role in bringing about a long term, continuous improvement is multifaceted.

### **Dialogue with Substance**

For an organization such as MSWG to make a credible contribution to the understanding, development, and implementation of new tools and policies which will improve the state of the environment, the processes of dialogue and research must address the critical central issues embodied within national environmental policy changes. In particular, divergent issues between community sectors, such as the value of legal compliance, environmental performance, measurement, and transparency must be addressed. The MSWG believes that these issues must be addressed in an open, honest, and safe forum where all views and perspectives can be aired, vetted, and evaluated for their value. The model used by MSWG is full, participatory democracy as applied to environmental policy innovation. In this respect, MSWG represents a unique group of people, where the regulated, regulators, public interest groups, and academic communities engage in meaningful dialogue and research on those contentious issues which often form the barriers to improving environmental quality.

An in-depth examination of the issues during the course of MSWG dialogue has highlighted challenges of a different dimension. A dearth of information and understanding exists on a number of crucial questions:

- What are the drivers for developing and implementing comprehensive environmental management systems?
- Do such systems improve environmental performance in any significant way?
- Is legal compliance related to the implementation of an EMS?
- What is the range of EMSs that are implemented, what are their differences, and do such differences affect performance outcomes?
- Do third-party audits and registration affect the design, quality, and performance outcomes of an EMS?
- How do companies and the nation move toward long range strategic goals based on sustainability or related concepts which may be the foundation of truly successful environmental management?

### **The Need for Research**

As MSWG engaged these issues, it became increasingly clear that dialogue alone would not produce the necessary information and understanding required for intelligent policy development. Even in the early days of MSWG, a broad consensus evolved regarding the acute need for a research effort focused on many of the core questions. With the recognition that such research would be challenging because many of the questions were exceedingly complex, involving potentially confounding aspects, MSWG's initial response was to begin a national research effort, which ultimately created the National Database on Environmental Management System (NDEMS). NDEMS addresses a number of significant questions about environmental management systems by collecting data on organizational drivers, system design and scope, and resultant compliance and environmental performance. These data were obtained from facility-based pilot projects in states around the country, and they were collected, compiled, and analyzed at the University of North Carolina - Chapel Hill.

1. Like many good research programs, the NDEMS project raised as many questions as it answered. During data collection and preliminary analysis many additional and fundamental questions, which were not being addressed by the NDEMS research, became evident. Some of these questions related to economic and market drivers of performance, the real meaning of performance, and how performance was measured. These questions include, Do regulatory standards actually function as a performance cap? Are performance, EMSs, and regulatory innovation all about information? These profound and complex questions raised by our initial research demonstrated the critical need for a more active relationship with the academic research community, and thus led to the formation of a standing research committee within the MSWG to lead the efforts to engage the academic research community. The process of engagement formally began a series of Regional Academic Roundtable meetings held at six universities around the country. The results of the Roundtables are described in greater detail later in this booklet. The meetings were heavily attended with active participation. Many good recommendations came out of the discussions, and these recommendation formed the basis for the first National EMS Research Summit held in Washington, D.C.

### **National EMS Research Summit**

On November 2 and 3, 1999, the MSWG, in partnership with the U.S. EPA, the Council of State Governments, and the Brookings Institution convened a national meeting to set the direction of research on environmental management systems, a tool for the next generation of environmental policy. The vision for the summit was to identify and develop a fundable research strategy, meriting broad support by its ability to solicit, process, and share EMS performance information that satisfies society's need for new knowledge. It was clear to all that participated in the summit that the vision was fulfilled. A substantial fraction of the EMS

intellectual capital attended and actively participated in the summit. The gathering produced two important products in addition to the knowledge directly accrued by the participants. One was a highly acclaimed book, *Regulating from the Inside*, edited by Cary Coglianese and Jennifer Nash, described as “the finest collection of thought on environmental management systems ever assembled.” The other product was a comprehensive list of the significant research questions and issues related to EMSs and the evolution toward the next generation of environmental policies. The articulation of research needs has formed the basis of much of the subsequent research and policy development on EMSs. Moreover, the summit has dramatically influenced the thinking of the MSWG. The research questions as highlighted by the summit were classified into four broad areas:

*1. How do EMSs influence environmental and other forms of performance?*

An attempt to address this question raises many issues and related questions. What is the array of reasons and rationale for organizations adopting EMSs? Are there important differences between leading and lagging facilities within a single corporate organization and between organizations? Are there important differences between the early and late adopters? Then there is the big “chicken and egg” question. Do responsible organizations, which already have a solid environmental culture, adopt EMSs as a tool to manifest their culture, or does the implementation of an EMS promote the development of the environmental culture? It is clear that an appropriate organizational culture is needed, but major questions arise as to how and why it develops. Is the culture of environmental responsibility derived from fear of punishment, or from civic duty? There was a broad consensus that strong relationships existed between organizational culture and motivation and quality of any management system developed, and this relationship was extended to the performance of the management system. Many opinions about this relationship were expressed, although little to no definitive information exists which yields answers.

