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Abstracts Of Pollution Prevention Case Study Sources

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ABSTRACTS OF POLLUTION PREVENTION CASE STUDY SOURCES

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INTRODUCTION
Abstracts of Pollution Prevention Case Study Sources

This document details the sources of case studies in pollution prevention. It is intended to serve as a reference guide for locating pollution prevention case studies with economic information. Using the abstracts listing, readers can locate the sources referenced in the Matrix. For each source, a short description of the content, the contact name and phone number for obtaining the document and the document price are listed. The sources are divided into two categories, "Single Case Studies" and "Books, Reports and Studies Containing Multiple Case Studies." Within each category, the sources are listed alphabetically by title.

The sources referenced in this document are a sampling of the type of pollution prevention case studies that are available. There are several excellent sources, described below, for further information on pollution prevention and pollution prevention case studies. Through the *Pollution Prevention Information Clearinghouse* (PPIC), users can access hundreds of pollution prevention case studies. Some of the case studies referenced in this matrix are available through PPIC. Also, while we have included many individual case studies from state-run pollution prevention programs, more comprehensive information is available for states directly. The *Reference Guide to Pollution Prevention Resources* lists pollution prevention contacts within state agencies, as well as contacts in federal and nonprofit agencies.

The U.S. Environmental Protection Agency (EPA) welcomes suggestions on improvements to this document. Please send written comments to PPIC at the address listed below.

Pollution Prevention Information Clearinghouse, U.S. EPA (3401), 401 M Street, SW, Washington DC 20460. Phone (202) 260-1023, Fax (202) 260-0178.

The Pollution Prevention Information Clearinghouse, PPIC, is dedicated to reducing or eliminating industrial pollutants through technology transfer, education, and public awareness. The PPIC consists of a telephone reference and referral service, a repository and the Pollution Prevention Information Exchange System (PIES), a computerized information exchange system.

PPIC has approximately 200 case studies which can be accessed through their database which is not associated with PIES. PIES contains hundreds of pollution prevention case studies which can be accessed on-line.

PIES provides on-line interactive access through modem and PC to a wide range of pollution prevention information. A short, 4-page, "PIES Quick Reference Guide" was written to help new users log-on and use the system. A PIES User Guide is also available. The PIES documents can be obtained free-of-charge by leaving a message on the system addressed to Sysop or by writing or calling the PIES Technical Support Office. Phone (703) 821-4800.

U.S. EPA, Office of Pollution Prevention and Toxics. 1993 Reference Guide to Pollution Prevention Resources. EPA/742/B-93-001.

This annual guide contains information about publicly sponsored pollution prevention resources and training opportunities available across the Nation. Drawing upon diverse sources, the document consolidates a wide range of information not easily accessible by the public. The goal of this publication is to provide persons interested in learning more about pollution prevention options with a single source of information, including whom to contact at the State and Federal levels for pollution prevention information and technical assistance, where to obtain pollution prevention training information, where small businesses can obtain technical assistance and what publications are available that can help them learn more about pollution prevention. This document is available through the Pollution Prevention Information Clearinghouse at the address listed above.

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Multiple Case Studies:

U.S. EPA, Office of Research and Development. 1991. "Achievements in Source Reduction and Recycling for Ten Industries in the United States." Washington, D.C., EPA/600/2-91/051.

Two case studies are presented in each of the ten following industries: metal fabrication, manufacturing of non-electric machinery, lumber products, electronics, petroleum, food products, chemical products, printing and publishing and transportation and related industries. Although these case studies include commercial solid wastes, most involve the reduction of hazardous wastes as well. Several of these case studies have extensive information available on the costs of hazardous waste generation, capital costs of the process modification or chemical substitution, annual costs and savings per modification.

Available: yes
Contact: National Technical Information Service
5283 Port Royal Road
Springfield, VA 22161
(703) 487-4650
Price: $19.50 paper / $9.00 microfiche

Smart, Bruce. 1992. Beyond Compliance – A New Industry View of the Environment. Washington, D.C.: World Resources Institute.

