



Environmental Accounting Project Update #4

February 1995 - February 1996

Project Vision:

The goal of the EPA Environmental Accounting Project is to encourage and motivate businesses to understand the full spectrum of environmental costs and integrate these costs into decision making.

EPA initiated the Environmental Accounting Project in 1992 to encourage businesses to incorporate environmental costs into managerial accounting and capital budgeting practices. This document is the fourth in a series of updates designed to inform the public of project activities and recent publications.

PROJECT HISTORY

To help build momentum for the project, EPA convened a series of meetings with experts from diverse fields related to environmental accounting. The focus group established a vision and objective for the project. The focus group planned a national workshop attended by nearly 100 experts interested in environmental accounting. Workshop participants developed an Action Agenda that incorporates recommendations from the business community, accounting and professional societies, the academic and research community, small businesses, and government on what needs to be done by the various stakeholder groups to increase the use of environmental accounting. The group identified these four areas as critical areas for action:

- Clarification of terms and concepts;
- Development of management incentives;
- Development of forums and materials for the purposes of education, guidance, and outreach; and
- Development of tools, methods, and systems for implementation.

The Action Agenda also lists what the stakeholders in environmental accounting think the Federal government should do to encourage the use of environmental accounting. This *Project Update* summarizes the Accounting Project's activities undertaken in response to these recommendations. It also highlights environmental accounting related activities being undertaken by other EPA programs and government agencies. Previous project updates, the Stakeholder's Action Agenda, and other project documents, fact sheets, and reports discussed in this *Project Update* are available through the Pollution Prevention Information Clearinghouse (PPIC) at (202) 260-1023. Many of these documents are also available via Internet (see page 3 for address information).

EPA ENVIRONMENTAL ACCOUNTING PROJECT ACTIVITIES

Research

Environmental Liability Estimation Techniques

Description Estimating environmental liabilities remains a very difficult issue for businesses. As a step towards helping companies assess and manage their existing and potential environmental liabilities, EPA is conducting a study of approaches and tools for monetizing environmental liabilities for use in internal business management decisions. The final report will identify and describe existing techniques, provide availability information, and discuss advantages and disadvantages of each model.

Status A final report should be available in late Spring 1996.

Contact: Susan McLaughlin, EPA, (202) 260-3844 or mclaughlin.susan@epamail.epa.gov.

World Resources Institute Study of Corporate Management Accounting Practices

Description. Through a series of case studies, the book *Green Ledgers: Case Studies in Corporate Environmental Accounting* (partially funded by the EPA) examines how environmental costs are accounted for within five major corporations (Amoco Oil Company, Ciba-Geigy, Dow Chemical, DuPont, and S.C. Johnson) and four smaller companies. The report proposes recommendations for better environmental accounting by business and offers helpful implementation advice in its section entitled, "A Practical Guide to Getting Started."

Status: The final report is complete and available. To obtain this publication, send \$19.95 plus \$3.50 postage and handling to WRI Productions, P.O. Box 4852, Hampden Station, Baltimore, MD, 21211, or order by phone (800) 822-0504.

Contact: Daryl Ditz, World Resources Institute, (202) 662-2507 or daryld@wri.org.

Survey of Corporate Accounting Practices

Description. Through a cooperative agreement with the EPA and in collaboration with the Institute of Management Accountants, the Tellus Institute surveyed U.S. manufacturing firms to study the manner and extent to which those firms consider environmental costs in their routine capital budgeting processes, especially in the context of evaluating potential environmental investments. The final report, entitled *Environmental Cost Accounting for Capital Budgeting: A Benchmark Survey of Management Accountants* (EPA742-R-95-005), directs environmental accounting stakeholders' attention to areas that require concentrated effort and establishes a baseline for continued measurement of progress on the environmental accounting issue.

Status. Completed and available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov.

Contact: Susan McLaughlin, EPA, (202) 260-3844 or mclaughlin.susan@epamail.epa.gov.

Outreach

Internet Access

Description The Environmental Accounting Project now has a web site on the Internet. This site contains general project information and offers access to many of our documents -- some of which may not be available in paper form.

INFORMATION EXCHANGE

EPA is committed to collecting and distributing information on environmental accounting resources. If you have information to share on training opportunities, success stories, or other resources please contact Holly Elwood at (202) 260-4362.

Status The web site can now be accessed.

