

EPA Guidelines



By Stephen P. Ashkin

In *The Ecology of Commerce*, author Paul Hawken writes the United States has spent more than \$1 trillion to monitor, litigate, contain, and curb pollution and hazardous waste, since 1970.

“Despite that,” he writes, “the environment is more polluted today than it was two decades ago. We would be worse off today were it not for the \$1 trillion expenditure, but in sum, we are worse off than when we started.”

In 1992, another environmental author, Vice President (then Sen.) Al Gore, published his book *Earth in the Balance*. In it, as just a portion of his “Global Marshall Plan” aimed at addressing our growing environmental problems, he

- Adopt a policy encouraging all government agencies and related organizations to purchase environmentally appropriate substitutes whenever they are price competitive (taking into account the products’ full-life-cycle costs).

- Reform utility rates to encourage full use of conservation and efficiency measures.
- Accelerate the phase-out of all ozone-destroying chemicals.

We must recognize the fact that our way of doing business is changing. Already, in just the first year of the Clinton administration, many of Gore’s suggestions have materialized as federal executive orders. Clearly, we face a choice: Do we wait until forced to change or begin implementing a positive, proactive environmental action plan now?

Green Benefits

Improving the environment doesn’t have to be a painful proposition. In his book, Hawken gives an example of the huge benefits environmental responsibility can bring to organizations who take the initiative: “Many individuals and companies, including most large

corporations, have already come to the conclusion that they must clean up and change. The archetype of industrial hygiene in this country is the 3M Company,” he writes. “In 1975, Joseph Ling, head of 3M’s environmental department, developed a program called Pol-

Vice President Albert Gore, Jr. delivers the opening remarks at the White House Conference on Climate Action, April 21, 1994.



recommended government take the following actions:

- Implement a virgin materials fee on products at the point of manufacture or importation based on the quality of nonrenewable, virgin materials used in the product.

- Establish higher mileage requirements for all cars and trucks sold in the United States.
- Strengthen efficiency standards for all buildings, industrial motors and engines, and appliances.

EPA Guidelines

lution Prevention Pays (3P), the first integrated, intra-company approach to designing out pollution from manufacturing processes. By reformulating products, changing processes, redesigning equipment, and recovering waste for reuse or recycling, Hawken reports that over 15 years, 3M was able to reduce its air pollution by 120,000 tons, its waste water by 1 billion gallons, and its solid waste by 410,000 tons. This saved the company \$537 million.

And 3M is far from alone. Many of

Granted, depending on the size of your organization, the results of your energy-efficiency and waste-prevention programs may not generate results as dramatic as these. Yet your efforts can make a significant impact on your bottom line, while helping preserve the environment for future generations.

Developing A Pollution Plan

In August of 1993, President Clinton signed Executive Order #12856, requiring all major federal government facilities to develop pollution prevention plans.

tion plan:

1. **Set Facility policies and goals.** Pollution prevention goals and policies for the facility should be laid out clearly in writing. You may want to include a definition of the facility's primary mission to assist supervisors and staff in understanding the scope and priority of pollution prevention activities.

2. **Make a commitment.** Management must commit to the program and demonstrate this commitment by:

- Naming a pollution prevention coordinator and outlining his/her responsibilities.
- Establishing a pollution prevention task force with adequate representation by staff from all key divisions of the facility.
- Committing adequate staff, resources, and funding to the program.
- Purchasing new high-efficiency, waste-reducing equipment where needed.
- Providing necessary training and incentive programs.
- Developing procedures to ensure ongoing communication with all involved in the program. This communication should include a discussion of progress in each of these areas and plans for the future.

3. **Conduct a baseline study.** This study should provide basic information on waste generation, use and worker exposure to hazardous chemicals, environmental releases of pollutants, and other processes that adversely impact the environment. A summary of this information should be included in your written

EPA Administrator Carol Browner presents the 1994 Green Lights Partner of the Year Award to Robert O. Swanson, senior vice president for Mobil, and Fred Schoeneborn, facility management coordinator for Mobil Land Development.



the largest manufacturers worldwide initiated everything from recycling, source-reduction, replanting, and toxic-emissions control programs to helping end-users develop in-house cleanup programs. Like 3M, these manufacturers are realizing astounding cost savings in return for their efforts.

