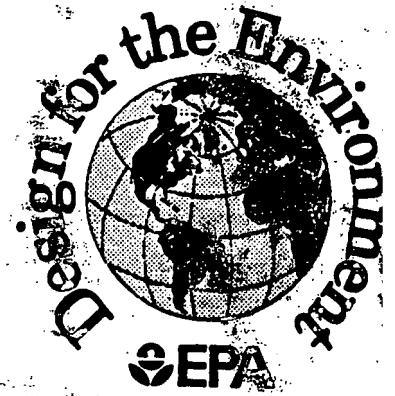




# Design for the Environment Fact Sheet

## *Accounting and Insurance Projects Applications for Pollution Prevention in Financial Professions*



### **How do Financial Practices and Professions Affect the Environment?**

It is now well recognized that every business decision, whether it involves the choice of raw materials, production processes, or products, has an impact on the environment. Two even more certain maxims are that financial or economic criteria affect every business decision and that every business decision affects the firm's "bottom line." While it is true that some business planners and product developers have begun to look beyond the boundary of their firm to the environmental impacts of their activities, these same people have not moved away from the fundamental premise that if an activity is profitable or cost-effective, the business should try to do it; and if it is not profitable or cost-effective, it should not. The challenge ahead for securing long-term environmental protection is to develop the link between businesses' economic self-interest and protection of the environment. The most straight forward way to accomplish this is to integrate environmental considerations into traditional business functions, among them are financial functions such as accounting, capital budgeting, insurance, risk management, and lending and finance.

To mobilize the power and potential of the financial professions to protect the environment, the Environmental Protection Agency (EPA) has initiated several cooperative efforts with stakeholders who have an interest in financial issues. The goal of these efforts is to effect voluntary changes in organizational decisionmaking that will facilitate investment in and expanded use of pollution prevention technologies. As a starting point, EPA, along with some of our partners in the financial disciplines, has current projects in the following areas:

- investment analysis/capital budgeting;
- cost or managerial accounting; and
- insurance/risk management.

### **What is "Design for the Environment", or DfE?**

As it is generally used, the term "Design for the Environment" (DfE) means making environmental considerations an integral part in the design of a product, process or technology. The concept of DfE originated from industry's efforts to target specific environmental objectives for design engineers to incorporate when creating a new product. Examples of DfE initiatives include designing for CFC elimination, disassembly and recyclability.

### **What is the EPA's Design for the Environment Program?**

The Office of Pollution Prevention and Toxics (OPPT) created EPA's Design for the Environment Program (DfE) as a voluntary program that works closely with private sector partners. The DfE Program promotes the incorporation of environmental considerations, especially risk reduction and pollution prevention, at the front end of the design process. The DfE Program is OPPT's contribution to industry environmental design initiatives.

The DfE Program has initiated a number of wide-ranging projects which operate through three levels of involvement: infrastructure projects are aimed at changing general business practices in order to remove barriers to change and to provide incentives for environmental design and redesign of existing systems (e.g., modify management accounting systems to fully account for environmental costs and to improve capital budgeting practices to examine an array of investment options including pollution prevention alternatives); cooperative industry projects are joint efforts to evaluate substitutes, share risk, regulatory, and prevention information, and invoke behavioral change; and facility based activities are projects to help individual businesses begin environmental design initiatives and adopt new business practices as a result of their own assessment of alternatives.

### **How is Capital Budgeting and Cost Accounting Related to DfE?**

Every business collects information for its own internal decisionmaking, e.g., costing and pricing decisions, (managerial accounting) and to provide to external audiences such as bank stockholders, creditors, bankers, and government (financial accounting). Every business also must decide how to invest its available capital in new equipment and products. The process by which a firm makes these investment decisions is known as the capital budgeting process and is part of the managerial accounting process. At present, many cost accounting systems and capital budgeting processes do not provide enough information to business managers to make optimal decisions in increasingly competitive global markets. In the environmental arena, for example, part or all environmental costs for treatment, disposal, and administration are often allocated to overhead cost pools which in turn mask the true environmental costs of a particular product or process. Potential future liabilities may not be accounted for at all. As long as this and other cost information is hidden from managers, costing and pricing decisions will underestimate the costs of some products and overestimate the costs of others. Managers face a similar lack of information when they evaluate investment alternatives in

new equipment and products. Without adequate information to include in the financial analysis of capital investments, and given problems in the methods of analysis, managers will not see the advantages of investments that prevent pollution and minimize environmental impacts.