Contact The Environmental Accounting Project web site is located on the EnviroSenSe server. To access EnviroSenSe, type <http://es.inel.gov>. At the main menu, select the **EPA's New Partnership Programs** listing. From the sub-menu, select **Environmental Accounting Project**.

Network Development and Mailings

Description: The *Directory of EPA's Environmental Accounting Project's Network for Managerial Accounting and Capital Budgeting*, (EPA/742-B-96-006), is a resource directory of professionals interested in environmental accounting. The *Network Directory* supplies contact information and areas of expertise for the individuals listed. Organized according to sector (e.g., academic, industry, etc.), the *Network Directory* may be used as a phone directory, for networking, or for identifying members in particular sectors, organizations, or countries.

Status. EPA routinely updates the *Network Directory*. To join the Network or correct or add information to an existing listing, complete and return the "Membership Form for U.S. EPA's Environmental Accounting Project's Network for Managerial Accounting and Capital Budgeting". Both the *Network Directory* and membership form are available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov.

Contact: Susan McLaughlin, EPA, (202) 260-3844 or mclaughlin.susan@epamail.epa.gov.

Environmental Accounting Resource Listing

Description: EPA has developed and regularly updates an *Environmental Accounting Resource Listing* that identifies non-EPA publications or information sources on environmental accounting.

Status. The latest resource listing was completed in March 1995. An updated resource listing should be available in the Spring of 1996. The resource listing is available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov.

Contact: To include additional materials in future listings please contact Holly Elwood, EPA, (202) 260-4362 or elwood.holly@epamail.epa.gov

Education and Training

An Introduction to Environmental Accounting as a Business Management Tool: Key Concepts and Terms

Description This primer presents an overview of environmental accounting for those unfamiliar with environmental accounting. It describes what environmental accounting is, why it is important, outlines some application options, and presents key concepts, definitions, and issues. The primer is being used by a number of companies to teach their employees about environmental accounting, and is also being reprinted and distributed to members by Great Britain's Chartered Association of Certified Accountants.

Status The primer is complete and available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov

Contact: Holly Elwood, EPA, (202) 260-4362 or elwood.holly@epamail.epa.gov.

Environmental Cost Accounting Training in the Regions

Description: EPA has a cooperative agreement with the Waste Reduction Institute for Training and Applications Research (WRITAR) and the Northeast Waste Management Official's Association (NEWMOA) to deliver environmental cost accounting training in the EPA Regions. Prior to the partnership, NEWMOA held training courses in Region 1 and 2. As part of the new cooperative agreement, NEWMOA and WRITAR have held an environmental cost accounting training session in Region 4 and a joint session in Region 8 and Region 9. A second session in Region 4 is planned for the Spring of 1996.

Contact: Mark Haveman, WRITAR, (612) 379-5995 or writar@pclink.com.

Environmental Cost Accounting and the Metal Finishing Industry

Description. EPA and WRITAR are testing the application of environmental cost accounting methodologies in the metal finishing industry. This study will yield a guidance document on the development and application of environmental cost accounting methodologies and cost values for key operations in metal finishing for use in pollution prevention project reviews. This guidance document will be useful for both assistance providers and industry facility managers.

Status. The work will be completed in the Spring of 1996.

Contact. Mark Haveman, WRITAR, (612) 379-5995 or writar@pclink.com.

Training for Small Business Development Center Staff

Description: EPA is supporting the Vermont Small Business Development Center (SBDC) in a multi-media pollution prevention pilot project. Among other things, the pilot project will train SBDC staff on the use of environmental cost accounting principles and practices in capital budgeting and project feasibility analysis. In addition, the project will develop a pollution prevention module embodying environmental accounting techniques for incorporation into the standard business plan, a key element in the loan application process.

Contact. Ed Weiler, EPA, (202) 260-2996 or weiler.edward@epamail.epa.gov.

International Accounting Conference

Description EPA, the Institute of Management Accountants (IMA), and the American Institute of Certified Public Accountants (AICPA) are assessing the demand for an international conference on environmental accounting targeted towards management accountants, cost engineers, and others.

Contact Tom Deacon, IMA, (800) 638-4427

University Curricula and Resources

Description. EPA is supporting the National Pollution Prevention Center (NPPC) for Higher Education at the University of Michigan in developing educational materials for university instructors. The Center has published a complete compendium on pollution prevention in accounting. This compendium provides an introduction to the role of pollution prevention in business accounting, and includes resource lists with bibliographic information and annotations, student assignments such as case studies and homework problems that may be used in accounting and finance curricula, sample course syllabi, and some key contacts in the academic community.

