# Improving environmental management policy in the private sector

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In the last three decades, many of the major critical environmental problems resulting from human activities have improved considerably. Environmental legislations in most developed countries have made substantial headway during this period. However, challenges remain in providing more sensible and effective environmental protection. Some problems that have been targeted by existing regulations such as urban wastewater pollution and smog persist at levels that exceed current environmental standards. Moreover, existing regulations do not fully address all pervasive environmental concerns, including such varied issues as hazardous wastewater pollutant emissions from manufacturing companies, and household use. To address both new and long standing environmental concerns, policy makers are looking for cost-effective policy tools that can achieve further improvements.

Environmental management system (EMS) is one tool on the agenda. An EMS is a set of rules developed by management team of an organization to help it meet internally established environmental goals. Although the specific features of these systems vary, they generally require management teams to establish an environmental policy or plan; to implement it by assigning responsibility, providing resources, and training workers; to check progress through systematic auditing; and to act to correct problems. In some cases, an organization's EMS draws in outsiders such as independent auditors to help monitor environmental performance or members of the community to help set goals and develop plans.

The demonstrated improvement that some firms have made with EMSs raises the question of whether – and how – the governments should seek to expand EMS use in the private sector. How should governments respond to developments in private sector environmental management, and what are the benefits of implementing EMSs in private sector? Unlike

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regulatory standards established by government agencies, an EMS places responsibility for decision making about how to improve environmental performance upon the people with the most information about industrial processes and potential control methods: private sector managers. The strategies that managers adopt through the process of developing EMSs have the potential to be less costly and more effective than those they would adopt in response to government imposed technology standards. Moreover, by placing responsibility at the company level, there may be a greater "buy-in" from the entire management team as well as a greater commitment by employees to carry out environmental responsibilities.

By giving companies the flexibility to create their own approaches to environmental protection, EMSs can promote innovation and social learning. Most of EMS systems require firms to improve continually in anticipation that they will identify innovative solutions that actually go beyond compliance with existing environmental legislations. Environmental management systems provide opportunities for diverse and experimental approaches to achieving regulatory goals, which may lead to solutions that better than government standards.

In addition to giving private sector management teams' responsibility and flexibility, EMSs also may be able to help government agencies overcome some of the limitations created by scarce enforcement resources. Given current budgetary levels, environmental agencies simply cannot oversee every firm's regulatory compliance on a regular basis. EMSs may be able to help by enlisting the management team and external auditors (third party auditors) to monitor compliance more regularly. The internal and external review processes embedded within EMSs may therefore enable government to target its enforcement resources more effectively.

Because of their potential, EMSs recently have emerged on the environmental policy agenda in many countries, and have explicitly endorsed their use in the private sector. These countries are exploring ways in which public policy might encourage the broader, more effective use of EMSs by the private sector. Under some circumstances, it may be appropriate for government to mandate the use of EMSs by management systems, but in others it may be best for governments to step back and leave the development of these systems to the private sector. Perhaps the most attractive strategy to date has been for governments to take action between government agencies and the private sector, by providing limited incentives that encourage but do not require firms to develop and implement EMSs. Options to increase the use of EMSs, like any policy options, should be carefully assessed to determine how well they can achieve policy makers' goals and objectives under the prevailing social and economic conditions. Analysis of each option reveals its potential as well as its limitation in achieving better and less costly environmental outcomes.

**A Tool to Improve Environmental Management Performance.** An EMS consists of a regulatory structure that arises from within an organization, and it represents a collection of internal efforts at policymaking, planning, and implementation that yields benefits for society. Through the effective use of an EMS, a firm's management team can gather information about the environmental policy, formalize job responsibilities related to environmental protection, and focus attention on compliance obligations.

