

Multi-State Working Group
on
Environmental Management Systems

EMS Research Roundtable Results
and
Research Summit Announcement

The Multi-State Working Group on Environmental Management Systems (MSWG), 1998 winner of a Council of State Governments' Innovation Award, is developing a proposed national environmental management system (EMS) research strategy. The strategy will meet the data needs of business, government and public interest parties that want to improve performance. The process has these steps:

1. Create a database: With funding from the EPA Office of Water, a national database has been created to receive EMS-generated performance information that meets quality standards. EPA and MSWG sponsor EMS and ISO 14000 pilot projects to populate the database.
2. Hold Roundtables: MSWG has received input from US and Canadian researchers who have questions relevant to evaluating EMSs as tools in the next generation of environmental policy.
3. Sponsor Research Summit: MSWG will sponsor a national EMS summit in 1999 that produces a research agenda that meets business, government and public interest group needs, plus the structure and process to manage the agenda.

This summarizes roundtable results and explains the summit.

The MSWG Research Roundtable Process has four purposes:

1. Propose research questions and organize them by topic
2. Match topics and questions to potential researchers
3. Identify funders and partners
4. Plan a National EMS Research Summit

The Roundtables produce questions to test this larger question: Can environmental management systems produce environmental results and perhaps economic benefits more efficiently, effectively and credibly than practices now used by business, government and non- government organizations?

1998 Regional Roundtable Results

The academic sector has credibility in research. MSWG's Research Task Team tapped that credibility and higher education's capacity by convening regional roundtables at these universities: Stanford, UNC-Chapel Hill, Harvard, Yale, Northwestern and Carnegie Mellon.

Summarized topics and/or questions that were identified:

Stanford University: February 24, 1998

Participants: Stanford University, Univ. of California - Berkeley; Hastings Law School, Univ. of California. Topics and/or questions identified:

- Industrial ecology in the developed and developing worlds
- Supply chain management for efficiency and compatibility
- Environmental performance by business sector, cluster, process
- Problems, opportunities with small and medium sized enterprises
- Continuous improvement on line, at site, through company, into the supply chain and by business sector
- Connecting similar or compatible needs of institutions in the three sectors: business, government and non-government
- Decision drivers that come from the market (pull through)
- Decision drivers that don't come from the market (push up)
- Using an EMS process to make credible risk judgments
- EMSs and efficiency as pollution prevention tools
- Global competitiveness and its impact on domestic production
- Using systems to anticipate and prevent problems
- Why EMSs are being adopted
- Why, why not are EMSs being third-party certified; for what value
- Organizational culture: reaffirmed or modified by an EMS
- Linking shareholder and stakeholder value in EMS design

University of North Carolina-Chapel Hill: May 13, 1998

Participants: UNC-Chapel Hill; NC State University; North Carolina Agriculture and Technology Institute, Greensboro. Topics and/or questions identified in addition to above:

- Internal decisions processes of EMS and non-EMS firms
- Best practice transfer within a firm
- Best practice transfer among firms
- Financial performance and EMSs and ISO 14000
- Financial accounting systems and their link to EMSs
- EMS implementation and their impact on customers
- EMS implementation and their impact on suppliers
- Relation between EMS adoption and regional conditions; eg. labor, government incentives, markets, etc.
- Decision processes: Where decisions are made and why
- Adequacy of environmental aspect identification
- Qualitative management lessons derived from EMSs

Harvard University: August 24, 1998

Participants: Harvard University, Massachusetts Institute of Technology, Tufts University, Boston University, Univ. of Massachusetts, Clark University, Worcester Poly Tech, George Mason University, Univ. of South Carolina, Tellus Institute and National Academy for Public Administration. Topics and/or questions identified in addition to the above:

- Will an EMS change organizational culture and why
- Is legal compliance improved or unaffected
- Is beyond compliance more or less likely
- Are capital decisions affected and if so, how
- What's the role of trade groups: technically and legally
- Will pollution prevention emerge in aspects identification
- Will an EMS transform an organization or be layered on
- Will EMS-generated data drive innovation and integration
- How will business, government and NGOs submit research needs