Bruce Smart presents the experiences of 24 companies (includes telecommunication, chemical, automotive, utility, petrochemical, household goods, etc.) that have committed to environmental excellence. Through the companies own case histories, Smart examines what does and does not work in terms of cost-effective pollution prevention. The book also examines how new products, processes, and programs -- in the front office, the plant, and the community at large -- grew out of a combination of community, government, stockholder, employee, and market forces. In addition, it reviews how companies set environmental goals, how they allocate responsibility for meeting them, and how they measure their success.

Available: yes
Contact: World Resources Institute
P.O. Box 4852
Hampden Station
Baltimore, MD 21211-4852
(800) 822-0504
Price: $19.95 plus $3 shipping and handling

Northeast Waste Management Officials' Association. 1992. "Costing and Financial Analysis of Pollution Prevention Projects". Boston.

This packet on costing and financial analysis of pollution prevention (PP) projects was designed for use in a workshop to introduce state PP staff to concepts and methods of conducting financial analysis for PP projects. In addition to the workshop curriculum, it includes case studies of pollution prevention efforts in four small, Massachusetts companies. For each PP project considered, the organizational structure, the manufacturing process, technical and equipment data and detailed economic information are given. The participating companies are: Wrayburn Jewelry Company, Inc. (a manufacturer of jewelry), Lightolier, Inc. (a manufacturer of aluminum reflectors for track lighting products), Hyde Tools, Inc. (a manufacturer of tools) and Williams Precision Valve Company (a manufacturer of precision industrial valves).

Available: yes
Contact: Pollution Prevention Program
NEWMOA
85 Merrimac Street
Boston, MA 02114
(617) 367-8558
Price: $40 for profit organizations
$20 for non-profit organizations

Dorfman, Mark H., Warren Muir, and Catherine Miller. Environmental Dividends: Cutting More Chemical Wastes. New York: INFORM, Inc..

INFORM's study analyzes the chemical industry's source reduction progress and gives detailed information about specific source reduction activities at each of the 29 case study facilities. The findings are broadly categorized into four groups: source reduction accomplishments at the study facilities, source reduction program features and plant characteristics, motivation for source reduction activities, and source reduction techniques used. Individual profiles of each facility are also included in this analysis.

Available: yes (must prepay)
Contact: INFORM, Inc.
381 Park Avenue South
New York, NY 10016-8806
(212) 689-4040
Price: $75 plus $3 shipping and handling

U.S. EPA, Office of Research and Development, Risk Reduction Engineering Laboratory. 1990 - 1992. "Environmental Research Briefs." Cincinnati, OH.

The U.S. EPA has funded a pilot project to assist small- and medium-sized manufacturers who want to minimize their generation of hazardous waste but who lack the expertise to do so. The Research Briefs summarize the findings of waste minimization assessments from a wide variety of facilities including metals fabrication and finishing, a dairy, chemicals manufacturer, treated wood products manufacturer, electronics, equipment manufacturers, and a vehicle maintenance

Washington State Department of Ecology. 1993. "Pollution Prevention Planning in Washington State Businesses." Publication #93-14.

Pollution prevention case studies are presented for manufacturers of metal parts, aerospace equipment, defense equipment, medical electronics, paper and a print shop.

Available: yes
Contact: Washington State Department of Ecology
Waste Reduction Resource Center
Mail Stop PV-11
Olympia, WA 98504-8711
(206) 438-7585
Price: free

Center for Hazardous Materials Research. "Pollution Prevention: The Environmental Strategy of the Nineties." Pittsburgh, PA.

The six pollution prevention practices described in this fact sheet can be implemented in almost any business or industry. The fact sheet describes several companies that have successfully implemented practices to reduce their use of toxic materials.

Available: yes
Contact: Center for Hazardous Materials Research
320 William Pitt Way
Pittsburgh, PA 15238
(412) 826-5320
(800) 334-CHMR
OR Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: Free

Wigglesworth, David. 1988. "Profiting from Waste Reduction in our Small Business." Alaska Health Project.

