

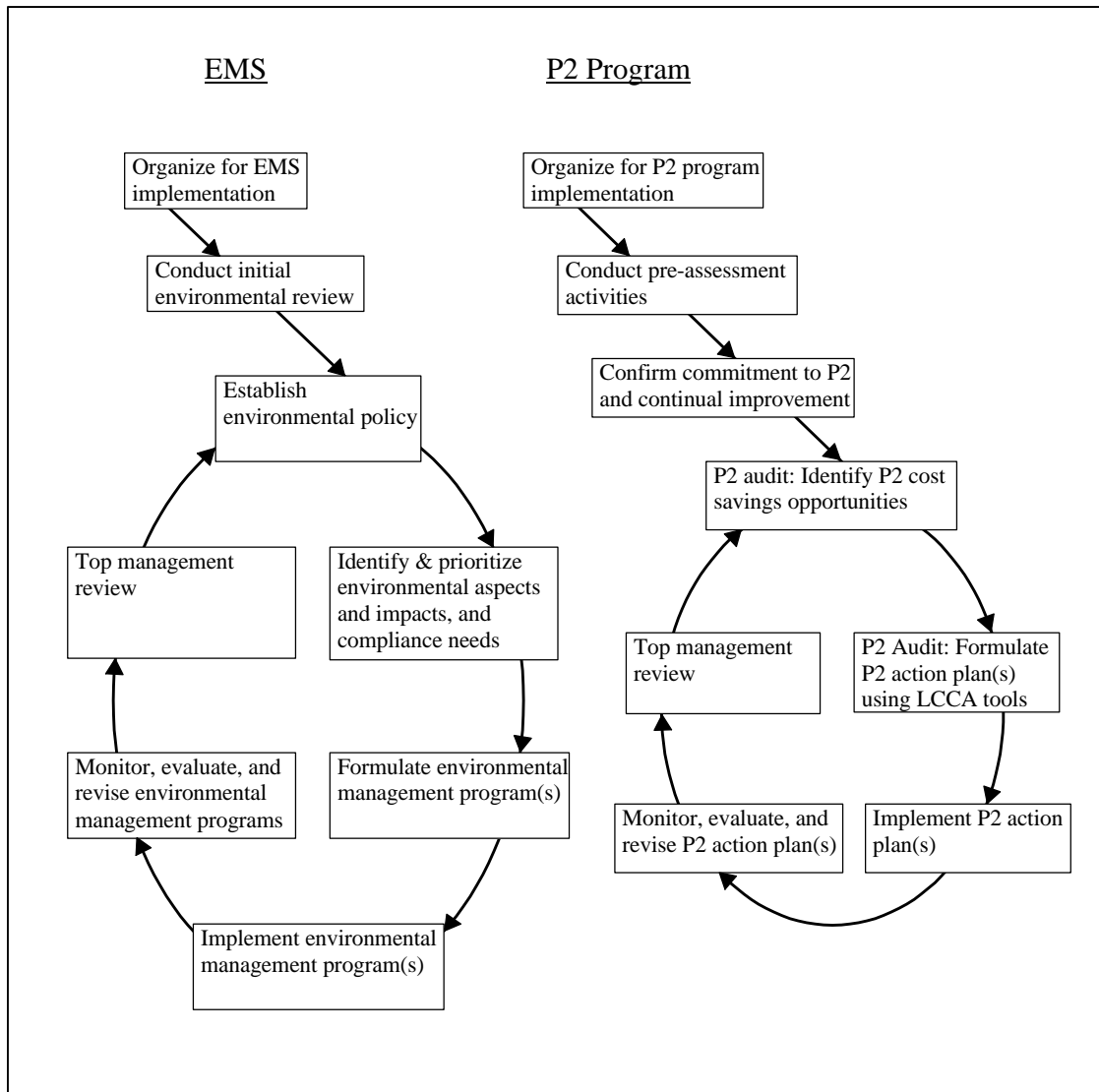
## **PERI's Perspective on Environmental Management Systems**

Most companies have a policy commitment to pollution prevention (P2) within their EMS. We all know why: end-of-pipe approaches to dealing with pollution and waste tend only to alter the medium, method, and location of disposal; generally consume even more energy and other resources in the cleanup process; and because of that add to the costs of production. Moreover, unless a regulated hazardous waste is completely immobilized or destroyed, it remains a liability forever. By contrast P2, as ISO 14001 notes in its definitions section, tends to reduce adverse environmental impacts while improving production efficiency and reducing costs; and because pollution is reduced or eliminated at the source, liabilities are substantially reduced. Indeed, arguably most of the environmental and economic performance benefits, reduction in risk of environmental liabilities, and hence the sustainability benefits of an EMS derive from the P2 activities and investments that it generates.

There's no such thing as a meaningful EMS without P2 at its core. Despite this, EMS guidance documents do not provide instruction on how to identify and evaluate P2 opportunities in an enterprise. P2 is not just a concept, an idea, an approach, or a mindset; it requires detailed analysis and planning that incorporates a rigorous methodology and a set of engineering, management, and life-cycle costing tools. True, you can walk around a plant's operations and identify many P2 housekeeping and relatively low-cost investment opportunities – leaking valves, lights left on unnecessarily, heat losses from poor insulation, materials that could be recycled internally, waste that could be reduced with automated controls, and so on. But to identify the bigger-ticket P2 opportunities that yield major production process efficiencies and cost savings, properly evaluate those opportunities from a bottom-line point of view and then comparatively evaluate them and devise a P2 investment strategy, and to do this on a continual improvement basis, requires a well thought-out P2 program with a structure like the one illustrated in Figure 1, similar to an EMS.

Figure 1 provides a model to a continual improvement program framework. The P2 program begins with three steps that need to be taken as part of setting it up the first time: organizing to put the program in place, gathering and interpreting basic production process information, and confirming top management's commitment to a program of continual improvement in preventing pollution. Next there are five steps that constitute the ongoing P2 continual improvement program; they amount to an adaptation of the famous plan-do-check-act management system model.

Figure 1. Basic Elements of EMSs and P2 Programs



The necessarily similar structures of EMSs and P2 programs make it possible to integrate the elements of a P2 program smoothly into an EMS. When this is done, P2 is raised from being a mere commitment within the EMS to being a major operational component of the EMS. Instead of looking just at the regulatory compliance status and environmental aspects of your company's operations, and then at ways to improve on these, you would also be specifically and systematically looking for high-return P2 opportunities from the outset, and doing so continuously. An integrated EMS/P2 program reduces operating costs and the risks of environmental liability more, better, and faster than a traditional EMS. The earlier major cost savings can be used to help finance investments, further accelerating improvements in business and environmental performance for the company.

PERI has devised a streamlined concept to EMS implementation, with P2 at its focus. This enables companies to streamline their implementation costs for an EMS and enables more cost-

effective compliance. In fact – we have applied our approach to Integrated Pollution Prevention and Control Permitting in Europe with great success.

For more information on how an integrated EMS/P2 program works refer to the book **Achieving Environmental Excellence: Integrating P2 and EMS to Increase Profits** (Co-Authored by Nicholas P. Cheremisinoff, the Director of Clean Technologies/Pollution Prevention Programs at PERI). It is available online at [www.govinst.com](http://www.govinst.com).

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