- What are barriers to innovation and how are they addressed
- What is the multi-national's role and does an EMS affect it
- Are small businesses disinterested and why
- How will pilot cooperators benefit from the data
- What's the root cause of good or bad performance
- What are the specific purposes of the MSWG research
- What are the cumulative consequences of product performance
- Why and how are organizational decisions made
- Will training and education change culture
- What are the risks and tradeoffs and how are they addressed, especially in a worker-environment context
- How do government, business and public interest groups act and interact in command and control vs. EMS circumstances
- Who says -- credibility -- that ISO 14000 produces results
- What's in place for comparison and control samples and variables
- Are data being collected for contrast and comparison by facility, process, product, service or business sector

Yale University: August 25, 1998

Participant: Yale. Topics and/or questions identified in addition to the above:

- How is ISO used in the public policy framework
- What are the motivating factors behind the provision of regulatory relief vis-a-vis an EMS
- What is the relationship between regulatory relief and the institution of an EMS and the EMS's impact on economy/environment
- General & special purpose government: what's an EMS's potential
- How does an EMS fit in the science-public policy interface
- Does ISO 14000 reflect ecosystem management principles
- How can public policies be enhanced in the context of an EMS
- How can consistent, comparable data be collected comparing the past and "something that hasn't happened yet"
- How can the competing and changing research needs of business, government and public interest sectors be connected
- Is ISO compatible with a supply chain approach to product stewardship
- Does ISO help or hinder product policy development, in whose eyes
- How can the credible answers from authoritative researchers be transmitted for value in all sectors
- Will EMSs help executives reposition their enterprises on product stewardship and industrial ecology
- How will research be structured to frame public policy debate
- How will results be measured vis-a-vis regulatory changes
- Track the culture and business aspects vis-a-vis supply chain management and product design in ISO and non-ISO firms

Northwestern University: October 20, 1998

Participants: Northwestern Univ., Univ. of Illinois, Northern Illinois Univ., Iowa State Univ., Univ. of Wisconsin-Madison, Univ. of Michigan, Indiana Univ., Univ. of Guelph, Northern Iowa Univ., Univ. of Missouri-Rolla. Topics and/or questions identified in addition to the above:

- What regulatory changes should happen due to the EMS
- Distinguish between perception and reality vis-a-vis results
- What's the economic bottom line for the EMS shareholder

- Do EMSs avoid costs better than regulations
- Measure the cost and value of ISO 14000's paperwork
- What is the veracity of the information reported
- How do environmental NGOs fit into the EMS performance system
- What value does the EMS place on natural capital
- Evaluate the quality of the results by the firm's size, scope (including culture and history)
- How can the EMS be used to drive innovation
- How does a supply chain EMS deliver value to the buyer
- What's the efficiency of the EMS supply chain
- Can environmental performance and competitiveness be improved and compared to what
- What's the EMS's value on compliance, enforcement issues
- Do EMSs help expose new ideas in the agreement and process
- Does the EMS tell how workers were educated to perform
- Do workers have a role in the EMS and to what consequence
- Are consumers aware of the EMS and does it matter
- What's the relationship between "significance" and "importance" in the listing of aspects and how are labels assigned
- What element does "time" play in the EMS contract
- What is the liability of the auditor in performing the function
- What is the "science" of auditing and how is it applied
- What are the professional credentials of the auditor
- How is the auditor's performance measured
- Do EMSs result in less shifting of the moral hazard
- What's the market for certified products
- Does an EMS help or hinder "new environmental policy" such as pollution trading, agricultural issues and markets
- Measure institutionalization of design changes -- use purchasing as a driver as a part of the EMS
- Do EMSs invite new thinking or reaffirm compliance thinking
- Don't limit data collection to pilot projects
- How will you gain insight from small data sets
- Tap healthy doubters for comparisons and insights
- Does MSWG form and nurture a credible EMS research community
- How does US EMS adoption relate to elsewhere in the world
- Can the data base receive international data
- Does an institution do a better job with EMSs in results, costs-benefits and if so, how
- Measure risk assessment by community and sector over time
- Track ambient conditions and human health and EMS performance
- Does the EMS account for health-environment tradeoffs
- Connect environmental condition indicators to diffused EMSs
- Inventory the practices adopted in the EMSs
- What professional standards apply to EMS consultants
- What are the competencies required of EMS practitioners
- Public infrastructure: What is it and how is it funded.