**EMS Standards** Many firms design their systems to comply with EMS standards developed by trade associations or standard setting organizations. Several major trade associations have developed standards for their members. In addition, beginning in the early 1990s, national standards organizations in various countries began developing their own guidelines for how EMSs should be implemented. For example, the European Commission developed a standard for EMS implementation known as the Eco-Management and Audit Scheme (EMAS). The plethora of EMS standards developed around the world led the International Organization for Standardization (ISO) to adopt a series of environmental management standards in 1996. ISO 14001 has become the most widely recognized standard for EMS design throughout the world. All of these standards direct firms to engage in systematic management through what is commonly called a P-D-C-A cycle approach. However, EMS standards developed by trade associations and standard setting organizations can differ significantly in what they require of participating firms. For example, the standards for designing an EMS can differ regarding the following three factors: Performance agreement for the environmental program; to comply with ISO 14001, a firm needs to commit itself only to making improvements in environmental management – not striving to meet ambitious goals or even necessarily achieving compliance with existing government regulations. In contrast, to meet the requirements of EMAS firms must comply with relevant environmental, health and safety regulations. The role of external auditing; firms can self-certify that they have followed the ISO 14001 standard, but if a firm would like to be registered with its nation's standard setting body as having met these requirements, it must secure an accredited third-party auditor to verify that its EMS meets ISO requirements. In contrast, national environmental standard in many countries are entirely self-enforcing such as the American Textile Manufacturers Institute's EMS. The role of community involvement; community consultation is an integral part of an EMS that meets the EMAS standard, but such consultation is not required by ISO 14001, but it is required by EMAS.

**Environmental Management Policy Options** Government efforts to increase the use of EMSs are still in their early stages. To encourage firms to implement EMSs, policy makers have three main options. The first is to leave the development of management systems to the private sector without government guidance or intervention. The second option is for

government to mandate the adoption of EMSs, at least in certain sectors or to address particular problems. The third option is for government to pursue a "middle way" between the two extremes, encouraging but not requiring the adoption of certain types of EMSs. One factor that constrains analysis of and decision-making on these policy options is a general paucity of experience and research on how the systems work under a variety of situations. Much of the research that has been conducted to date examines EMSs in a small number of firms that adopted them voluntarily. In these firms, the motivation to improve compliance presumably already existed and gave rise to the firm's choice to adopt an EMS. Because EMS adoption by companies has not occurred randomly, studies of a select group of early adopters generally do not support reliable inferences about how a wider set of firms would perform if they adopted EMSs. The current variability of performance suggests that EMSs operate differently in various firms and that they may work differently when adopted to meet customer requirements or government mandates than when voluntarily adopted. Additional empirical research on how the systems work in a variety of circumstances will be needed to understand fully how they can contribute to environmental protection.

**Private Efforts** Adoption of EMS is proceeding rapidly in many sectors through the efforts of private organizations and without government taking any direct role; many trade associations require that members adopt EMSs. Moreover, some automotive companies such as Ford and General Motors require all of their parts suppliers to implement ISO certified EMS. Other manufacturing companies are imposing or contemplating similar requirements, giving rise to the prospect that EMS use will spread throughout entire supply chains in some sectors. Keeping their purchase agreements or membership in trade associations, companies are likely to respond by adopting certifiable management systems. Environmental policy makers could let this trend continue without any government intervention beyond continued efforts to enforce existing environmental regulations. All government programs to encourage EMSs would be associated with some cost for program development, staffing, and implementation. Funds used to support EMS initiatives might be better spent on improving conventional regulations or enforcing existing regulations. EMS standards developed by a few trade associations have become significantly more stringent in recent years. This trend toward more stringent standards suggests that private approaches can be responsive to public demands for greater accountability, however, at the same time can offer more flexibility than government requirements. Leaving EMS development entirely to the private sector may be appealing, but government policy makers need to be cognizant of the fact that outside of a few trade associations, the major private sector trend is toward developing systems that meet ISO standards. Recently, approximately 40,000 organizations worldwide have certified and registered their EMSs as meeting the ISO 14001 requirements. Although this trend may

be promising, questions have arisen about whether EMSs developed under ISO 14001 will result in significantly improved environmental performance. A further limitation of relying exclusively on private sector EMS efforts is that companies in many sectors probably will find little incentive to adopt an EMS. So far, ISO 14001 adoption in many countries have been concentrated in heavy industries such as electronics, automotive, and chemical sectors. Some facilities from other industries also have obtained certification, but relatively few of the polluting facilities in the service sector have chosen to become certified, for example, hotel, hospital, and transportation services have substantial environmental impacts that are difficult for government to control using conventional regulatory approaches. On the other hand, many highly polluting companies might continue operating without systematic attention to their environment impacts. If EMS adoption is left entirely to the private sector, these companies probably will continue to run their businesses without the benefit of a formal EMS.

