



Annotated Bibliography of Accounting- Related Pollution Prevention Sources

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This annotated bibliography is a guide to issues and literature in the field of corporate environmental accounting. It is divided into the following sections: **Other Bibliographies**, **Management** (financial, managerial, national income, and general accounting), **Auditing**, and **General**. This document builds on and complements a similar annotated bibliography published in 1992 by the United Nations (see first listing below). Information on obtaining many of the following materials appears in this compendium's Resource List.

Other Bibliographies

United Nations. *Environmental Accounting: Current Issues, Abstracts, and Bibliographies*. No.:E.92.II.A.23.

A guide to the issues and literature in the field of corporate environmental accounting; focuses largely on Financial Reporting and National Accounting.

Institute of Management Accounting Library. "Institute of Management Accounting / Certified Management Accountant Program Bibliography." April 1993.

This is a listing of environmental accounting articles organized alphabetically by author and focused on the field of corporate environmental accounting. Annotations of each article are not included in the listing, but some of the articles overlap with articles in the UN bibliography and the NPPC's bibliography, which are annotated.

Environmental Protection Agency. "*Environmental Accounting Resource Listing*." EPA 742-F94-004. July 1994.

Presents selected information sources within the following categories: (1) activity-based costing; (2) bibliographies, curricula, and definition of terms; (3) corporate environmental accounting; (4) federal government, military and logistics applications; (5) financial and economic analysis of pollution prevention projects; (6) national environmental accounting; (7) pollution prevention; and (8) quality costs. The list includes ordering information and cost (if applicable). Most of these sources are non-EPA sources. To obtain a listing of all documents on this topic written by the EPA Management Accounting and Capital Budgeting for Environmental Costs Project, contact the EPA's Pollution Prevention Information Clearinghouse (see this compendium's Resource List).

Management

Financial Accounting

Abelson, Reed. "Messy Accounting." *Forbes* 148 (14 October 1991): 172+.

A company must disclose a liability when there exists a "reasonable possibility" that a liability is incurred. Then the company must "reasonably estimate" the liability. These vague guidelines leave much room for interpretation. Companies may therefore underestimate their liabilities to protect their stocks. Stricter standard-setting is needed in order to protect our environment. The article describes many examples of corporate disclosure. (Also cited in the UN bibliography.)

Senge, Stephen V. "Accounting for the Environment: An Analysis of the Issues." *The Ohio CPA Journal* (February 1993): 33+.

The article examines some of the issues and challenges of accounting for the environment. For environmental accounting to be effective, business and environmental interests must cooperate. Current accounting methods do not take environmental considerations into account. Future accounting regulations will need to include more comprehensive estimations and projections for future activities. Social benefits and costs must be taken into account. Changing traditional accounting concepts presents three major challenges: reexamining the target audience, expanding the amount of information reported, and accounting for new activities. After considering these challenges, accountants must re-examine the fundamental GAAP principles. The article presents some different proposals for reform, including revisions for accounting and expanding the current framework to incorporate these new concerns. Better estimates of full-cost accounting and resource allocation can lead to better decision-making.

Surma, John P., and Albert A. Vondra. "Accounting for Environmental Costs: A Hazardous Subject." *Journal of Accountancy* 173, no. 3 (March 1992): 51+.

This article examines how past, present, and future environmental activities affect corporate accounting practices. Based on a survey of U.S. corporations, only 11% had accounting policies directly addressing environmental issues. Further, fewer than a third of these companies had disclosed their policies in their financial statements. Even though the FASB recognizes few environmental issues, some statements, such as "Accounting for Contingencies," have much potential for environmental standards. Recording liabilities due to hazardous waste costs vary among the companies. Timing of recording was different due to difficult estimations of costs. Also, estimation of the magnitude of cost varied among the respondents. Further, companies used different approaches to accounting for post-remediation monitoring costs. The different methods are described within the article. Most of the companies surveyed included environmental costs in measuring their net gain or loss on disposal of a site. Specific definitions are not available for environmental costs, and, therefore, companies' accounting methods differ. The article outlines a broad guideline for companies to follow when evaluating environmental costs. (Also cited in the UN bibliography.)