*2. Do EMSs encourage progress toward sustainability?*

This question relates to the life cycle of the EMS. An EMS, particularly one following the ISO 14001 framework, is intended to undergo a continual improvement process. Does this process result in an improvement or an erosion of commitments and goals over time? How are this evolution and continual improvement influenced by the natural changes over time such as personnel and management changes, market shifts, and economic pressures? Some ad hoc information, which suggests a natural evolution from an EMS focused on legal compliance to one with a much broader focus on unregulated environmental aspects and sustainability, was discussed. Again, essentially no data is available which evaluates the ability or success of an EMS as a tool to address the broader issues associated with sustainability, including economic and social aspects.

*3. What impact do public policies have on EMS adoption and use?*

The debate rages as to whether existing federal, state, and local legal structures and governmental organizational systems pose barriers to organizations developing and implementing EMSs and adopting a continuous environmental improvement strategy. The corollary question is, Can legal and policy structures create incentives for EMS development? Can these questions be answered positively? Legal and policy structures contain both performance standards and process mandates. What is the role of each of these aspects in the promotion or inhibition of EMS development? Currently, there is much discussion regarding regulatory flexibility as a response to EMS development and as an incentive tool. Aside from the wisdom of such a policy, does regulatory flexibility create an incentive?

The final public policy question relates to the broad question of the role and importance of communication with both internal and external stakeholders. Additionally, there is considerable discussion focused on the participatory role of stakeholders in the environmental management process addressing both the value

and feasibility of stakeholder participation. This question leads to the broad question of “transparency,” for which there appears to be no common definition. Many seem to believe that stakeholder involvement and open internal and external communication, often thought to be the very definition of transparency, create a culture of responsibility and drive performance. Although this hypothesis produces a considerable amount head-nodding, precious little research has been done to answer the question.

*4. What would most improve information and dialogue about environmental performance?*

If information is the real driver of performance, what could or should the government do to encourage all sectors to generate and disseminate credible, timely, and useful performance information? Should governments go beyond encouragement and mandate higher quality information? Whether the tools encourage or mandate, what kind of performance information needs to be produced? Government has been in the business of mandating the generation of environmental information for decades. Is current regulatory information the best information, or is there better, higher quality information? If such information can be envisaged, what is it and how can the nation shift its effort to the generation of this more useful information? Does the financial sector have the correct model with its accounting, audit, and disclosure standards? Should there be some new enterprises in the country with the responsibility for collecting, disseminating and interpreting such important information to the public and other interested stakeholders?

These are, in brief, the principal questions which were articulated by the environmental research and policy leaders' summit in Washington in November, 1999.

Over the past two years, the MSWG has increasingly engaged questions emanating from the gathering. In particular, the emphasis has included questions related to environmental performance, its measurement, and how measurement and communication of performance might drive system performance. The concepts of information regulation as discussed at the summit needs further development and definition. In the broad context of regulation, government rules, and practices, what can be done to increase the quality and availability of information? In addition, the summit addressed only the beginnings of the questions related to sustainability, and major challenges to understanding the relationships between environmental, economic, and social performance remain. The nascent sustainability initiatives in this and other nations have been attempts to develop clear, achievable, and measurable goals with which to both promote and assess progress toward sustainability. However, much more research to generate quantitative, measurable goals in all three aspects of sustainability are needed. Without such research goals, progress toward this critical social objective will be difficult to achieve.

Therefore, the next meeting on “Leveraging the Private Sector: Innovative Approaches to Improving Environmental Performance” will be held this summer in Washington, D.C. It will present an outstanding opportunity to define these issues and set the foundation for the next generation of environmental policies that can lead the nation to the sustainable path. The MSWG is pleased to co-sponsor this important event with the John F. Kennedy School of Government. With our partners from the Kennedy School, and the numerous contributors to this new gathering, we have an excellent opportunity to achieve this goal.

## **The Road to Brookings: How MSWG Engaged U.S. Scholars to Design Environmental Research Summit**

Peter Wise

In November 1999, the Multi-State Working Group on Environmental Management Systems (MSWG) was the principal host of a gathering called the MSWG Research Summit. Known as the Brookings Summit because of the involvement of the prestigious Brookings Institution, the event resulted in a research strategy on environmental management systems (EMSs) and greatly contributed to the debate on the direction of the next generation of environmental public policy. This paper describes the steps that led to the Brookings Summit focusing on the six academic research roundtables conducted by MSWG in 1998, whose results led to the design of the first MSWG Summit.