**Government Mandates** Although EMSs currently are conceived as alternatives to conventional regulation, in principle they could be incorporated into government mandates. However, in some types of industries such as the petrol and chemical industries, government has required them to engage in risk management planning, and pollution prevention plan and process. The advantage of a government mandate is that it can be imposed on all firms. However, if the goal is simply to increase the number of firms using EMSs, a mandate probably is the best option. Mandating EMSs might dramatically increase the number of companies using them without necessarily increasing the number of firms using them effectively. On the other hand, if EMSs tend take on a life of their own once implemented such that even companies that begrudgingly undertake them later realize how beneficial they can be, regulation might be a sensible way to get firms to overcome their initial resistance. Requiring firms to engage in systematic planning and management effectively compels them to invest more resources in a search for cost effective opportunities for environmental improvement. When required to engage in planning, firms might identify ways to reduce risks that otherwise would have gone overlooked. Government also could mandate the use of EMSs for particular sectors or industries that typically have the worst environment records, such as the petrol and chemical industries.

**A Middle Way Option** A third policy option is to chart a middle way in which the government does not mandate adoption but offers incentives for firms to use EMSs. These incentives include reducing firms' implementation costs or increasing the benefits of adoption. This allows governments to encourage the private sector without creating the resistance that can accompany a mandate for adoption. The attractiveness of this middle way option has led to numerous governments' programs that offer firms incentives to develop effective management

systems. Government agencies may require firms to report information about their specific environmental improvements beyond the government and public. Information that companies must commit to making improvements in at least four environmental areas are energy, natural resources and materials use, waste generation, and air or water emissions. In return for meeting these requirements, facilities are offered a range of benefits, including public recognition, reduced agency monitoring, and regulatory flexibility. In addition, governments would reduce the frequency of reports required and publish their achievements when facilities have excellence performances about environmental management. The promise of regulatory flexibility could serve as a powerful incentive if government agencies were authorized to make significant regulatory concessions, however, putting this idea into practice has turned out to be difficult in all but the most modest regulatory changes. Agencies generally have no authority to waive many environmental requirements, and even when they do have the authority to do so, the process of granting a regulatory waiver can be quite involved. In the absence of significant and readily achievable regulatory waives, the incentives that agencies are able to offer in middle way programs may not be sufficient to motivate many firms to make substantial voluntary commitments. For most firms, public recognition by the government does not return enough dividends to justify making large investments in environmental improvements. Of course, incentives cannot address all concerns that firms might have.

**EMSs and the New Policy Agenda** In making space for EMSs on an ever-changing policy agenda, decision makers should acknowledge the value and limitations of the available policy options. The fact that large manufacturing companies such as Ford and General Motors now require ISO 14001 certification as a condition for business and the fact that the number of ISO 14001 certifications in general is growing show that many private sector managers see value in these systems. In firms committed to environmental quality, EMSs offer a foundation for strong performance and can help ensure consistency across differences within a firm. If government leaves the growth and development of EMSs entirely up to the private sector or mandates the wider use of EMSs by regulation for particular sectors or industries, the use of EMSs will increase. However, the key issue is whether they will actually result in significant changes in firms' environmental impacts. On their own, the procedures that make up an EMS cannot ensure excellent performance. Motivating industries to continue internalising the costs of environmental controls, governments will need to provide the incentives to industry. Policy makers interested in expanding the use of EMSs should find it reassuring that the trends already are headed in the right direction, with more firms adopting systems every year. Government's role should therefore be to support these trends in the private sector to proceed on its own with the diffusion of EMSs seems at

minimum an appropriate default position. Governments could at least take some limited actions to remove potential disincentives for EMS development. The additional incentives offered through middle way programs may make a difference at the margin for some firms, and the rise of these programs could signal regulations' tacit willingness to treat firms that have EMSs at least somewhat more favourably. Perceiving middle way programs in this way could help bolster the prevailing trends in private sector adoption of EMSs. Government EMS mandates also could be useful in addressing specific environmental problems that are not amenable to more traditional forms of regulatory control. A management-based regulatory approach deserves consideration for problems that have no uniform technological fix and for which it is difficult for government to measure or monitor firms' performance.

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