Managerial Accounting

Carson, Patrick, and Julia Moulden. "Cleaning Up Your Own Act: The Office." *Total Quality Environmental Management* 2, no. 4 (June 1993): 453+.

Includes recommendations for reducing, reusing, recycling, saving energy, improving the indoor environment and adopting greener purchasing policies. Greening your office can boost staff morale and save money. Specific examples of savings are described.

Cooper, Robin, and Robert S. Kaplan. "How Cost Accounting Distorts Product Costs." *Management Accounting* 70, no. 10 (April 1988): 20+.

The authors researched 20 firms in order to study how product costs get distorted. Considering that product costs are almost all variable cost, variation is possible. Variability may occur due to the number of units produced or due to the cost driver used to calculate costs. Diversity and complexity on the product line may also distort the product cost. In order to create a more sustainable competitive advantage for a firm, firms must employ a more comprehensive product costing system, including long-term variable costs of manufacturing and marketing.

Eckel, Len, Kathryn Fisher, and Grant Russell. "Environmental Performance Measurement." *CMA Magazine* 65, no. 10 (March 1992): 10+.

Describes a framework for a System for Environmental Performance Measurement (SEPM). A SEPM is integrated in existing accounting and reporting systems. Assists with defining corporate policies and objectives for environmental issues. Examines how to achieve an effective system. To identify environmental issues, an audit of a firm's operations and consultation with its stakeholders is suggested. Describes performance measures reflecting cause-and-effect relationships using input and output indicators. Individualized systems are needed to address specific environmental issues.

Eckel, Leonard, and Kathryn Fisher. "Being Accountable for the Environment." *CMA Magazine* 65, No. 8 (January 1992): 10.

Management accountants have a responsibility to assist their firms with recognizing and dealing with their impact on the environment. These responsibilities include contributing to the development of their firm's policies on environmental issues, promoting and supporting these policies within the firm, and helping

monitor compliance with these regulations and other environmental regulations. They must design a system to assess financial risk resulting from environmental matters. Other obligations are described in detail in the article. It is suggested that firms report fully to stakeholders on all environmental efforts. Effective financial reporting expands our traditional reporting methods.

Fagg, Brandon F., Joyce K. Smith, Keith A. Weitz, and John L. Warren. *Life-Cycle Cost Assessment (LCCA): Preliminary Scoping Report*. Environmental Management Systems, Research Triangle Park, NC, October 1993.

Authors' introduction: "The purpose of this report is to provide background on the state-of-the-art LCA and cost assessment techniques with the objective of building a user-based life-cycle cost assessment (LCCA) model. The foundation for the LCCA model will be the existing LCA framework, as developed by the U.S. EPA and the Society of Environmental Toxicology and Chemistry (SETAC). Working definitions for the key LCCA terms are provided, and existing cost assessment techniques are documented and evaluated for their applicability to LCCA. Terms, concepts and cost assessment techniques . . . provide the basis for an LCCA workshop held in November 1993."

Keoleian, Gregory A., and Dan Menerey. *Life Cycle Design Guidance Manual: Environmental Requirements and the Product System*. (EPA/600/R-92/226). Cincinnati: U.S. EPA, Office of Research and Development, Risk Reduction Engineering Laboratory, January 1993.

Provides a framework for incorporating environmental requirements into product system design; includes chapters on life cycle assessment (LCA) and accounting. Emphasizes that all four components of product systems (product, process, distribution, management/information) should be integrated in design and suggests that, whenever possible, design activities should encompass all life cycle stages from raw materials acquisition through processing, manufacturing, use/service, resource recovery, and disposal of all residuals. Matrices are provided for developing and evaluating life cycle environmental requirements, then coordinating these with performance, cost, legal, and cultural requirements. Strategies for reducing product systems' environmental impacts are listed and discussed. Introduces LCA (both inventory and impact analysis) as a possible evaluation tool in design while also suggesting alternative or more streamlined methods. Appendices cover: summary of

major environmental laws, overview of environmental impacts, and primer on decision-making models.

Keoleian, Gregory A., Dan Menerey, and Mary Ann Curran. "A Life Cycle Approach to Product System Design." *Pollution Prevention Review* (June 1993): 293+.

(Summarizes *Life Cycle Design Guidance Manual: Environmental Requirements and the Product System*, by Keoleian and Menerey.)