When MSWG was established in 1996, the principal focus was EMS. There was a growing belief among the states and other participants that the implementation of EMSs could lead to improved environmental performance and that promoting EMS implementation may be a valuable public policy option. It was thought that the significant use of EMSs could address outstanding ambient environmental problems by allowing facilities to perform beyond current mandatory regulations and by addressing emissions and other unregulated issues, such as non-point sources of pollution. In a sense these beliefs were a hypothesis. To begin with, MSWG identified three priority areas of work, all of which were in support of the notion that EMS implementation could have value. These areas were, first and foremost, to create a database of information on EMS implementation, second, to foster communication on the experiences of those promoting and those implementing EMSs and finally to encourage and promote research to determine the results and implications of EMS implementation. MSWG established three standing task teams to direct these priorities: one on data management, one on communication and one on research, and it was the job of the Research Task Team to devise a strategy to promote EMS research that would answer the hypothesis questions. The task team designed a three-step research agenda for MSWG:

1. While the database was being designed and marketed to facilities, hosted a series of academic roundtables to receive feedback to the question: What sort of research information is necessary to determine the value of EMSs in public policy?
2. Utilizing the information received at these roundtable sessions, assemble a select panel of stakeholders to design a research summit on EMSs
3. Conduct the summit and publish the results widely.

At the outset, MSWG determined that in order to promote meaningful research on EMSs, credible data needed to be gathered. To meet this need, what is now known as the National Database on Environmental Management Systems (NDEMS) was developed and implemented over the next few years. MSWG developed project evaluation guidance and data protocols. NDEMS was designed to collect information in the following categories: environmental performance, environmental conditions, environmental compliance, pollution prevention, costs and benefits and interested party involvement. The development of NDEMS project included input from all MSWG members, including business, government, public interest and academic sectors, and its effort was funded by USEPA's Office of Water. As a result, a data center was established at the University of North Carolina - Chapel Hill (UNC) under the direction of Dr. Richard Andrews, and the Environmental Law Institute assisted the UNC in the project's implementation.

Twelve States recruited approximately 100 facilities to serve as EMS pilot projects and to enter information into national database. The NDEMS project is still operational and is now being funded by USEPA's Office of Research and Development. Facilities have entered baseline data and have completed one or two

annual updates, and UNC has completed annual reports on the project which are available online. The accessibility of the information through NDEMS has allowed UNC and other interested parties to utilize the NDEMS to conduct research on EMS implementation. The database can be accessed through the MSWG website at <http://www.mswg.org>.

While NDEMS was being designed and implemented, MSWG's Research Task Team concluded that MSWG had only scratched the surface in asking EMS-related questions, and it had not yet considered the total research needs of business, all levels of government and public interest communities. In addition, MSWG needed to know whether others were duplicating and coordinating MSWG research elsewhere. Moreover, MSWG concluded that the academic community, even more than government and business, had greater credibility and capacity in research. Keeping with this conclusion and with the goal of undertaking a research summit in 1999, MSWG conducted a series of academic research roundtables in 1998. By the end of that year MSWG had conducted six roundtables involving thirty-eight colleges and universities that identified 150 research topics.

Going into the roundtable process MSWG identified four goals:

- Propose research questions and organize them topically
- Match topics and questions to potential researchers
- Identify sponsors and partners
- Plan for the national research summit

Each roundtable began by posing the question: Can and do EMSs provide benefits more efficiently, effectively and credibly than practices now used by business, government and nongovernmental organizations?

The research roundtables were held at Stanford, UNC, Harvard, Yale, Northwestern and Carnegie-Mellon universities, and the roundtable process evolved throughout the year. As word of the roundtables spread attendance and participation increased, and MSWG members were very pleased with the amount of participation and the thoughtfulness of the responses. The leadership of MSWG attended and documented the results of each roundtable, and a complete list of research topics and questions from each roundtable can be seen on the MSWG website. The following is a brief summary of each roundtable, including the universities and other institutions that participated and some of the major research topics and questions that were raised.

### **Stanford University - February 24, 1998**

#### *Participants:*

Stanford University  
University of California, Berkeley,  
Hastings Law School

#### *Key research topics:*

Supply Chain management for efficiency and compatibility  
Problems and opportunities with small and medium sized enterprises  
Why are EMSs being adopted?  
Why or why not are EMSs being third party certified  
Linking shareholder and stakeholder value in EMS design

**University of North Carolina—Chapel Hill - May 13, 1998**

*Participants:*

UNC-Chapel Hill  
North Carolina State University  
North Carolina Agriculture and Technology Institute—Greensboro

*Key Research Topics:*

Financial performance and EMSs  
EMS implementation and their impacts on customers  
Qualitative management lessons derived from EMSs  
Financial accounting systems and their link to EMSs  
Decisions processes: where decisions are made and why

**Harvard University - August 24, 1998**

*Participants:*

Harvard University  
Massachusetts Institute of Technology  
Tufts University  
Boston University  
University of Massachusetts  
Clark University  
Worcester Poly Tech  
George Mason University  
University of South Carolina  
Tellus Institute  
National Academy for Public Administration

*Key Research Topics:*

Will an EMS change organizational culture and why?  
Is legal compliance improved or unaffected?  
Is beyond compliance more or less likely?  
Will pollution prevention emerge in aspects identification?  
Will training and education change culture?