This manual was written to help small business managers and their employees work together to identify and implement methods to reduce industrial wastes. It describes how to form an audit team, review your processes and procedures, conduct a waste reduction audit and evaluate and implement options. There are several short case studies included; most are anecdotal.

Available: yes
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023

Price: free

Washington State Department of Ecology. 1990. "Success Through Waste Reduction: Proven Technologies from Washington Businesses." Publication #90-22.

Pollution prevention case studies are presented for manufacturers of paints and specialty coatings, wooden door sections, corrugated shipping containers, cabinets, cement, an automotive parts remanufacturer, and an industrial chemical formulator.

Available: yes
Contact: Washington State Department of Ecology
Waste Reduction Resource Center
Mail Stop PV-11
Olympia, WA 98504-8711
(206) 438-7585
Price: free

Washington State Department of Ecology. 1992. "Success Through Waste Reduction: Proven Technologies from Washington Businesses. Volume II." Publication #92-45.

Pollution prevention case studies are presented for manufacturers of printed circuit boards, semiconductors, wooden doors and a utility transportation shop.

Available: yes
Contact: Washington State Department of Ecology
Waste Reduction Resource Center
Mail Stop PV-11
Olympia, WA 98504-8711
(206) 438-7585
Price: free

facility. Most Briefs include information on the facility background, waste minimization opportunities and the associated costs and/or savings.

Available: yes
Contact: U.S EPA
CERI Publications Unit
26 W. Martin Luther King Drive
Cincinnati, OH 45268
(513) 569-7562
Price: free

Business International Corporation. 1992. Managing the Global Environmental Challenge. New York: BIC.

BIC's report examines management programs and systems companies have adopted in response to the global environmental challenge. Twenty-nine companies are profiled throughout the report, offering specific examples of source reduction initiatives, success stories, and financial savings. The report provides information on senior management leadership, corporate policy and goals, human resources, strategic planning, external communications, preventing risks, pollution prevention, life cycle, and audits.

Available: yes
Contact: Economist Intelligence Unit (formerly BIC)
111 West 57th St.
New York, NY 10019
(800) 938-4685/(212) 554-0600
Price: $450

Baram, Michael S., Patricia S. Dillon, and Betsy Ruffle. 1990. Managing Chemical Risks: Corporate Response to SARA Title III. The Center for Environmental Management (Tufts University).

This report explores the environmental management behavior of industrial corporations and analyzes the voluntary initiatives of companies in response to SARA Title III. Four areas of corporate environmental management are examined: accident prevention, emissions reduction, emergency response planning, and risk communication and public outreach. The study focuses on eight firms that use or produce chlorine, arsine, or vinyl chloride, providing extensive case studies of each of the companies. In addition to recording the actions undertaken by the eight companies, the report offers an examination into the differing ways in which decisions made at corporate headquarters were converted into specific, management practices to improve performance at the individual plant.

Available: yes
Contact: CRC Press, Inc.
2000 Corporate Blvd., NW
Boca Raton, FL 33431
(407) 994-0555
Price: $72.95 (catalogue #L725LATZ)

U.S. EPA, Office of Environmental Engineering and Technology Demonstration and the Office of Pollution Prevention. 1989. "Metal Finishing: Case Studies from the Minnesota Technical Assistance Program and the Hazardous Waste Reduction Program of Oregon."

This document consists of eight case studies in the metal finishing industry. Each case study includes information on the company's background, the methods/materials used to design and implement the project, the associated costs, and conclusions. Pollution Prevention projects such as metal recovery (dragout reduction, ion exchange, ion exchange/electrolytic recovery), effluent minimization, and the elimination of chlorinated solvents in cleaning operations are described.

Available: yes
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: free

Springer, Jr., Johnny. EPA Office of Research and Development. 1992. Pollution Prevention Case Studies Compendium. EPA/600/R-92/046.