Status The compendium is available for a small fee (to cover photocopying and postage). As with other NPPC compendia, this compendium will continue to be revised and expanded.

Contact: NPPC, University of Michigan School of Natural Resources and Environment, 430 E. University, Ann Arbor, MI 48109-1115, (313) 764-1412 or nppc@umich.edu.

ADDITIONAL INFORMATION

EPA's Resource Listing (available through PPIC) describes additional curricula materials. If you are aware of relevant professional or academic curricula, contact EPA's Holly Elwood (202) 260-4362.

Methods for Environmental Accounting and Total Cost Assessment

Case Studies on Innovative Environmental Accounting Practices

Description: EPA is developing case studies that exemplify how companies are addressing and/or implementing environmental accounting. The first completed case study highlights environmental accounting efforts in a large U.S. business (AT&T), and another will describe environmental accounting practices at a privately-owned public utility located in Canada (Ontario Hydro).

Status: The AT&T case study is completed and available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov. The Ontario Hydro case study will be available in the Spring of 1996.

Contact: Holly Elwood, EPA, (202) 260-4362 or elwood.holly@epamail.epa.gov.

Pollution Prevention Case Studies and Savings from Pollution Prevention

Description: Finding case studies on pollution prevention in industry that include financial savings from pollution prevention can sometimes be difficult. To help interested parties find this information, EPA published two documents: *A Summary of Pollution Prevention Case*

States with Economic Data (by SIC Codes) (EPA/742-S-94-001), which contains more than 200 examples of case studies that include economic information, and a companion document, *Abstracts of Pollution Prevention Case Study Sources* (EPA/742-B-94-001), which is an annotated bibliography of sources of case studies.

Status Completed and available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov.

Contact Holly Elwood, EPA, (202) 260-4362 or elwood.holly@epamail.epa.gov

Total Cost Assessment Software

Description: The Tellus Institute developed *P2/FINANCE*, a total cost assessment spreadsheet software system designed to guide organizations in the data collection and analysis essential to a more complete financial evaluation of pollution prevention and other environmental projects. The software application is accompanied by a User's Manual with step by step instructions on data entry. The Manual also includes a copy of the blank spreadsheet, a list of potential costs, a glossary of financial terms, and a detailed factual case study containing a project description, costing and financial analysis documentation, and completed spreadsheets. Under EPA's current license agreement with Tellus, federal, state, and local government employees can obtain *P2/FINANCE* free-of-charge from EPA. Additionally, EPA is funding the development of an upgraded version of *P2/FINANCE* that EPA will have license to distribute free-of-charge to all interested parties, both on diskette and via the Internet.

Status: Version 2.0 is completed and available for Excel (4.0 for Windows) or for Lotus 1-2-3 (3.4a for DOS). Government employees contact the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov. Others please contact the Tellus Institute (see contact information below). Version 3.0 will be available in Summer 1996 and will be for Excel (5.0 for Windows) and for Lotus 1-2-3 (3.4a for DOS).

Contact: Angela Dierks or Deborah Savage, Tellus Institute (617) 266-5400, or adierks@tellus.com or dsavage@tellus.com. For distribution information on Version 3.0, contact Susan McLaughlin, EPA, (202) 260-3844 or mclaughlin.susan@epamail.epa.gov.

Total Cost Assessment Software Tailored to Specific Industries

Description: EPA worked with the Tellus Institute and the Screen Printing Association International to develop a decision support tool to help screen printers perform financial assessments using a total cost assessment framework. The tool is an upgrade of Tellus's *P2/FINANCE* software system described above, tailored to the needs of the screen printing industry. The menu-driven software demonstrates to screen printers how lower risk pollution prevention alternatives may save money. The National Institute of Standards and Technology and the Tellus Institute are developing similar tools tailored to the lithography and flexography sectors of the printing industry, the electronics/wiring board industry, and the metal finishing industry.

Status: *P2/FINANCE for Screenprinters* is complete and available. To order *P2/FINANCE for Screenprinters* contact the Screenprinting and Graphic Imaging Association, 1001 S. Main Street, Fairfax, VA 22031, (703) 385-1335. The software for the lithography and flexography sectors of the printing industry, the electronics/printed wiring board industry, and the metal finishing industry will be completed over the next two years.