**Yale University—August 25, 1998**

*Participant:*

Yale University

*Key Research Topics:*

How is ISO used in the public policy framework?  
How does an EMS fit in the science-public policy interface?  
Does ISO reflect ecosystem management principals?  
How will research be structured to frame public policy debate?  
How will results be measured vis-à-vis regulatory changes?

**Northwestern University - October 20, 1998**

*Participants:*

Northwestern University  
University of Illinois  
Northern Illinois University  
Iowa State University  
University of Wisconsin-Madison  
University of Michigan  
Indiana University  
University of Guelph  
Northern Iowa University  
University of Missouri-Rolla.

*Key Research Topics:*

What regulatory changes should happen due to EMSs?  
What is the veracity of the information reported?  
How can EMSs be used to drive innovation?  
What element does “time” play in the EMS contract?  
How does U.S. EMS adoption relate to elsewhere in the world?

**Carnegie Mellon University - December 9, 1998**

*Participants:*

Carnegie Mellon University  
Allegheny College  
Bloomsburg State University  
Chatham College  
Duquesne University  
George Washington University  
Lehigh University  
Rochester Institute of Technology  
Youngstown University  
Gannon University  
Grove City College

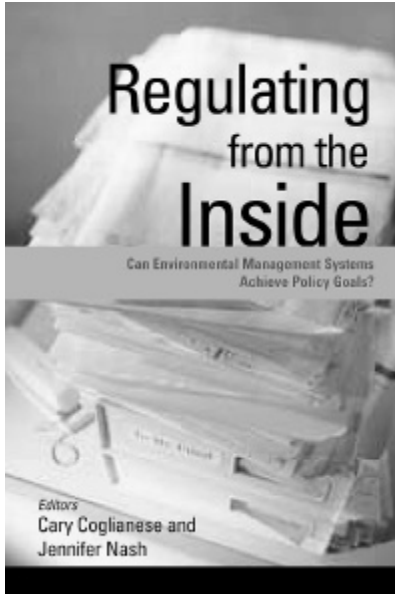
*Key Research Topics:*

How do EMSs affect leadership behaviors?  
Who is the ultimate customer for EMSs?  
Can EMSs develop community indicators?  
What lessons can ISO 9000 give ISO 14000?  
Can EMS performance be linked to financial sector indicators?

The roundtables allowed MSWG to identify and evaluate research topics on EMSs. It also provided an initial list of researchers interested in the field. In addition, the roundtables provided a solid base of information for a national research summit. Through professor Donald Kettl, professor in the La Follette School of

Public Affairs at the University of Wisconsin–Madison and director of the Brookings Institution’s Center for Public Management, Brookings agreed to host the MSWG Summit.

Using the results from the roundtables, MSWG, with financial support from the American Chemistry Council, established the Summit design team. The team involved the business, government, public interest and academic sectors and the MSWG Research Summit was accomplished in November 1999.



## **Regulating from the Inside**

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– *Political Science Quarterly*

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“*Regulating from the Inside* moves beyond the common puffery to provide careful and balanced analyses. It brings together significant research on the role of EMSs and effectively combines policy and business literature. Its discussions of business motivations and the connections between an EMS and competing values are well-nuanced.” – Marc Allen Eisner, *Wesleyan University*

“Everyone engaged in deliberating about the future of environmental policy will benefit from reading this most interesting and useful book.” – E. Donald Elliott, *Yale Law School and former Assistant Administrator and General Counsel, U.S. Environmental Protection Agency*

“EMSs offer the possibility of transforming the relationship between government and business. This book advances the debate on whether such a transformation holds genuine promise.”  
– Jack Stein, *Director of Strategic Environmental Initiatives, Anheuser-Busch*

**Cary Coglianese** is an associate professor of public policy at Harvard University. He is chair of the Regulatory Policy Program at the John F. Kennedy School of Government’s Center for Business and Government. **Jennifer Nash** is director of the Regulatory Policy Program at the Kennedy School’s Center for Business and Government.