This compendium is divided into four broad categories. Facilities have been studied using one of the following four types of analyses: Waste Reduction Innovative Technology Evaluation (WRITE), Waste Reduction Evaluations at Federal Sites (WREAFS), the Waste Minimization Assessments Program, and the University-Based Assessments Program. The procedure for each of these is outlined in the EPA Waste Minimization Opportunity Assessment Manual (EPA/625/7-88/003). Each program is outlined at the beginning of each section. Within each section, case studies are written on specific facilities. Separate reports on each case study are also available.

Available: yes
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M St., SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: free

U.S. EPA. 1992. Total Cost Assessment: Accelerating Industrial Pollution Prevention through Innovative Project Financial Analysis with Applications to the Pulp and Paper Industry. EPA/741/R-92/002.

The focus of this report is the financial/economic barriers to industrial pollution prevention with emphasis on the pulp and paper industry. The report uses Total Cost Assessment as a tool for improving the projected long-term financial performance of discretionary P2 projects.

The report asserts that typically, large firms and manufacturers have been slow to move away from traditional end-of-pipe strategies toward more prevention-oriented practices. The reason for this is two-fold: 1) the organizational structure and behavior of firms inhibits P2 projects from entering the decision-making process from the outset, thereby precluding these alternatives from consideration, and 2) financial/economic barriers linked to methods of capital allocation and budgeting once a pollution prevention project successfully enters the capital budgeting process and competes with other projects for scarce capital dollars. TCA can place P2 projects on a level playing field with other investments.

Available: yes
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M St., SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: free

President's Commission [now called Council] on Environmental Quality. 1993. Total Quality Management: A Framework for Pollution Prevention. Washington, DC..

This document addresses the viability of Total Quality Management as a method of achieving pollution prevention. Eleven corporations such as Merck, AT&T, DuPont, Ford, and Procter & Gamble volunteered 12 facilities to participate in the project. Based on these 12 examples, the Quality Environmental Management Subcommittee concluded that TQM and pollution prevention are complementary; successful P2 efforts relied on flexibility within a structure of systematic analysis; P2 can be implemented at little or no cost in some cases; no universal metric for tracking performance exists; consultation and collaboration with the stakeholders is critical at all junctures in the process; and understanding the barriers and incentives to pollution prevention is a critical factor in the P2 program's success.

Available: *
Contact: Council on Environmental Quality (formerly PCEQ)
722 Jackson Place, NW
Washington, D.C. 20503
(202) 395-5750
Price: *

*Cost and availability are unknown at this time. CEQ is out of the document and will not reprint. However, CEQ is considering making xerox copies for people who call.

U.S. EPA, Office of Solid Waste and Emergency Response. 1989. "Waste Minimization in Metals Parts Cleaning." EPA/530-SW-89-049.

This booklet presents the basic definitions and concepts of waste minimization, incentives for minimizing waste, and a waste minimization strategy applied to specific metal parts cleaning operations. Waste minimization options are presented for solvent cleaning, aqueous-based cleaning, and abrasive cleaning applications. Short case studies are used as examples of waste minimization options.

Available: yes
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: free

Rice, Faye. "Who Scores Best on the Environment: What Companies are in the Vanguard of the Green Revolution -- and Which Are Lagging Behind?" Fortune, July 26, 1993.

This article examines the Who's Who in corporate environmental initiatives. Fortune spent three months examining the environmental records of America's biggest manufacturers -- public and private companies with annual sales of $400 million or more. The article gives an "environmental scorecard" on 30 companies -- the 10 most improved, the 10 leaders, and the 10 laggards.

Available: yes
Contact: almost any library
Price: n/a

Single Case Studies:

Minnesota Technical Assistance Program. 1990. "Alternatives to CFC-113 Used in the Cleaning of Electronic Circuit Boards." Intern Report Summary 1990. Minneapolis, MN.

Medtronic Inc. manufactures electronic devices for use in biomedical applications. This project identified two alternatives for CFC-113 being used for circuit board cleaning: a semi-aqueous system using Terpenes as a solvent and a blend of HCFC and methanol dispensed from a trigger-grip device that limits the amount of solvent lost to the atmosphere.