For additional information on all software, contact Stephanie Bergman, EPA, (202) 260-1821 or bergman.stephanie@epamail.epa.gov, or Karen Shapiro, Tellus Institute, (617) 266-5400, or kshapiro@tellus.com

Total Cost Assessment Worksheets for Dry Cleaners

- Description:* EPA funded the Tellus Institute, in collaboration with the Center for Neighborhood Technologies, to develop a pollution prevention/waste minimization manual for dry cleaners. This manual will provide dry cleaners with technical information on opportunities ranging from better housekeeping practices, to equipment upgrades, to actual process changes. As a part of this effort, Tellus is developing financial analysis worksheets to assist dry cleaners in conducting project financial analyses using a TCA framework. The worksheets will consist of user-friendly forms for easy recording of the cost information relevant to a given project, and will contain comprehensive, detailed cost/savings lists specific to dry cleaning and wet cleaning processes and equipment. Three factual case studies will accompany the manual and the financial analysis worksheets. These case studies will describe several project options undertaken by dry cleaners, including information on equipment/process selection and the accompanying financial analyses. The case studies will also discuss cost data availability and collection and illustrate the use of the financial analysis worksheets.
- Status:* The worksheets are under development and should be completed by the end of June, 1996.
- Contact:* Richard Kinsman, EPA, (202) 260-6911, kinsman.richard@epamail.epa.gov or Deborah Savage, Tellus Institute, (617) 266-5400, dsavage@tellus.com.

Resource Guide on Tools and Software that Account for Environmental Costs

- Description:* EPA, in cooperation with AACE International, the Environment, Health, and Safety Software Development Group, and the Institute of Management Accountants, has completed a resource guide that informs practitioners on over 100 existing accounting and costing methods and waste management and project management software systems that are being used by the private and/or the public sector. The guide evaluates these tools and software against a set of life-cycle costing (LCC) criteria, which can include all private and societal costs associated with a product or process from raw material acquisition to final disposal of waste. Each method profile offers a summary of the purpose of the tool, assesses the tool against LCC criteria, and provides information on tool availability and cost.
- Status:* The resource guide is completed. Due to budget constraints, limited paper copies are available from the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov. The guide will also be available via Internet this spring.
- Contact:* For additional information, contact Holly Elwood, EPA, (202) 260-4362 or elwood.holly@epamail.epa.gov. To access the 300-page guide via the Internet, see instructions on "Internet Access" in the Outreach section (page 3 of this document).

OTHER FEDERAL GOVERNMENT ENVIRONMENTAL ACCOUNTING ACTIVITIES

This section describes other activities supported by EPA and other federal government agencies related to environmental accounting

Training Technical Assistance Providers and Screen Printers

Description EPA is supporting efforts to train pollution prevention technical assistance providers and small to mid-sized manufacturers in environmental cost accounting. Two different satellite training seminars geared to two different audiences took place in 1995. Both seminars are available on videotape. The first satellite seminar targeted technical assistance providers and provided a review of basic project profitability analysis and the elements of total cost accounting (TCA). The goal of the seminar was to enable technical assistance providers and National Institutes for Standards and Technology Manufacturing Extension Partnership (MEP) Centers to better help their customers incorporate TCA techniques into their businesses. (Both the states and the MEP centers provide technical services to businesses and manufacturers on how to incorporate pollution prevention into daily operations.) The second seminar targeted small to mid-sized manufacturers and focused on the application of TCA concepts by manufacturers. It highlighted two firms that have incorporated TCA concepts into their business decision-making: a screen printing facility and a printed wiring board manufacturer.

Status: Satellite seminars were held in July and December 1995 and are available on videotape. Copies of one or both videotapes are available from the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov.

Contact: Stephanie Bergman, (202) 260-1821 or bergman.stephanie@epamail.epa.gov.

National Performance Review

Description: Environmental accounting in the federal government has been identified as an important issue in the National Performance Review's assessment of ways to reinvent government. A major recommendation of the report *Creating a Government that Works Better and Costs Less: Reinventing Environmental Management* accompanying the National Performance Review (September, 1993) is to "Improve Federal Decision making Through Environmental Cost Accounting." The report calls for EPA and the Department of Defense (DoD) to develop pilot projects, report on those projects, and make recommendations for government-wide implementation.