EPA's DfE project seeks to promote the design and development of better accounting and capital budgeting practices within firms' managerial accounting systems.

### **What is the Capital Budgeting and Environmental Accounting Project?**

The long-term objective for the accounting/capital budgeting project is to promote "full cost pricing" of products and processes with emphasis on environmental cost/benefits. Initial emphasis will be on those costs and benefits which impact the firm's bottom line. There are four specific goals for this project:

- (1) Stimulate the development and adoption of improved managerial cost accounting systems that allocate environmental costs to products and processes.
- (2) Stimulate the development and adoption of financial analysis/capital budgeting tools and practices to evaluate the quantitative and qualitative aspects of investments, thereby putting pollution prevention investments on a level playing field.
- (3) Stimulate development of programs to educate relevant disciplines (e.g., MBAs, CPAs, CFAs, engineers, and environmental policy and natural resource professionals).
- (4) Facilitate dialogue and interest among the many stakeholders traditionally involved in managerial accounting, including capital budgeting. Traditional stakeholders include plant and corporate personnel for operations, finance and accounting, and the outside accounting community. Additional stakeholders include federal, state, and local governments, universities, labor and environmental interest groups, and the public.

### **Dialogue and Building Partnerships with the Experts**

To facilitate dialogue on the design of better accounting and financial analysis tools, EPA continues to develop a network of experts and to solicit their input on the best ways to develop and promote innovative accounting and capital budgeting practices. The culmination of these efforts will be a multi-sponsored workshop held in Washington, DC in September, 1993.

### **Develop and Pilot Analytical Tools and Methods**

The most important goal of EPA's voluntary partnership is to develop and implement analytical tools and methods for environmentally aware managerial accounting and investment analysis. For some years now, EPA has been funding the development and piloting of tools. The Total Cost Assessment Methodology (which is contained in the EPA report "Total Cost Assessment - Accelerating Industrial Pollution Prevention through Innovative Financial Analysis," EPA/741/R-92/002, May 1992) and the Pollution Prevention Benefits Manual are two methods for innovative capital budgeting analysis. The

Agency is presently funding the development and pilot testing of an innovative managerial accounting methodology with the World Resources Institute and New York University.

To disseminate innovative financial tools, EPA is working with the American Society for Testing and Materials to incorporate a "total cost assessment" methodology into their upcoming "Guide to Setting up a Corporate Pollution Prevention Program."

### Curriculum Development

Because EPA recognizes the opportunity and importance of preparing future generations of decisionmakers to grapple with tough problems concerning environmental protection and wise business practices, we established the National Pollution Prevention Center at the University of Michigan. The Center is a collaborative effort of EPA, business, industry and academia and offers: curriculum modules; short courses; internships; and conferences and workshops.

In addition to other disciplines, the Center has begun developing pollution prevention modules for undergraduate and graduate courses in business and accounting.

### **What is the DfE Insurance Project?**

EPA is working to incorporate pollution prevention principles into the day-to-day practices of insurance underwriters and brokers, and corporate risk managers. Through cooperative ventures with these groups, EPA believes there are significant opportunities to stimulate voluntary changes in these important business activities.

In the short run, the Agency has entered into a cooperative effort with the American Institute of Chartered Property and Casualty Underwriters (AICPCU). AICPCU is a non-profit, independent organization offering educational programs and professional certification to people in the property and liability insurance business. The Institute offers a broad array of certification programs for insurance underwriters and brokers, and corporate risk managers.

EPA is working with AICPCU to modify the curriculum for the Associates in Risk Management (ARM) program to incorporate pollution prevention into their certification program.

### **Is There Additional Information Available on EPA Initiatives for the Financial Professions?**

For more information about the EPA's initiatives for the financial professions: Marty Spitzer, capital budgeting or accounting; or Julie Shannon, insurance; Pollution Prevention Division (7409), Office of Pollution Prevention and Toxics, US EPA, 401 M Street, SW, Washington, DC 20460; telephone, (202) 260-3557; and FAX, (202) 260-0178. For copies of DfE fact sheets or the reports mentioned in this fact sheet, contact the Pollution Prevention Information Clearinghouse at (202) 260-1023.