It is important to distinguish between "Life Cycle Assessment" (LCA) and "Life Cycle Costing." LCA is a comprehensive tool to identify and evaluate the full environmental consequences of a product system. It is based on an inventory of material and energy inputs and outputs in units of kilograms and joules. EPA and the Society of Environmental Toxicology and Chemistry (SETAC) have developed methodologies for conducting an LCA.

Life cycle costing has two distinct definitions: environmental and military/engineering. In the environmental field, this has come to mean all costs associated with a product system throughout its life cycle, from materials acquisition to disposal. It can be analyzed from the perspective of at least four groups of stakeholders: (1) suppliers, (2) manufacturers, (3) consumers, and (4) society.

Traditionally, life cycle costing applied to military and engineering means "estimating costs from acquisition of a system to disposal." This does not usually incorporate costs further upstream than purchase.

Kreuze, Jerry G., and Gale E. Newell. "ABC and Life-Cycle Costing for Environmental Expenditures." *Management Accounting 75* (February 1994): 38+.

Activity-based costing (ABC) and life-cycle costing allocate environmental expenditures to specific products. These methods can lead to the elimination of product costs that do not add any value to that product. Life-cycle costs not only include production costs, but future costs of the product as well. The article describes four levels of environmental costs that are important in calculating the full cost of a product: (1) usual capital and operating costs, (2) hidden regulatory costs, (3) contingent liability cost, and (4) less tangible costs. All of these costs must be considered when calculating the product cost. The article outlines an example to show how traditional methods produce incomplete product costs. Life-cycle costing assists ABC in extending costs into the future. The combination of the two methods will result in a more accurate product cost than traditional methods.

McIntosh, Malcolm. "Switch the Lights Off, Save the Planet." *Director* 45, no. 3 (October 1991): 89+.

This article gives three examples of how more efficient management objectives including environmental concerns will show increased bottom line results. Peter Lane Transport, a nationwide logistics company, employed more efficient and environmentally responsible transportation in order to save profits and gain positive recognition. Dawes Environmental Coatings, a chemical company, created a non-toxic and therefore safer paint which was better for the environment and the business. These profit savings were triggered by environmental concerns. Botley Park Hotel also gained a competitive edge by promoting environmental responsibility among its employees.

McKee, Bradford. "The Best Defense Against Pollution." *Nation's Business* 79, no. 11 (November 1991): 53+.

Examines environmental compliance costs of small firms. Shows how environmental management can not only pay for itself, but can also reap some unexpected benefits. Preventing pollution by rethinking production is a solution to our permanent environmental management problem. Specific examples provided.

Morgello, Clem. "Richard Mahoney of Monsanto: Taking the Initiative on the Environment." *Institutional Investor* 24, no. 16 (December 1990): 41+.

Richard Mahoney, chairman and CEO of Monsanto, discusses his environmental goals, including reducing or eliminating pollution and waste, creating a safer environment and protecting and cleaning up its plant sites. As of 1990, Monsanto spent in excess of \$285 million on environmental matters, mostly used for compliance with governmental regulations. He does not view this as a competitive disadvantage nationally or internationally. He believes that being environmentally friendly will give him the competitive edge needed to be profitable and to be superior.

Mullen, Rick. "Popoff: Include the Environment to Realize the Real Cost of Products." *Chemical Week* 151 (28 October 1992): 59+.

Frank Popoff, CEO and chairman of Dow Chemical, recognizes that natural resources should be viewed as assets and, therefore, full-cost pricing should be used. Life-cycle costing is a first step up to full-cost accounting. He believes that full cost pricing, rather than over-regulation and over-legislation, will be most effective in changing companies' polluting behavior.

Nash, Jennifer, Karen Nutt, James Maxwell, and John Ehrenfeld. "Polaroid's Environmental Accounting and Reporting System: Benefits and Limitations of a TQEM Measurement Tool." *Total Quality Environmental Management* (1992): 3+.