Status: Report completed and distributed to EPA and DoD.

Contact: Copies of the report may be obtained from the U.S. Government Printing Office, Superintendent of Documents, Mail Stop: SSOP, Washington, DC 20402-9328. For additional information on the development of recommendations, contact Will Garvey at (202) 564-2458 or garvey.will@epamail.epa.gov.

Implementing Full-Cost Accounting at DOE

- Description* In response to recommendations from the National Performance Review, DOE plans to implement full-cost accounting at one of its nuclear facilities
- Status* DOE is currently assessing full-cost accounting issues. Implementation at a test site is targeted for the second quarter of 1996.
- Contact* Pat Hoxie, GRAM Consultants, (202) 822-9556

EPA's Federal Facility Pollution Prevention Project Analysis: A Primer for Applying Life Cycle and Total Cost Assessment Concepts

- Description.* Under Federal Executive Order No. 12856, *Federal Compliance in Right-to-Know Laws and Pollution Prevention Requirements*, all Federal facilities should apply life-cycle analysis and total cost accounting principles to the greatest extent practicable, when evaluating pollution prevention opportunities under the order. To help Federal facilities staff implement the order, EPA's Federal Facilities Enforcement Office (FFEO) has, among other things, developed a practical user's guide. The guide is designed to help facility managers and environmental management staff become familiar with the application of total cost assessment principles as they continue compliance with the Executive Order. Specifically, it defines pollution prevention, life cycle analysis, life cycle costing, and total cost assessment (TCA); identifies the advantages of TCA principles; and provides a how-to approach to TCA, with emphasis on using TCA and LCA to justify pollution prevention projects.
- Status:* The primer is complete and available through the Pollution Prevention Information Clearinghouse, (202) 260-1023, fax (202) 260-1078, or ppic@epamail.epa.gov.
- Contact:* For additional information, contact Will Garvey at (202) 564-2458 or garvey.will@epamail.epa.gov.

EPA Waste Minimization National Plan

- Description:* An integral part of the *RCRA Waste Minimization National Plan* is to encourage hazardous waste generators to examine potential cross-media transfer of pollutants as they minimize the amount and toxicity of hazardous waste generated. Implicit in this holistic approach is the incorporation of life-cycle cost analysis and total cost accounting. As part of the *National Plan*, EPA has published *Interim Final Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program* (58 FR 31114, May 28, 1993) to encourage hazardous waste generators to make multimedia pollution prevention decisions based on total cost accounting. One of the objectives of the *Plan* is to provide tools to stakeholders to assist them in identifying their source reduction and recycling priorities. EPA has created a team of EPA and state staff that is working to assess stakeholders' needs for risk-based prioritization tools and evaluate tools currently available. The team is also exploring ways that this type of risk screening tool could be integrated with existing business decision-making processes/tools.
- Status.* EPA released the *National Plan* on November 16, 1994. EPA plans to complete its assessment of stakeholder needs for prioritization tools and evaluation of available tools in Spring 1996.

Contact: The *National Plan* is available through the RCRA Superfund Docket at 1-800-424-9346. For more information contact Donna Perla (703) 308-8402, Jim Lounsbury, EPA-OSW, (703) 308-8463, or Mark Ralston, (703) 308-8595.

EPA Full Cost Accounting for Municipal Solid Waste Management

Description: *Full Cost Accounting for Municipal Solid Waste Management: A Handbook* (EPA530-R-95-041) describes the key concepts and benefits of full cost accounting for this audience. The handbook discusses the use of full cost accounting as a planning tool that can help communities assess the actual costs of solid waste management. The handbook can help communities become familiar with full cost accounting and learn how other communities have used it. It also explains many of the financial terms used in full cost accounting and the specific costs that are considered. While the handbook is not a step-by-step "how-to" document, it does describe the steps involved with implementing full cost accounting for solid waste management. It is a comprehensive overview and a valuable resource for local governments.

Status: Completed and available through the RCRA Hotline, (800) 424-9346.

Contact: Angie Leith, EPA Office of Solid Waste, (703) 308-7253.

The documents, fact sheets, and reports discussed throughout this project update can be obtained from the **Pollution Prevention Information Clearinghouse (PPIC)**, unless otherwise noted.

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