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## Next Steps: Leveraging the Private Sector

Cary Coglianese and Jennifer Nash

The MSWG-Brookings Research Summit brought leading scholars together with policymakers, business leaders, and NGO representatives for a path-breaking discussion of the role for management systems in improving environmental quality. We edited the papers presented at the Summit in the book, *Regulating from the Inside: Can Environmental Management Systems Achieve Policy Goals?*, published in 2001 by Resources for the Future Press. *Regulating from the Inside* focused on the impact and public policy implications of environmental management systems, addressing the arguments of both the advocates and skeptics of environmental management systems (EMSs). It analyzed why firms adopt EMSs and how they implement them; what impacts EMSs have on the environment and global economy; and what policymakers can do to integrate these promising new developments in private environmental management into the system of public environmental policy.

In our closing chapter of *Regulating from the Inside*, we raised the question of what an innovative, “management-based” approach to environmental policy might look like. We suggested that environmental policy might be able to shift away from a system that relies on technology-based standards to a system built around performance targets embedded in firms’ EMSs. Progress toward meeting these targets could be monitored and periodically verified by qualified third parties, but firms would retain flexibility in selecting the means to achieve these targets, allowing them to choose the lowest cost method of making environmental improvements. EMSs could therefore pave the way for a potentially dramatic shift toward a much more flexible style of regulation.

We also recognized that any dramatic shift in environmental policy needed to be based on careful analysis and empirical evaluation of management-based efforts. Fortunately, such research opportunities abound, for over the past decade interest in management-based strategies has increased significantly. Consider a few examples of this growing interest:

- Executive Order 13148, issued by President Clinton and retained by President Bush, requires federal agencies to implement environmental management systems at all appropriate facilities.
- The U.S. EPA’s policy statement on environmental management systems, signed by Administrator Christine Todd Whitman in May 2002, encourages widespread use of environmental management systems across a range of organizations and settings.
- The Clean Air Act requires thousands of chemical companies to implement risk management programs to prevent accidental chemical releases.
- Numerous states offer incentives to facilities that implement certain types of environmental management systems.
- Major U.S. automakers require their suppliers to implement ISO 14001, the international environmental management system standard, as a condition for doing business.
- The American Chemistry Council requires chemical manufacturing firms to implement a Responsible Care management system and have it externally verified as a condition for membership.

Management-based strategies such as these are based on the recognition that firms have the best knowledge about how to develop and implement new technologies and effect change within their organizations and industries. Government remains an essential actor, but it takes on different roles. For example, government may di-

rectly require adoption of certain environmental management practices, or it may set performance objectives, require disclosure of information, monitor performance, or recognize and reward leaders, all with the aim of encouraging firms to achieve improvements in environmental performance.

Further study is needed to determine the promise and performance of management-based strategies for environmental improvement. Towards this end, the Regulatory Policy Program at Harvard University's John F. Kennedy School of Government is organizing a major conference to be held in the summer of 2003 in Washington, D.C. on *Leveraging the Private Sector: Management-Based Strategies for Improving Environmental Performance*. The purpose of this conference is to evaluate the available experience with management-based strategies and draw out lessons for future developments in this area.

Organized around a collection of research papers commissioned from among the nation's leading scholars, the conference will address key questions for future efforts to achieve environmental improvement:

- How do management-based approaches stack up against the status quo?
- What are the conditions under which management-based initiatives are most suitable?
- What are the limitations of management-based approaches? What are the conditions necessary for them to succeed?

In addition to presentations from leading scholars, the conference will feature commentary from leaders from government, business, and non-governmental organizations.

The opening session of the conference will focus on why management matters in order to identify the factors that determine different management styles. After this discussion, a series of panels will assess the effectiveness of different initiatives that have attempted to shape the internal management of firms:

- One panel will evaluate the effectiveness of customer or trade association efforts to motivate firms to improve their environmental management.
- Another panel will assess the experience of government mandates for management systems and environmental planning.
- Still another panel will examine innovative efforts by government to encourage, but not require, the adoption of certain types of management practices.
- A concluding session will consider lessons learned from these evaluations for future efforts to improve environmental performance.

This invitation-only conference will bring together leading researchers and decision makers to learn from, and build on, management-based innovations in environmental policy. Organized by the Regulatory Policy Program, the conference is supported by the American Chemistry Council, the Charles G. Koch Charitable Foundation, Resources for the Future, and the U.S. Environmental Protection Agency. The Multi-State Working Group's Policy Academy also serves as a co-sponsor.

The conference will feature papers written by the following scholars which we will again edit for a subsequently published book:

- Richard N. L. (Pete) Andrews, Professor of Environmental Policy at the University of North Carolina, will present research on the role of customer ISO 14001 mandates on environmental management practices and performance. Research is based on a survey of 3,200 production facilities in four industry sectors that include large numbers of suppliers to the automotive industry.