Polaroid has developed a goal to reduce its chemical use and waste by 10 percent per unit per year during the period 1988-1993. Polaroid has developed an Environmental Accounting and Reporting System (EARS) in order to measure its progress. EARS encourages environmental improvement through accurate feedback and employee rewards. By 1991, Polaroid had exceeded its goal, reporting a reduction of approximately 20 percent. EARS is a Total Quality Environmental Management (TQEM) tool. It provides incentives for improving environmental performance and restructures traditional thinking. Polaroid did, however, have its fair share of problems during implementation: internal resistance, data collection and interpretation. In light of these problems, Polaroid's new system seems to be a success both environmentally and financially. Polaroid's TQEM program should be used as an example for other firms that are developing and implementing similar programs.

Noreen, Eric. "Conditions Under Which Activity-Based Cost Systems Provide Relevant Costs." *Journal of Management Accounting Research* 3 (September 1991): 159-168.

Author's abstract: "Activity-Based Cost systems assign costs on the basis of multiple 'cost-drivers,' which may or may not be proportional to the volume of output. This is in contrast to most traditional cost systems which use only one allocation basis (usually direct labor or machine hours) that is proportional to volume. Commonly cited reasons for switching to Activity-Based Cost systems are to more accurately estimate product profitability for purposes of making product pricing and drop decisions and to reduce the cost of manufacturing products during the design stage by providing more accurate cost information concerning alternative design specifications. In this paper, the conditions under which Activity-Based Cost systems would provide relevant information for just such decisions are derived. These conditions are quite stringent and hold, among other things, that all costs must be strictly proportional to their 'cost drivers.'"

Paluzzi, Joseph E., and Timothy J. Greiner. "Finding Green in Clean: Progressive Pollution Prevention at Hyde Tools." *Total Quality Environmental Management* (March 1993): 283+.

Hyde's environmental success resulted from its response to a lawsuit brought by an environmental group for not complying with the Clean Water Act. By employing a Total Quality Management system, Hyde has reached its goals to eliminate wastewater discharge and has also profited significantly. TQM principles also contributed to Hyde's Total Employee Involvement Program (TEI). This TEI program helped improve the plant's quality, safety, and productivity. The article highlights other specific pollution prevention projects with significant financial savings. Hyde Tools is a good example of how team effort and pollution prevention can pay back.

Plishner, Emily S. "Environmental Costs: Getting the True Measure." *Chemical Week* 153 (7 July 1993): 32.

Nasir Ali, a consultant with Arthur Little's Center for Environmental Assurance, believes that environmental costs should be added to the specific products. These costs include pollution control, waste disposal, regulatory compliance, wasted raw materials, future clean-ups, and public/customer relations costs. Jerry Martin of Dow Chemical brings up another issue: whether these costs should be valued at their current cost or their replacement cost. The Society for the Promotion of Life Cycle Assessment Development (SPOLD, located in Brussels) has put out a source book to assist managers with the life cycle analysis. The SEC has issued "an interpretive edict requiring companies to make more of an effort" to allocate environmental costs where they earn returns. Dow Chemical and Amoco are model companies to show ways to earn a return on environmental spending.

Popoff, Frank P., and David T. Buzzelli. "Full-Cost Accounting." *Chemical & Engineering News* 71 (11 January 1993): 8-10.

Explains the concept of full-cost accounting and how it can be more effective than existing programs and regulations. Argues that if prices reflected the true costs of resources and their environmental impact, then consumers would select based upon impact on environment. Proposes that full-cost accounting would make pollution prevention more attractive and sustainable development more likely. However, it reaches the conclusion that the approach would take time to develop and requires consensus among industry, government, academia and the environmental community.

Rauk, Albert C., and Barbara C. Thompson. "Applying TQEM Practices to Pollution Prevention at AT&T's Columbus Works Plant." *Total Quality Environmental Management* 2, no. 4 (June 1993): 373+.

Total Quality Environmental Management practices are being applied to AT&T's Columbus Works to reduce overall waste produced. Specific projects and savings are examined. TQM is a process of continuous improvement, moving away from the end-of-pipe approaches.

Roth, Harold P., and A. Faye Borthick. "Are You Distorting Costs By Violating ABC Assumptions?" *Management Accounting* 73, no. 5 (November 1991): 39+.

Accurate activity-based costing requires two things: homogeneous cost drivers and proportional costs to the specific activity. The article illustrates examples of improper cost allocations to products due to not satisfying these assumptions. Also, the article describes how to use computer statistic programs, such as Lotus 1-2-3, in order to evaluate the assumptions.