James Edward, the director of the Strategic Planning and Prevention Division with the Environmental Protection Agency (EPA) Federal Facilities Enforcement Office, offers maintenance executives the following suggestions for developing a facility pollution preven-

Setting A Good Example

"One of the Environmental Protection Agency (EPA's) first initiatives under President Clinton's Executive Order on Acquisition, Recycling, and Waste prevention is the agency paperless office campaign," says [EPA's] Waste Prevention and Recycling Coordinator Michael E. O'Reilly. "The goal of the campaign, launched on Earth Day, is a 15 percent reduction in paper by December 1994. This modest reduction during the first year of the campaign will result in specific environmental benefits. In addition, the 15 percent reduction will result in a savings of more than \$100,000 in paper costs, and reduce the number of photocopies by more than 18 million."

According to O'Reilly, the campaign will accomplish the following in its first year:

- Save 430,500 kilowatt hours of energy.
- Save 735,000 gallons of water.
- Reduce oil consumption by 71,600 gallons.
- Conserve 315 cubic yards of landfill space
- Save 840 trees.
- Prevent 6,300 lbs. of air pollution.

"The key to the current and future success with waste reduc-

tion is the contribution of each and every employee," he says. "We share an environmental ethic which compels us to lead by example. With employees committed to waste reduction, we will continue to 'set the pace' for federal waste prevention and recycling efforts."

plan.

4. Identify opportunities and options. Based on the results of the baseline study, hold brainstorming sessions with staff, colleagues, and upper management to systematically identify opportunities and options for instituting pollution prevention measures. Again, summarize these efforts in your written plan.

5. Rank options. Develop criteria for prioritizing the opportunities and options identified. Typical criteria include cost (include life-cycle costs wherever possible), liability regulatory compliance, implementation feasibility, and environmental impact. Explain the

criteria used and present the results of the ranking in your written plan.

Tip: Generally, priority should be given to projects with a payback period of three years or less.

6. Implement and evaluate. In the implementation section of your plan, set schedules for completing major milestones; identify roles, responsibilities, and existing or expected barriers; outline communication and training needs; indicate how success will be measured and evaluated; and outline priorities for future pollution prevention activities.

Strategies to Consider

As you begin developing your facility pollution prevention plan, here are some specific strategies you will want to consider:

1. Solid Waste Reduction and Recycling. Check with local recycling authorities and use other available resources (See Reducing & Recycling Waste in this issue) to help you establish an in-house recycling and source-reduction program. Many municipalities have recycling programs for plastics, metals, and paper, to name a few.

Note: Be sure your recyclable materials are properly sorted to assure the best market prices. Not only will this minimize solid waste requiring disposal, but it will lower associated hauling costs and tipping fees as well.

2. Switch to recycled paper products. The use of post-consumer recycled paper products eliminates the use of virgin materials while building and strengthening the market for recyclable materials overall. To overcome any pos-

sible incremental cost increase, consider instituting a policy where all internal memoranda and other appropriate documents are printed on two sides, thus decreasing the actual volume of paper purchased.

3. Eliminate unnecessary hazardous and/or wasteful processes and products. Evaluate your processes to determine which can be eliminated or can be replaced with safer methods.

Cleaning procedures should be reviewed, and hazardous cleaning chemicals should be replaced with safer, environmentally preferable alternatives. Furthermore, consider installing

automated portion-control equipment for maintenance chemicals, which can cut chemical usage by as much as 30 percent to 65 percent over non portioned methods, thus creating an effective, cost-efficient source-reduction program.

4. Choose energy efficient equipment. Energy efficiency in the workplace can be enhanced by smart equipment purchasing. Computers, monitors and printers displaying the EPA's "Energy Star," for example, automatically switch to a low-power mode when they are not being used.

(Office equipment is the fastest growing electricity load in the commercial sector. Computer equipment accounts for 5 percent of commercial energy consumption, a figure that is expected to double by the year 2000.)