Available: yes
Contact: Minnesota Technical Assistance Program
Suite 207
1313 5th Street SE
420 Delaware St S.E.
Minneapolis, MN 55414-4504
(612) 627-4646
Price: free

U.S. EPA. "Design for the Environment Printing Project. Case Study 1." Pollution Prevention Information Clearinghouse.

The John Roberts Company, a lithographic printing facility, installed a centrifuge to extract solvents from industrial wipes prior to laundering. This change resulted in reduced solvent in the laundry's wastewater. The recovered solvent is reused in other areas of the facility and spent solvent is then sent to a fuel blender. The case study explains the methodical evaluation of the problem leading to solutions aimed at reducing the creation of pollutants at their source.

Available: Yes
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: Free

Oregon Department of Environmental Quality. Hazardous Waste Reduction Program. "The Eastside Plating Success Story." Portland, OR.

The largest electroplating company in Portland, Oregon implemented operational changes that saved more than $300,000 annually. Changes described in this case study include installing counterflow and cascade rinsing systems, changing reducing agents to cut chromium and cyanide wastes, adding automated metering equipment to reduce chemical usage and other changes.

Available: yes
Contact: Oregon Department of Environmental Quality
Hazardous Waste Reduction Program
811 SW 6th Street
Portland, OR 97204
(503) 229-5913
Price: free

U.S. EPA, Office of Research and Development. 1988. "EPA Project Summary - Waste Minimization Audit Report: Case Study of Cyanide Waste from Electroplating Operations." Washington, D.C. EPA/600/52-87/056.

This document contains both the methodology to test the waste minimization audit procedure and the results of on-site audits at two electroplating facilities that generate cyanide bearing wastes. It also provides several source reduction options generally available for cyanide wastes from the electroplating industry.

Available: yes
Contact: National Technical Information Service
5283 Port Royal Road
Springfield, VA 22161
(703) 487-4650
Document # PB 87-229 662/AS
Price: $27.00 paper, $9.00 microfiche

Paluzzi, Joseph E., and Timothy J. Greiner. 1993. "Finding Green in Clean: Progressive Pollution Prevention at Hyde Tools." Total Quality Environmental Management 2(3):283-290.

Hyde Tools, Inc., of Southbridge, Massachusetts, is a medium-sized firm employing about 300 people that manufactures industrial and trade blades and knives. In 1988, after learning of a company that eliminated its wastewater discharge, Hyde decided to devise a plan to attain zero water discharge within 5 years. With the help of the state OTA, the Environmental Manager drafted a plan that included a series of steps to reduce water use and hazardous chemicals. The various steps toward zero discharge resulted in annual savings for the company.

Available: yes
Contact: Total Quality Environmental Management
c/o Executive Enterprises Publications Co., Inc.
22 West 21st Street, 10th floor
New York, NY 10010-6990
(800) 332-8804
Price: $42 per back issue

Azzarello, Joseph A. 1992/1993. "Long-time Environmental Leadership Pays Off in Many Ways at Herman Miller." Total Quality Environmental Management 2(2):187-191.

Herman Miller, Inc. is recognized as one of the most environmentally responsive companies in the U.S. The company saves approximately $3 million annually through a variety of environmental programs. This article describes the initiatives that Herman Miller has undertaken and the "bottom-line" results.

Available: yes
Contact: Total Quality Environmental Management
c/o Executive Enterprises Publications Co., Inc.
22 West 21st Street, 10th floor
New York, NY 10010-6990
(800) 332-8804
Price: $42 per back issue

Virginia Waste Minimization Program. "Metal Recovery. Printed Circuit Board Manufacturer." *Waste Reduction Success Story*. Vol. 1, Issue 3.

The printed circuit board division of a large computer manufacturer reduced water usage and implemented the recovery of copper metal from the waste stream through plumbing changes, installation of metal recovery equipment, and the addition of a deionization system. The case study describes the background, implementation, and results of these changes.