Walley, Darlene, Karen Blumenfeld, Nancy Kolodny, and Nasir Ali. "Case Study: A Product Life-Cycle Assessment of Arm & Hammer Baking Soda." *Pollution Prevention Review* (December 1992): 51+.

Church & Dwight Company, Inc. used a life-cycle analysis in order to evaluate the environmental effects and possible improvements of their product. The article goes through the steps of the Arm & Hammer baking soda life-cycle. The life-cycle inventory for the baking soda consisted of the resources consumed and the pollutants produced throughout each stage of the product. These stages included: raw material acquisition and material manufacture, product manufacture, packaging, use and reuse, transportation, and waste management. The results of the analysis were broken into five categories: household uses, waste water, air pollution, solid waste, and product use. As a result of this study, Arm & Hammer baking soda is seen as environmentally benign. This case should be used as an example to follow for other life-cycle assessments.

National Income Accounting

"The Price of Everything, the Value of Nothing." *The Economist* 328 (31 July 1993): 63.

Currently the national account ignores three major environmental issues: (1) clean air and extensive forests should be considered part of our country's wealth, (2) natural resources should be depreciated, and

(3) environmental loss, as well as remediation cost, should be recognized. However, because natural resources do not fit the mold of our traditional market-based valuation, a uniform valuation method is difficult. The article describes a UN handbook to assist countries with this valuation. Environmentalists believe if natural resources can be valued at some economic cost, people's behaviors would change.

"Wealth of Nature." *The Economist* 322 (18 January 1992): 67.

We are finally realizing that nature is not limitless and technology cannot fix all environmental damages. Therefore, the next step is to include value of natural resources in the national-income accounts. Pollution prevention spending increases GDP; however, the cost of pollution is not considered a reduction. Robert Repetto of the World Resources Institute believes that natural resources depreciation should be included in the net national product. Assigning value to the environment, however, poses many problems worldwide.

General Accounting

American Institute for Pollution Prevention. *A Primer for Financial Analysis of Pollution Prevention Projects*. Cincinnati: AIPP, 1992.

Provides a framework for financial analysis of pollution prevention projects. Includes a case study of two pollution prevention projects with step by step calculations. Results are evaluated and the meaning of the results is discussed. Hidden costs, future liabilities and intangible costs are highlighted in the analysis since they are sometimes overlooked in financial analysis. Four appendices cover: 1) the impact of discount rates on projects, 2) methods used for financial comparisons, 3) the effects of income tax on analysis, 4) uncertainty of future events in analysis.

Callagn, Catherine. "Environmental Management, Accounting, and Reporting." *CA Magazine* 125 (May 1992): 22+.

Currently, environmental reporting does not have official guidelines, established procedures, or time-tested positions. The Environmental Management, Accounting and Reporting interest group was created for CAs interested in legal and moral issues associated with creating and maintaining a sustainable environment. The objective is to establish environmental management, accounting and reporting as an area of practice.

Ewer, Sid R., Jon R. Nance, and Sarah J. Hamlin. "Accounting for Tomorrow's Pollution Control." *Journal of Accountancy* 173 (July 1992): 69+.

The Clean Air Act (CAA) of 1990 is the first step of stricter environmental laws that will affect many industries. Accountants, therefore, should become familiar with its provisions for similar issues that will be having a direct impact on accountants in the future. The CAA has created a trading market for pollution, resulting in unfamiliar territory for accountants regarding valuing emission rights. This issue has sparked much confusion in the accounting field. "Allowances" to pollute received by a company should be recognized by accountants as assets. However, accountants have a problem assigning value to these assets because there is no market for them, yet. Also, it is undecided if these "allowances" should be valued at current or historical cost whether to categorize allowances as inventory, security, or intangible assets is still being debated. Problems associated with accounting for "allowances" are outlined in the article. The authors suggested using current costing for internal planning and control and decision-making.

Giuntini, Ron, and Stephen D. Willits. "Helping Your Company 'Go Green.'" *Management Accounting* 75 (February 1994): 43+.