- Robert Kagan, Professor of Law and Political Science at the University of California Berkeley, will open the conference with a paper on the role of management in environmental performance.
- Andrew A. King (invited), Associate Professor of Business Administration, Tuck School of Business, Dartmouth College, will explore the potential role of stakeholders in driving environmental improvement by private firms.
- Paul R. Kleindorfer, Anheuser Busch Professor of Management Science at the Wharton School of the University of Pennsylvania will present research on the role of risk management planning, as required under Section 112(r) of the Clean Air Act Amendments of 1990, in environmental management and performance of facilities. Research will draw on accident history data covering some 15,000 US industrial facilities.
- Howard Kunreuther, Cecilia Yen Koo Professor of Decision Sciences and Business and Public Policy at the Wharton School of the University of Pennsylvania and Co-Director, Risk Management and Decision Processes Center will address third party auditing and environmental performance.
- Jason Scott Johnston, Robert G. Fuller, Jr. Professor of Law, University of Pennsylvania Law School will give a paper on the effectiveness of EPA's Strategic Goals Program for the metal finishing sector.
- Kathleen Segerson, Professor and Chair of the Department of Economics at the University of Connecticut, will give a paper assessing the impact of EPA Region I's Clean Charles 2005 project in which government served as the standard-bearer and initiator of an ecosystem-wide performance management system.
- Lori Snyder, John F. Kennedy School of Government, Harvard University, will compare the effectiveness of mandatory environmental planning requirements (as seen in programs in Massachusetts, Maine, New Jersey, and California) with incentive-based programs, which many other states have implemented.

For further information about the conference, please contact Jennifer Nash, Director of the Regulatory Policy Program, Harvard University, John F. Kennedy School of Government (jennifer\_nash@harvard.edu, 617-384-7325).



## Appendix A

### *Presenters and Participants from MSWG Research Summit*

Richard (Pete) Andrews, University of North Carolina – Chapel Hill  
Jay Benforado, U. S. Environmental Protection Agency  
Scott Butner, Pacific Northwest National Laboratory  
Walt Carey, Nestle USA, Inc.  
Marian Chertow, Yale University  
Cary Coglianesse, Harvard University  
Terry Davies, Resources For the Future  
Suzanne Dickerson, BMW Group  
Calvin Dooley, United States House of Representatives  
John Ehrenfeld, Massachusetts Institute of Technology  
Richard Florida, Carnegie Mellon University  
John Harris, Ashland Chemical Company  
Jim Horne, U. S. Environmental Protection Agency  
Michael Jones, Department of Trade & Industry, United Kingdom  
Suellen Keiner, Environmental Law Institute  
John Lingelbach, Decisions and Agreements  
Shelley Metzenbaum, University of Maryland  
Richard Minard, National Academy of Public Administration  
David Monsma, Colorado Center for Healthy Communities  
William Moomaw, Tufts University  
Jason Morrison, Pacific Institute  
Jennifer Nash, Massachusetts Institute of Technology  
Kimberly Nelson, Pennsylvania Department of Environmental Protection  
Theodore Panayotou, Harvard University  
Chris Paterson, Green Mountain Institute  
Darlene Pearson, Commission for Environmental Cooperation, Canada  
Edward Quevedo, Pillsbury Madison & Sutro  
Christian Richter, National Association of Metal Finishers  
Jeff Smoller, Wisconsin Department of Natural Resources  
Jerry Speir, Tulane Law School  
Dan Sprague, Council of State Governments  
Robert Stephens, California, Environmental Protection Agency  
Peter Wise, Illinois Environmental Protection Agency  
Gayle Woodside, IBM

## **Appendix B**

The Multi-State Working Group greatly appreciates the efforts and contributions of organizations and individuals that made the MSWG summit a success. It is especially grateful to organizations that financially supported the MSWG Research Venue Summit and the paying attendees who made the event possible. Providing financial support for the Summit were the following:

Multi-State Working Group

U. S. Environmental Protection Agency

Council of State Governments

Global Environmental Management Initiative, Brookings Institution

National Academy of Public Administration

Steptoe & Johnson, LLP

## Appendix C

### *Multi-State Working Group Research Task Team*

The Research Task Team is a standing task team of the Multi-State Working Group (MSWG). Its purpose is to make recommendations to MSWG on research matters, including research agenda, and to manage certain aspects of the research activities of the MSWG. The Research Task Team has:

- Together with the Database Task Team, participated in the design and implementation of the National Database on Environmental Management Systems (NDEMS)
- Held six EMS research roundtables at major universities in 1998
- Designed and hosted the National Research Summit on EMSs, in conjunction with the Brookings Institution, in November, 1999
- Co-sponsored, in 2002, with the University of Pennsylvania Law School Program on Law and the Environment, a conference on "Covenanting the Future: Reforming Environmental Regulation through Innovative Resource and Land Management"
- The use of contracts and covenants to achieve environmental performance
- Completed the planning and pilot phase for the Policy Academy on Environmental Management Tools

The Research Task Team is participating with Harvard University on “Leveraging the Private Sector: Innovative Approaches to Improving Environmental Performance.”