Carnegie Mellon University: December 9, 1998

Participants: Carnegie Mellon Univ., Allegheny College, Bloomsburg Univ., Chatham College, Dequesne Univ., George Washington Univ., Lehigh Univ., Rochester (NY) Institute of Technology, Youngstown Univ., Gannon Univ., Grove City College. Topics and/or questions identified in addition to the above:

- Compare the contributions of agriculture and industry to problems

- Does an EMS approach allow the passing on of true environmental costs better than present
- Why do EMSs focus on facilities and not decision structures
- Track corporate decisions closely and to their full length
- What tools are needed to make better business decisions
- How can the data base record materials, their type and quantity
- Does a voluntary EMS move an organization to sustainability
- Keep control groups in place
- How do EMSs affect leaders' behaviors
- Are personnel and environmental policies linked
- What biological metrics are needed for biodiversity if compliance metrics fail
- Who is the ultimate customer of the EMS
- What's the role of government and what's the consequence of the EMS on that role
- How can EMS information and knowledge be shared
- How do you inform the customer about the EMS
- Can the EMS allow cross industry comparisons
- Make sure protocols link with existing facility data bases
- Get data that informs you at the proper level of performance
- Get data that informs about ISO performance levels
- Does the EMS help small businesses deal with trade barriers
- How does ISO performance compare to Europe's EMAS system and other EMSs, especially in areas of difference such as reporting
- Do EMSs change production processes and what are the professional and training implications
- What's the role of firms in developing countries and with banks
- Can OSHA concerns be implemented as a part of one system
- Can EMSs develop community indicators
- How can EMS data be linked to other public data sets
- What lessons can ISO 9000 give ISO 14000
- Does the EMS help employers and employees understand their contributions to pollution prevention and performance
- Does the EMS help the worker see how she or he fits
- How does the facility reach the larger community
- Can EMS performance be linked to financial sector indicators
- Do EMSs favor industry sector approaches
- What public sector incentives exist and do they affect EMSs
- Track quality over time, not snapshots
- Design questions that link corporate decisions for the community and community performance holdings
- Does the EMS raise the environment from operations to the top
- What EMS characteristics seem to work or fail; how does it affect performance
- Are EMSs used on the hard targets such as agriculture, mining, sewage, small business
- What factors are associated with EMS adopters
- Do effects of adopting an EMS create spillovers -- positive or negative

The 1999 National EMS Research Summit

The National EMS Research Summit will be held in the third quarter of 1999 at the Brookings Institution, Washington, DC.

The summit will convene researchers, sponsors of research and customers of that research from the business, government and non-government sectors who are interested in testing whether EMSs can more efficiently, effectively and credibility produce environmental and economic benefits.

As per a first draft, the summit will have the following tasks:

1. To examine and reaffirm the structure and system to operate an Ecological (ecological systems include commerce, environment and community) Performance Information Center that will:
 - a. Solicit, receive, organize, evaluate and disseminate data from qualified, contributing environmental management systems;
 - b. Provide in depth analysis from the data and subsequent inquiry to produce value for data generators (ie. pilot participants) and the business, government and public interest sectors;
2. Based on input from research roundtables, to categorize research issues and specific thrusts that meet the needs of the business, government and public interest sectors;
3. To produce an awareness to action road map and structure that connects research needs with the niche interests of funders from public, private and foundation sectors and supports the larger data infrastructure.

About EMS data collection

The evolving information center is at the University of North Carolina-Chapel Hill and is receiving information on about 100 EMS pilots, most of the ISO 14001 variety. MSWG anticipates at least 300 more pilot projects in its 44 participating and observer states. Data also will be welcomed, once capacity is developed, from business group and other EMSs.

The pilots are sponsored by states and the Office of Water, which has provided direct project funding for nine states and nine municipalities. The Office also funded the creation of a series of data protocols used to collect common pilot project information.

Data must meet established protocols and are monitored to insure integrity. There are six data categories: Environmental performance, environmental compliance, environmental conditions, pollution prevention, costs and benefits and interested party involvement. Steps are being taken to accommodate information needs identified at the six roundtables.

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MSWG Research Summit Design Team (evolving):

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