Look for similar energy conservation features in all new equipment you purchase and replace less energy-efficient models whenever possible.

The long-term savings will outweigh the initial investment both in dollars and energy.

5. Investigate utility rebate programs. Many utility companies offer attractive rebate programs aimed at greater energy efficiency for both power-user and producer. As well as cutting your organization's energy con-

Your efforts can make a significant impact on your bottom line, while helping preserve the environment for future generations.

Environmental Upgrades

Maximum energy and cost-savings are achievable goals for any type of building.

Example 1: Low-rise commercial building in a cold climate. Typical upgrade options:

- Improved roofing insulation
- "Green" lighting
- High-efficiency furnace or heat pump
- High-efficiency air conditioners

Example 2: Office building in a hot climate. Typical upgrade options:

- Window films
- "Green" lighting
- Variable speed motor drives for fans and pumps
- High-efficiency chiller with economizer.

When efficient lighting, window, and office equipment are used, it also may be possible to down size the heating ventilation and air conditioning (HVAC) system because of the reduced cooling load.

sumption and costs, energy conservation decreases—and can even eliminate—the need for utilities to build new power plants.

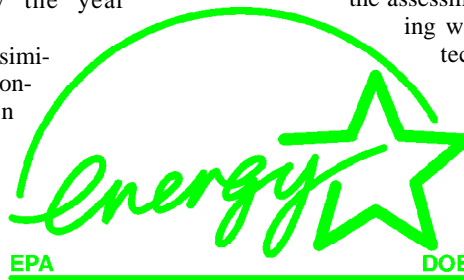
Contact your local utility for a listing of its energy efficiency rebates, design credits, and other initiatives.

6. Energy Efficient Lighting. The EPA Green Lights Program encourages the assessment and upgrade of lighting with more energy-efficient technologies.

According to the EPA, it is estimated that every kilowatt of electricity that goes unused prevents the emission of 1.5 pounds of carbon dioxide, a chief cause of global warming; 5.8

grams of sulfur dioxide, the chief cause of acid rain; and 2.5 grams of nitrogen oxides, which are often associated with smog and ozone depletion. (See *Nature's Powerful Deodorizer* in this issue.)

Typical lighting upgrades result in payback periods of three to four years and can cut lighting electricity bills by 50 percent or more.



EPA Guidelines

7. Energy Efficient Buildings. More broadly, the EPA has developed an umbrella program called Energy Star Buildings, aimed at encouraging organizations to save energy and reduce pollution at the lowest possible cost.

Opportunities for energy savings exist throughout most buildings through a combination of technology upgrades and improved

building operations and maintenance. Contact the EPA for these guidelines and check with other environmental organizations and associations for additional advice.

8. Water conservation and preservation.

Faucets and shower heads with low-flow aerators, ultra-low-flush toilets, and water-efficient exterior landscaping sprinklers or drip-method irrigation systems should be specified in all operations to conserve water, increase waste-treatment efficiency, and reduce waste-water loadings.



Source Reduction:
This automated chemical dispenser can reduce chemical usage by 30% to 65% over non portion controlled chemical dispensing methods.

The opportunities for resource and money conservation are enormous. AT a time where the mood of the country makes both issues a high priority, there are many organizations (such as the U.S. Green Building Council) willing to assist you in implementing changes that make sense for the environment and your budget.

*For more information, contact:
The EPA Green Lights/Energy Star hotline: 888-Star-Yes (888-782-7937)
The U.S. Green Building Council: (202) 778-0760*



Stephen Ashkin is Vice President of the Rochester Midland Corp.'s Institutional Division, Rochester, New York. As a member of the Environmental Assessment Committee for the American Society for Testing Materials (ASIM), as well as the US Green Building Council's Policy Board, Ashkin is active in environmental regulation issues.

Gleaming Floors
Dazzling Washrooms
Germ-Free Environment



Call Today!

800-RMC-4448

Rochester Midland
CREATIVE CHEMISTRY
SINCE 1888

The Leader in Green Housekeeping

Form 4076-EAC