Available: yes
Contact: Virginia Waste Minimization Program
11th Floor Monroe Building
101 North 14th Street
Richmond, VA 23219
(804) 371-8716
Price: free

U.S. EPA. "Moving Toward Zero." P2 News, Spring, 1993.

Robbins Awards Company of Attleboro, Massachusetts, is a medium sized company that designs and manufactures custom jewelry and awards. They created a zero discharge system with help from their state's OTA. Installed in 1988, the system has reduced water usage 48%, chemical usage by 48%, and production of metal hydroxide sludge by 99.8 percent, from 4,000 gallons in 1986 to 7 gallons in 1988. Installation of the system cost $120,000 plus $100,000 for the new wing to house the system's units. Overall savings average $71,000/year; the investment was repaid in full after three years.

Available: yes (some back issues to 1989)
Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M St., SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: free

Minnesota Technical Assistance Program. "An Organizational Strategy for Pollution Prevention." Minneapolis, MN.

This case study documents IBM's elimination of CFC 113 in their vapor degreasers. The article describes how IBM organized for Pollution Prevention, including team building and upper management support. There is no description of the specific type of aqueous cleaning system (or systems) was chosen as the substitute.

Available: yes
Contact: Minnesota Technical Assistance Program
1313 5th Street S.E.
Suite #207
University of Minnesota
Minneapolis, MN 55414
(800) 247-0015
Price: Free
OR Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: Free (located in binder on general business information)

Nielsen, Larry J. 1991/1992. "Packaging Waste Measurement – A Key Element in Digital's Total Quality Program." Total Quality Environmental Management 1(2):167-174.
This case study shows how Digital uses measurement techniques to set priorities to reduce packaging waste and to track improvements over time. To date, an 1,800-ton annual reduction in packaging waste has been achieved, with associated annual savings of $2.7 million.

Available: yes
Contact: Total Quality Environmental Management
c/o Executive Enterprises Publications Co., Inc.
22 West 21st Street, 10th floor
New York, NY 10010-6990
(800) 332-8804
Price: $42 per back issue

Houseman, John C. "Parker Pen's Total Quality Management Strategy to Prevent Pollution from Solvents." Pollution Prevention Review, Spring 1993. NY: Executive Enterprises, Inc. p.187.

Parker Pen reduced their use of trichloroethylene (TCE) in used in vapor degreasers by 54%. The article describes the organizational process, the analysis of the problem, the specific process changes made to reduce their use of TCE and the economic savings associated with the reduction.

Available: yes
Contact: Pollution Prevention Review
c/o Executive Enterprises Publications Co., Inc.
22 West 21st Street
New York, NY 10010-6990
(212) 645-7880
Price: $10.00 per article reprint.

City of Los Angeles. Board of Public Works. Hazardous and Toxic Materials Project. 1989. "Plating with Trivalent Chrome Factsheet." Los Angeles, CA.

A chrome, nickel and zinc automated plating shop converted an automated chrome line to a trivalent system. The system costs, savings and reduction in reject rate is described. The article also generically compares hexavalent and trivalent system chemical, energy and operating costs and describes the operational advantages and disadvantages of each type of system.

Available: yes
Contact: City of Los Angeles
Board of Public Works
Hazardous and Toxics Materials Project
200 N. Spring Street, Room 353
Los Angeles, CA 90012
(213) 237-1209
Price: free

North Carolina Department of Environment, Health and Natural Resources. 1985. "Pollution Prevention Tips: Drag-Out Management for Electroplaters." Raleigh, NC.

This article describes several techniques for drag-out reduction (drip bar, PVC drain board, proper racking, drag-out recovery) and several options for drag-out solution management (ion exchange, reverse osmosis, evaporation, sludge recovery). The applications, capital costs, and operating costs are given for each technique.

Available: yes
Contact: Pollution Prevention Pays Program
N.C. Department of Environment, Health & Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 571-4100
Price: free

North Carolina Department of Environment, Health and Natural Resources. 1989. "Pollution Prevention Tips: Small Solvent Recovery Systems." Raleigh, NC.