### *Research Task Team Membership*

Peter Wise, Kestrel Management Services, Chair  
Richard Andrews, University of North Carolina  
Edward Quevedo, WSP Group  
Ira Feldman, Green Strategies  
John Harris, Ashland Chemical  
Jim Horne, U.S. Environmental Protection Agency  
Jason Morrison, Pacific Institute  
Jerry Speir, Jerry Speir & Associates  
Kelie Caudell, Michigan Department of Environmental Quality  
MC Hull, San Diego State University  
Suellan Keiner, National Academy of Public Administration  
Jeff Smoller, Wisconsin Department of Natural Resources  
Tony Szwilski, Marshall University  
Bob Minicucci, New Hampshire Department of Environmental Services  
Phil Barnes, University of South Carolina  
Michael Crow, Tellus Institute

For membership information, please contact David Ronald, executive director, at [David.Ronald@azbar.org](mailto:David.Ronald@azbar.org).

## Appendix D

This Letter of February 21, 2001 from

Dr. Robert Stephens, chair of the Multi-State Working Group

*recommending*

**Jointly-sponsored fact-finding hearings or meetings to develop  
The Next Generation of Environmental-Natural Resources Policy**

*was sent to the Honorable:*

***Administrator of the Environmental Protection Agency***

***Secretary of the Interior***

***Leadership of the Senate Committee on Environment and Public Works***

***Leadership of the Senate Committee on Energy and Natural Resources***

***Leadership of the House Committee on Energy and Commerce***

***Leadership of the House Committee on Resources***

***Leadership of the House Committee on Science***

***Leadership of the House Committee on Transportation and Infrastructure***

For the last fifteen years, numerous conferences, reports and studies have documented how science and society have progressed since the early environmental laws and asked whether these laws, policies and programs could improve. Inevitably, policy makers were discouraged from pursuing changes because of the malignant distrust that former EPA Administrator William D. Ruckelshaus called a “vicious, descending spiral” that defined stakeholder relationships.

The MSWG is a broad, multi-stakeholder body that strives for inclusiveness, honest relationships and respectful dialogue about change. Therefore, it recommended in February 2001 a Congressionally sanctioned dialogue to help society explore the environmental problems that have emerged in the last thirty years and the tools we have to solve them.

MSWG articulated five principles to guide this discussion, which focus on what is happening outside of Washington, DC. These principles were grounded in the simple notion that the environment should be like other parts of American life which define our greatness. Namely, in other aspects of our nation’s approach, we strive for improvement and exceptional performance – culturally, economically, academically, politically, athletically and more. We want excellence and strive for policies, symbols and incentives that help us pursue excellence.

Our nation’s environmental policies, systems, symbols and dis-incentives focus on achieving the minimum and some individuals even define minimal compliance as success. The MSWG thinks America can do better, and it knows there are individuals, organizations and businesses around the country that are doing better, sometimes in spite of the system. These examples should be shared with our national leaders to give them good ideas from great pioneers in pursuit of environmental excellence

The MSWG's letter to the Administration and Congress is consistent with our belief in continuous improvement and faith in Americans. Our support of the national database, roundtables, the MSWG Summit and the meeting planned for this summer in Washington give testimony to that faith. We note that the letter was addressed to the Cabinet and Congress, because we believe both branches of government should cooperate in the fact-finding, in looking together for better ways to solve America’s environmental problems and tap its civic potential.

The following is a copy of the identical letter and a list of its recipients.

February 21, 2001

Dear \_\_\_\_\_

The Multi-State Working Group (MSWG) recommends that the Congress and Administration sponsor fact-finding hearings or meetings outside Washington to determine the following:

1. The ability of existing environmental laws to address critical, remaining environmental problems at local, state, federal and international levels;
2. The knowledge gained from innovative efforts underway in the states, in EPA and in business to address those problems;
3. The ability of government, business, and communities to develop solutions to those remaining problems if only given the freedom and resources to act;
4. The barriers that inhibit all sectors of society from solving environmental problems;
1. The means to remove those barriers that prevent qualified organizations from attacking unregulated and unaddressed environmental problems while simultaneously insuring unqualified organizations remain under appropriate government monitoring.

MSWG is a broad, multi-stakeholder body that regularly assembles government, non-government, business and academic parties to explore innovative and systematic approaches to environmental protection, enhancement and restoration. We do this through dialogue, research, workshops, international partnerships, exchanges and education. We offer to help the Congress and Administration pursue the facts and evaluate conclusions. As an organization recognized for innovative thinking, we also offer to connect you with innovators and problem solvers who are eager to help create more effective environmental laws.