Environmental Management Systems (EMSs) can help companies avoid future environmental problems. An EMS stresses prevention rather than clean-up. Environmental audits integrated into existing management systems can be effective in reducing environmental problems. An EMS can add value to a corporation. Using the Resource Conservation and Recovery Act (RCRA) as an application example, the article emphasizes the need for an EMS due to potential environmental liability, unrealized cost savings, reduced insurance rates and lost marketing advantages. A study of allocating pollution cost to specific processes rather than simply treating pollution as general overhead saves three times more in source reduction of hazardous material. Recommendations for firms are included.

Kennedy, Mitchell L. "Sustainable Manufacturing: Staying Competitive and Protecting the Environment." *Pollution Prevention Review* (March 1993): 149+.

Environmental regulations have hurt individual companies and in turn the competitiveness in the market by increasing the costs of doing business. Sustainable Manufacturing (SM), a new comprehensive business strategy, will hopefully restore the competitiveness and creativity of U.S. companies while complying with

our new environmental standards. SM incorporates environmental issues into every step of production. Strategies such as Life Cycle Analysis (LCA), Design for the Environment (DfE) and Toxic Use Reduction (TUR) are all included in SM. Employing SM into production can lead to "improvements in product quality, worker productivity and safety, savings in raw material costs, reduced regulatory liabilities, increased energy efficiency, and public relations appeal as well as a more complete financial picture of all the costs involved." The article examines several phases of production where a SM strategy could be developed. These phases include: design and materials selection, production, market use, and after-market disposal. The article briefly outlines some examples of actual SM strategies in place. Government is also moving closer to promoting sustainable alternatives. Permit reforms, financial incentives, more efficient regulations and new construction practices are just a few options already being discussed.

White, Allen L. "Accounting for Pollution Prevention: Total Cost Assessment Enables Companies To See True Costs And Benefits." *EPA Journal* 19 (July 1993): 23+.

(Contains the same information as the next article.)

White, Allen L., Monica Becker, and Deborah E. Savage. "Environmentally Smart Accounting: Using Total Cost Assessment to Advance Pollution Prevention." *Pollution Prevention Review* (Summer 1993): 247-259.

Conventional capital budgeting fails to capture the full range of benefits from pollution prevention projects. Due to traditional biases and current organizational structure, pollution prevention processes are not widely accepted. Total Cost Assessment (TCA) is an alternative approach to traditional methods to account for pollution prevention projects. This type of profitability analysis includes: (1) cost inventory, (2) cost allocation, (3) time horizon for profitability analysis, and (4) profitability indicators. This article examines each of these building blocks of the TCA. TCA expands the cost inventory to include a wider range of costs, savings and revenue. Full-cost accounting assists in reducing improper cost allocation which can lead to inaccurate profitability analyses. Long term benefits can be identified more accurately with an expanded timeframe from the traditional two to five year analyses period. Even though the payback method is the simplest financial indicator, other alternative evaluation methods may be more accurate. These alternatives include (1) the Net

Present Value method, (2) the Internal Rate of Return method, or (3) the Profitability Index method. The article gives a paper mill example to assess how TCA works in practice.

Auditing

Bewely, Kate. "The Green Team." *CA Magazine* 126 (September 1993): 44+.

This article comments on the Canadian Institute of Chartered Accountant's research report titled, *Environmental Auditing and the Role of the Accounting Profession*. The typical financial statement audit needs to incorporate a wide range of environmental considerations. Four types of services that should be included in the environmental audit are: environmental consulting services, site assessments, operational compliance assessments and environmental management system assessments. The article looks at a step-by-step method of planning and executing an audit that includes environmental matters. This approach helps readers to assess where the risk of misrepresentation on the financial statement could occur due to not reporting environmental matters. These audits can assist with the internal management of the company, as well as the external financial representation.

Chadlick, Bill, Robert W. Rouse, and John Surma. "Perspectives on Environmental Accounting." *The CPA Journal* 63 (January 1993): 18-20.

The article stresses the importance of recognizing environmental liabilities. It was estimated that America's environmental liabilities total between two and five percent of our GNP. The article describes how to quantify some different types of environmental contaminations and how to account for the clean up costs. The majority of the article highlights the existing accounting standards for environmental issues. Auditors help companies comply with government regulations and assess the accuracy of their financial statements.

"A Green Account." *Economist* 328 (4 September 1993): 69.

