

# RESPONDING TO ENVIRONMENTAL CHALLENGE



A discussion among  
people from industry,  
government and  
environmental groups

Pollution prevention is a multimedia concept that reduces or eliminates pollutant discharges to air, water or land, and includes the development of more environmentally acceptable products, changes in processes and practices, source reduction, beneficial use and environmentally sound recycling.

*(API definition of pollution prevention)*



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# PREVENTING POLLUTION: MEETING THE CHALLENGE



**"Our goal is to tell the  
story of pollution prevention  
from an advocacy and  
educational standpoint."**

**—Mark Nordheim,  
Chairman, API  
Pollution Prevention  
Task Force,  
Chevron**

**P**reventing pollution is becoming one of today's hottest environmental topics. Governments and industries are looking critically at materials and production methods to find ways to cut waste at the source, seeking beneficial uses of once unwanted by-products, and pursuing innovative methods to recycle and reuse materials. Consumers, too, are beginning to look at ways to eliminate or recycle waste—instead of disposing of it.

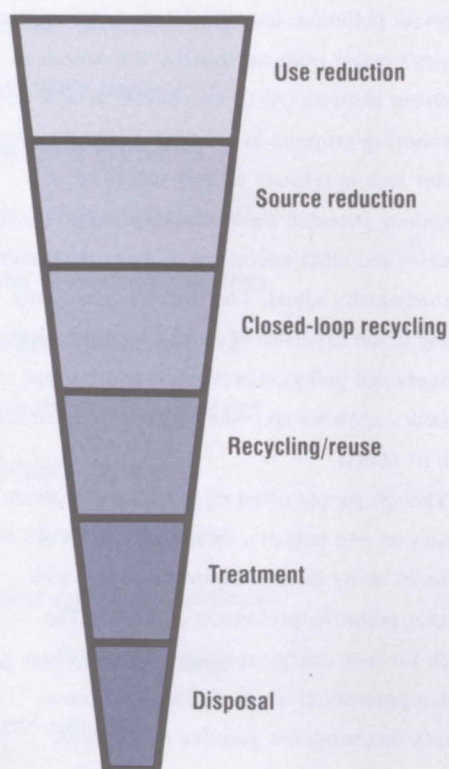
The petroleum industry is seeking better ways to prevent pollution. Individual companies and the industry's major trade association, the American Petroleum Institute (API), are looking at new ways of measuring progress in reducing releases, taking a closer look at releases already identified, and researching potential equipment changes at refineries and other operations to make them more environmentally sound. The industry is not only looking to the expertise of experienced petroleum engineers and pollution prevention experts, but to regulatory agencies and other organizations to help guide its efforts.

Though people often think of the petroleum industry as one industry, in reality it is a collection of many diverse businesses, each with different pollution prevention concerns. The search for new energy supplies in the Gulf of Mexico presents different challenges from a refinery that produces gasoline or a service station that provides the industry's products directly to customers. Similarly, environmentally sound pollution prevention practices that work in

Maine may not always work in Texas—because climate and topography vary.

Overall, the petroleum industry is striving to meet the challenges of pollution prevention by reducing or eliminating discharges to air, water and land, by developing better products, and by changing processes and practices.

## Waste Management Hierarchy



As the hierarchy shows, the goal of pollution prevention is to avoid generating wastes in the first place instead of treating or disposing of them.

**T**he petroleum industry is striving to meet the challenge of improved environmental performance demanded by the public. Pollution prevention is key to this effort.

API amended its bylaws in 1990 to incorporate an environmental mission statement and 11 guiding environmental principles. Acceptance of the principles is a condition of API membership. They serve as the foundation of a long-term commitment to improve environmental performance by API member companies.

Building on this foundation is a wide array of existing programs as well as new initiatives—to foster the search for environmental excellence throughout the industry.

For example, many of the nation's largest petroleum companies are participating in the U.S. Environmental Protection Agency's (EPA) voluntary 33/50 Program. It aims to cut the releases of 17 targeted toxic chemicals by 33 percent by 1992 and 50 percent by 1995.

Even before EPA announced its 33/50 Program, petroleum companies had taken innovative steps to prevent pollution in their operations nationwide. Individual companies launched programs such as Chevron's SMART (Save Money and Reduce Toxics) and Texaco's WOW (Wipe Out Waste) to promote pollution prevention efforts.

These programs have already substantially reduced waste. For example, the Council on Environmental Quality's 1990 Annual Report profiled Chevron's SMART program. It reported that SMART cut the company's disposal of hazardous wastes by nearly half in the first year.

Other efforts include the industry's oil spill research program with the U.S. Department of the Interior, research on cleaner fuels and engines undertaken jointly with the auto industry, establishment of the Marine Spill Response Corporation, rerouting tanker traffic off sensitive areas along the California and Florida coasts, and Unocal's program to "buy back" old, high-polluting cars on the roads in California.

To learn more about this important environmental challenge, API invited experts from federal and state government, from public interest groups and from the petroleum industry to discuss pollution prevention as part of the October 1990 annual meeting of the Health and Environment General Committee. The discussion is summarized in the following pages.

### Waste Management Vocabulary

|                      | Use reduction | Source reduction | Closed-loop recycling | Recycling/reuse | Treatment | Disposal |
|----------------------|---------------|------------------|-----------------------|-----------------|-----------|----------|
| Waste management     |               |                  |                       |                 |           |          |
| Waste minimization   |               |                  |                       |                 |           |          |
| Waste reduction      |               |                  |                       |                 |           |          |
| Pollution prevention |               |                  |                       |                 |           |          |

As the waste management vocabulary has grown, descriptive terms have acquired meanings that encompass different tiers of the waste management hierarchy.

## THE FEDERAL PERSPECTIVE



**"I think you will see over the next two years, a new approach at EPA making pollution prevention the hallmark of our new direction."**

**—Nancy Firestone,  
Associate Deputy  
Administrator,  
U.S. Environmental  
Protection Agency**

In November 1990, Congress passed the Pollution Prevention Act of 1990, helping to establish an effective national pollution prevention policy. The act stressed the importance of source reduction as a major part of pollution prevention—keeping the role of recycling and treatment separate. The act also committed EPA to establishing an office to develop and implement a strategy to promote source reduction. This new office will also help businesses adopt source reduction techniques.

In addition, EPA is taking many steps on its own to develop a pollution prevention strategy. The first major step is finding ways to evaluate control strategies across media lines—looking at the emissions of a plant holistically, rather than focusing on the plant's waste, water or air emissions.

"At EPA we have managed quite successfully to divide the world into air, water and waste. Not only have we been able to do that, we have been able to build brick walls between those offices," Firestone said. As a result, waste often gets transferred from one medium to another.

For example, the Clean Water Act's effluent standards have successfully minimized much of the waste discharges to water. But some companies solve their water discharge problems by collecting the waste water and managing it as a solid waste. EPA statistics indicate that 50 to 90 percent of Resource Conservation and Recovery Act (RCRA) waste is largely water. This approach does not eliminate waste, it simply reclassifies it.

To change this situation, EPA has begun a series of "clustering" projects, which are designed