We believe these hearings could be a national symbol of cooperation between the Congress and Administration and lead to proposals that boldly reach beyond the laudable beginning in HR 3448. To pursue that lofty goal, there are several principles that stem from MSWG's dialogue on next generation environmental policy. They are:

- a. The next generation of environmental policy should be about environmental improvement in the broad sense, not confined by media-driven discussion about air, water and waste that characterized first generation of environmental policy thinking. It must address the need to prevent and control pollution beyond present levels and to engage environmental matters in a more holistic way. Sample questions might ask about how businesses and public agencies that are responsible for energy, transport, fisheries, forestry, and agriculture measure and mitigate their impact on the environment as well assess their potential to help the environment. Some of these questions may emerge from the laudable, but severely handicapped sector approaches of EPA's Common Sense Initiative; the Responsible Care Program of the American Chemistry Council, or Sustainable Forestry Program of AFPA.
- b. The environment includes environmental protection and natural resources management in what is called a reconciling of "green and brown" issues, that are separated in law, budgeting, government jurisdiction and organizational culture. For example, environmental regulators often work separately from those responsible for land and forest management, agriculture, fisheries and endangered resources. The hearings could ask how laws, federal agencies, Congressional Committees and levels of government (local, state and federal) can be re-shaped for greater effectiveness. A sample question might be how to promote more frequent inter-agency attention to environmental issues that now may get inter-agency attention only when part of an environmental impact assessment. Answers

to questions in this category might be found in the use of contract law under Section 10 of the Endangered Species Act and the Habitat Conservation Program.

- c. We cannot reach our goals of long-term environmental sustainability even with 100% compliance with current and prospective rules alone; nor can we reach land stewardship goals without cooperation of private landowners and business and without developing the relationship among efficient land use, environmental quality and decision-making with little rancor. The hearings could ask how laws could be designed to promote cooperation between government and private sector when cooperation is the optimal way to achieve a goal. Examples of such innovative approaches might be found in organizations like The Nature Conservancy or locations such as Austin, Texas (landscape ecology demonstration); Northbrook, IL (Oak Savannah restoration) and Clark, Colorado (rancher-tourism alliance)
- d. Environmental standards are in place for good public policy reasons and must remain in place to be followed and enforced. The hearings could ask how existing compliance assurance and enforcement systems can be better managed, with accountability, through the use of performance metrics. Answers to questions in this category might be found in EPA's Performance Partnership Program; state performance programs such as in Florida, and the EPA's audit policy.

Moving toward the next generation of environmental policy should begin by recognizing the importance of strongly enforced regulatory law. But it must immediately move to efficiently, effectively and continuously address environmental needs that fall outside of that law. These needs relate to greater environmental protection from regulated and unregulated threats, but also restoration of damaged, contaminated or exploited natural resources.

Based on our experience, we see these hearings less as a prelude to new federal programs and more as an opportunity for levels government and sectors of society to explain how they could be more active participants in an Environmental Stewardship System.

An objective of any new policy should be a system that includes natural resources, is based on ecosystem approaches, has mutual accountability and continued improvement on present and future problems. It must also have an information system that tracks progress, captures better ideas and shares them for the common good. We recommend consideration of the following principles to help guide the discussion.

**PRINCIPLE #1:** Any new law should encourage innovation that achieves objectives that improve, enhance and restore the environment.

**PRINCIPLE #2:** Any new law should break the short-term focus of business and government and establish long-term Environmental Stewardship Goals that involve business, government, non-government and academic participants.

**PRINCIPLE #3:** Any new law should be based in the holistic nature of the environment and that protection and restoration policies should fully recognize this nature.

**PRINCIPLE #4:** Any new law should tap America's organizational resources, including business, academic, and the public interest community so these organizations might achieve greater performance as partners, rather than foes.

**PRINCIPLE #5:** Any new law should authorize and fund an Environmental Stewardship Information System, which provides citizens at the local, state and national levels with useful information to track their environmental quality of life.

The National Academy of Public Administration (NAPA 2000) suggests that the current regulatory system cannot effectively deal with the diversity of complex policy, management, and political challenges we face. We share NAPA's belief that the Congress and Administration should take one or two big issues and marshal resources to attack those issues if only to demonstrate to the People that government can solve problems. The federal government also should give legal standing and support to the innovative efforts in states, regions, and the private sector as new policies and tools are being developed in an attempt to achieve a sustainable society

In conclusion, the MSWG believes it is time to create the next generation of environmental law and policy. Our analysis of these issues suggests that the problems of maintaining the quality of life are difficult but solvable. A wave of new thinking and innovative problem solving abounds in the public and private sectors. A great opportunity exists now for the Congress and the Administration, in partnership, to address this important national issue. MSWG offers to help in any way Congress and Administration see fit. Please contact me at (510) 540-3003 or email: [rstephen@calepa.ca.gov](mailto:rstephen@calepa.ca.gov) at any time to discuss these issues.

Sincerely,

Robert D. Stephens, Ph.D.  
Chair  
Multi-State Working Group