The idea of disclosing environmental information has an initial negative connotation for business, especially for chemical companies. However, companies such as Monsanto and Dow are using these environmental audits to better the environment and their companies. Unfortunately, voluntary environmental audits are

still not widely accepted. Deloitte Touche Tohmatsu surveyed companies worldwide to find out the reasons why some firms volunteer for environmental audits. They found that in Europe and America, employees were the main target audience, while in Japan the individual customers were targeted.

Hedstrom, Gilbert S., and Roger W. Voeller. "Evaluating Your Environmental Audit—Moving Beyond Band-Aids in Developing Corrective Actions." *Total Quality Environmental Management* 126 (June 1993): 429+.

Audits are used to assess environmental performance, correct deficiencies, and reduce overall risks in a company. Audits cannot improve environmental management systems without correcting previous actions. Audits must identify and correct problems within the company. The article describes some approaches which can be effective in eliminating environmental problems. These approaches locate the major source of the company's problems. When the source is identified, the company can take corrective action. We need to change our practices from incremental improvements to redesigning and rethinking current processes.

Luscombe, Nelson. "When Clean Means Green." *CA Magazine* (June 1993): 3.

(Summarizes *Coming Clean*, by Deloitte Touche Tohmatsu International.) The idea of a "clean report" has expanded to include environmental issues. *Coming Clean* summarizes a survey conducted by Deloitte Touche Tohmatsu International regarding corporate environmental reporting. Much of the survey covers liability and disclosure in Canada, Japan, Europe and the U.S. This article highlights eight of the 21 "key lessons for business" described in *Coming Clean*. More companies are realizing that being environmentally responsible can give them a competitive advantage and increase profits.

General

Anderson, Robert. "Accounting with a Conscience." *CA Magazine* 125 (February 1992): 62+.

Provides background information on environmental accounting. Environmental resources are not characteristically different from the historical goods and services incorporated in the traditional definition of "accounting." However, because these resources, such as air and

water, were considered "free" commodities they were not accounted for on the financial statements. Unfortunately, we are now witnessing the need to account for these resources. We must "consider the effects of a corporation, not just the effects on the corporation." Environmental resources need to be evaluated based on a cost/benefit analysis. Assigning a measure will assist companies with environmental decisions. Zero pollution discharge is an unrealistic goal; it is reasonable to expect environmentally responsible corporations, however. Accountants not only need to look at the bottom line for the best alternatives, but also need to look at the social impacts of these alternatives.

Archibald, Ross T., and David W. Conklin. "Perched on the Leading Edge." *CA Magazine* 126 (January 1993): 63+.

Discusses international pollution prevention. Canada is the world leader in disclosing true environmental impacts of management decisions. However, Canada's efforts to become more environmentally responsible leaves a fear among many companies of becoming non-competitive in the world market. Mexico appears to have the competitive edge because of their relaxed regulations. However, under NAFTA, polluting companies will no longer be able to migrate south to Mexico. Unfortunately, cost competitiveness may still be an unfair issue. Canada's efforts will, hopefully, be followed by its international competitors in order to reduce global pollution. However, this article is not optimistic that such a following will occur.

Bebbington, Jan, and Rob Gray. "Where Have All the Accountants Gone?" *Accountancy* 109 (March 1992): 28+.

Provides background material on environmental accounting. Increased environmental awareness and concern have affected the accounting profession. More and more accountants will have to become familiar with environmental issues and regulations. More cooperation between practitioners, academics and accountants is needed to advance environmental accounting. The Centre for Social and Environmental Accounting Research at the University of Dundee provides information and a means to communicate for people interested in the subject around the world.

Gray, Rob. "The Accountant's Task as a Friend to the Earth." *Accountancy* 105, no. 1162 (June 1990): 65–68.

(Annotated in the UN bibliography.)



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The mission of the NPPC is to promote sustainable development by educating students, faculty, and professionals about pollution prevention; create educational materials; provide tools and strategies for addressing relevant environmental problems; and establish a national network of pollution prevention educators.

In addition to developing educational materials and conducting research, the NPPC also offers an internship program, professional education and training, and conferences.

The NPPC provides educational materials through the World Wide Web at this URL: <http://www.umich.edu/~nppcpub/>
Please contact us if you have comments about our online resources or suggestions for publicizing our educational materials through the Internet.