This bulletin describes on-site batch distillation systems for waste solvents. Technical information, capital and operating costs and energy requirements for these systems are given. Two case study companies, a furniture manufacturer and a coating facility, explain their savings in solvent purchasing and waste solvent disposal costs.

Available: yes
Contact: Pollution Prevention Pays Program
N.C. Department of Environment, Health & Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 571-4100
Price: free

North Carolina Department of Environment, Health and Natural Resources. 1989. "Pollution Prevention Tips: Solvent Loss Control." Raleigh, NC.

This article describes techniques to minimize losses when using cleaning solvents. Suggestions for minimization of losses for open top vapor cleaners and in-line cleaners are included, as well as a case study. The case study company, Alcatel, manufactures circuit boards. They reduced their used of chlorinated solvents significantly by following these suggestions and they plan on eliminating the use of chlorinated solvents by 1993.

Available: yes
Contact: Pollution Prevention Pays Program
N.C. Department of Environment, Health & Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 571-4100
Price: free

Minnesota Technical Assistance Program. 1990. "Reducing Chlorinated Solvent Emissions from Three Vapor Degreasers." Intern Report Summary 1990. Minneapolis, MN.

Alliant Techsystems manufactures aluminum and steel components for armaments. This case study examined changes in operating and maintenance procedures for their vapor degreasers to reduce solvent losses. As a result of these changes, solvent loss was reduced by 50% - 80%.

Available: yes
Contact: Minnesota Technical Assistance Program
Suite 207
1313 5th Street SE
420 Delaware St S.E.
Minneapolis, MN 55414-4504
(612) 627-4646
Price: free

Virginia Waste Minimization Program. "Rinsewater Reduction. Metal Finishing Shop." *Waste Reduction Success Story*. Vol. 1, Issue 4.

A metal finishing job shop reduced rinsewater volume and ensured compliance with discharge regulations by installing a staged rinse system, segregating waste streams, and modifying processing solutions. The case study describes the background, implementation, and results of these changes.

Available: yes
Contact: Virginia Waste Minimization Program
11th Floor Monroe Building
101 North 14th Street
Richmond, VA 23219
(804) 371-8716
Price: free

Minnesota Technical Assistance Program. 1991. "Soak Step Reduces Solvent Waste from Cleaning Paint Straining Equipment." Minneapolis, MN.

Metal parts manufactured by Crenlo, Inc. are coated on-site with baked enamel paint. The paint is strained and staining equipment is cleaned using fresh solvent sprayed from a hose fitted with a nozzle. By changing the type of screen and adding a soaking step prior to cleaning, spray rinsing waste was reduced by about 70%. The case study describes the cleaning technique, implementation problems, economic benefits and the application to other companies.

Available: yes
Contact: Minnesota Technical Assistance Program
Suite 207
1313 5th Street SE
420 Delaware St S.E.
Minneapolis, MN 55414-4504
(612) 627-4646
Price: free

Minnesota Technical Assistance Program. 1991. "Spray Nozzle Selection Reduces Solvent Waste Volume when Cleaning Paint Straining Equipment." Minneapolis, MN.

Metal parts manufactured at Crenlo, Inc. are coated on-site with baked enamel paint. The paint is strained and staining equipment is cleaned using fresh solvent sprayed from a hose fitted with a nozzle. By changing to a low flow nozzle, solvent waste is reduced by 80% (or 11,000 gallons/year), saving on both solvent purchase and disposal costs. The case study describes the cleaning technique, implementation problems, economic benefits and the application to other companies.

Available: yes
Contact: Minnesota Technical Assistance Program
Suite 207
1313 5th Street SE
420 Delaware St S.E.
Minneapolis, MN 55414-4504
(612) 627-4646
Price: free

Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Office of Technical Assistance. "Success Stories: Pollution Prevention Case Studies."

The Massachusetts Office of Technical Assistance (OTA) has a series of case studies of various companies that it has assisted in hazardous waste reduction and pollution prevention initiatives. Each of these case studies includes information regarding the company's product or service and the details of the old and modified processing system. In addition, both capital and annual costs of modifications, as well as annual savings are presented.

Available: Yes
Contact: Office of Technical Assistance
Executive Office of Environmental Affairs
Room 1904
100 Cambridge Street
Boston, MA 02202
(617) 727-3260
Price: Free

Minnesota Technical Assistance Program. 1988. "Success Story: Waste Minimization. Auto Salvage Yard." Minneapolis, MN.

An auto salvage yard was able to lower waste disposal costs, protect the environment and enhance employee safety by using several methods of waste reduction. These waste minimization steps included segregating their mixed oil and mineral spirits waste streams, building a diked battery storage area to prevent battery acid from leaking into floor drains, reclaiming mineral spirits through distillation and selling used anti-freeze to the public.

Available: Yes
Contact: Minnesota Technical Assistance Program
420 Delaware St S.E.
University of Minnesota
Minneapolis, MN 55455
Price: Free
OR Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: Free (located within a binder of fact sheets)

Caplan, Darlene W. 1992/1993. "Sylvania's GTE Products Problem Stoppers: #1 Employee Involvement Team." Total Quality Environmental Management 2(2):159-164.

The Sylvania Lighting plant in York, Pennsylvania, makes over one billion light bulb bases annually. The excess glass cullet from the manufacturing process, more than 800,000 pounds a year, had to be shipped to a hazardous landfill (as it is considered hazardous waste). A nine-person work team call the Problem Stoppers (employees represent the various departments in the plant) changed the production process to cool the molten glass into pellets that could be recycled in the plant. This change eliminated the formation of unusable glass waste and saved the company about $142,000. This article details the efforts employed.

Available: yes
Contact: Total Quality Environmental Management
c/o Executive Enterprises Publications Co., Inc.
22 West 21st Street, 10th floor
New York, NY 10010-6990
(800) 332-8804
Price: $42 per back issue

State of Michigan, Departments of Commerce and Natural Resources, Office of Waste Reduction Services. 1989. "United Technologies Automotive Engineered Systems Division." Lansing, MI: Publication #8915A.

Through aggressive waste reduction projects, a Michigan supplier of compression-formed automotive heat barriers and noise reduction pads for automobile bodies and engines reduced annual plant disposal costs by almost 50 percent. The case study describes how the company was able to separate a mixed waste of adhesive and foam in order to reclaim the adhesive and sell the foam.

Available: Yes
Contact: Office of Waste Reduction Services
P.O. Box 30004
Lansing, MI 48909
(515) 335-1178
Price: Free
OR Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street, SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: Free (located in fact sheet pack on automotive industry)

Virginia Waste Minimization Program. "Solvent Recovery in a Fiber Production Plant." ***Waste Reduction Success Story,*** Vol. 1, Issue 2.

The fiber department of a large manufacturing plant reduced its air emissions by recovering a process solvent. A water scrubber was used for emission recovery, which was followed by purification in a distillation column.

Available: yes
Contact: Virginia Waste Minimization Program
11th Floor Monroe Building
101 North 14th Street
Richmond, VA 23219
(804) 371-8716
Price: free
OR Contact: Pollution Prevention Information Clearinghouse
Environmental Protection Agency
401 M Street SW (3401)
Washington, D.C. 20460
(202) 260-1023
Price: Free

City of Los Angeles. Board of Public Works. Hazardous and Toxic Materials Project. 1990. "What Should I Do with my Electroplating Sludge? Factsheet." Los Angeles, CA.

This factsheet describes several alternatives to transport and disposal of dewatered sludges from metal finishing operations: 1. Waste minimization, 2. On-site stabilization, detoxification and recycling (including thermal bonding, and sludge slagging), and 3. Off-site alternative to land disposal (including hydrometallurgical processing and smelter feed). Names and addresses of vendors are given so the reader can obtain more information.

Available: yes
Contact: City of Los Angeles
Board of Public Works
Hazardous and Toxics Materials Project
200 N. Spring Street, Room 353
Los Angeles, CA 90012
(213) 237-1209
Price: free