

Current Views

on solid waste management

Recommended Reading



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ON SOLID WASTE MANAGEMENT

Recommended Reading

The Federal solid waste management legislation, first enacted in 1965, provides for solid waste research, demonstration, and technical assistance programs, and directs that the programs' results be made widely available. From the several hundred reports that reflect the work undertaken thus far, the following are recommended as especially significant and current. The titles include reports on waste reduction, municipal waste collection and disposal, the problems of hazardous wastes and sludges, and resource recovery. These are the principal areas being addressed in this national effort to improve solid waste management practices, to conserve resources, and to protect the environment.

Single copies of most of the reports listed are available free as supplies permit from: Solid Waste Information, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268. Please indicate an order number for each publication you request. EPA reports with PB numbers are available at the cost shown from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161. Order numbers or motion picture titles with an asterisk indicate materials suitable for the junior and senior high-school curriculum.

SOLID WASTE MANAGEMENT

THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976. The new Federal legislation on solid waste management. (Order No. 171)

SOLID WASTE MANAGEMENT: HORIZONS UNLIMITED, by Russell Train, Administrator of the U.S. Environmental Protection Agency, 16 pages. (Order No. 525*)

STATUS OF SOLID WASTE MANAGEMENT IN THE UNITED STATES, by Sheldon Meyers, who directs EPA's solid waste management program, 24 pages. (Order No. 526*)

DECISION-MAKERS GUIDE IN SOLID WASTE MANAGEMENT, by EPA, 1975, 158 pages. (Order No. 390) A series of 2- to 5-page discussions of approximately 30 topics on solid waste.

EPA REGIONAL SOLID WASTE MANAGEMENT REPRESENTATIVES (Order No. 439) and **STATE SOLID WASTE MANAGEMENT AGENCIES** (Order No. 393) Lists, updated periodically.

THE STATES' ROLES IN SOLID WASTE MANAGEMENT. A task force report from the Council of State Governments, 1973, 58 pages. (Order No. 327)

CITIES AND THE NATION'S DISPOSAL CRISIS, by the National League of Cities and U.S. Conference of Mayors, 1973, 46 pages. (Order No. 331)

BASIC ISSUES ON SOLID WASTE MANAGEMENT AFFECTING COUNTY GOVERNMENT, by the National Association of Counties, 1973, 40 pages. (Order No. 373)

SOLID WASTE MANAGEMENT; AVAILABLE INFORMATION MATERIALS, 1966—1976, 103 pages. (Order No. 203) A catalog reflecting the scope of work undertaken by EPA in its research, demonstration, and technical assistance programs carried out under the Federal solid waste management legislation.

WASTE REDUCTION

See also the two EPA reports to Congress listed under **Resource Recovery**.

WIN THE WAR ON WASTE, by Russell Train, 1974, 15 pages. (Order No. 460*) Presents EPA policy on solid waste management and waste reduction. Advocates industry initiatives in reducing waste generation.

WASTE REDUCTION AND RESOURCE RECOVERY—THERE'S ROOM FOR BOTH, reprinted from *Waste Age*, Nov. 1975. (Order No. 505*) Explains how resource recovery, source separation, and waste reduction work together.

REDUCE THE INCENTIVE TO WASTE, 1975, 9 pages. (Order No. 500*) Discusses the need for waste reduction and the Federal role in waste reduction.

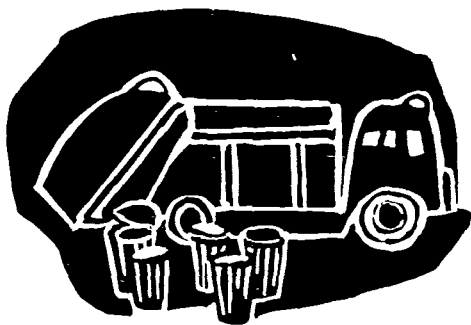
REDUCE: TARGETS, MEANS AND IMPACTS OF SOURCE REDUCTION, by the League of Women Voters, 1975, 47 pages. (Order No. 456) Highlights targets for waste reduction, possible approaches, expected impacts and activity by industry, legislatures, EPA, and the public.

QUESTIONS AND ANSWERS; RETURNABLE BEVERAGE CONTAINERS FOR BEER AND SOFT DRINKS, 1975, 9 pages. (Order No. 462*) Prepared by EPA to answer frequently asked questions on beverage-container deposit legislation and its impacts.

BEVERAGE CONTAINERS: THE VERMONT EXPERIENCE, 16 pages. (Order No. 487*) Analyzes the economic and environmental impact of the Vermont beverage container legislation.

SOURCE REDUCTION FACT SHEETS, a periodic EPA publication series presenting innovative approaches to waste reduction—

- **RED OWL STORES PROGRAM,** 1974, 3 pages. (Order No. 416*) Describes the reuse of grocery containers.
- **PROGRAM OF INTERNATIONAL PAPER COMPANY AND WELLS DAIRY,** 1975, 2 pages. (Order No. 447*) Describes how milk cartons were redesigned to conserve paper fiber and energy in production.



MUNICIPAL WASTE COLLECTION & DISPOSAL

THE BIG PICKUP*. [28-min, 16-mm motion picture, sound, color, 1974.] Describes America's \$5-billion-a-year chore—collecting solid waste. Shows the garbage collector's problems and illustrates new garbage collector's problems and new techniques to improve efficiency. (May be borrowed from RHR Filmedia, Inc., 1212 Avenue of the Americas, New York, N.Y. 10036.)

PROBLEM-SOLVING IN SOLID WASTE MANAGEMENT THROUGH FEDERAL-LOCAL COOPERATION; EIGHT CASE STUDIES, 1974, 40 pages. (Order No. 423) Indicates needed tools and techniques for improving waste collection. Organization, level of service, routing, labor and management policies are discussed, and examples of successful implementation in various cities are cited.

Storage and Collection

GUIDELINES FOR THE STORAGE AND COLLECTION OF RESIDENTIAL, COMMERCIAL, AND INSTITUTIONAL SOLID WASTE, reprinted from the *Federal Register*, Feb. 13, 1976. (Order No. 504) Contains definitions, requirements and recommended practices for operation, collection, and safety in solid waste management in Federal agencies.

HEURISTIC ROUTING FOR SOLID WASTE COLLECTION VEHICLES, 1974, 45 pages. (Order No. 356) Develops optimum routing of collection vehicles under reasonable time, effort, and cost constraints. Contains implementation exercises for learning.

A FIVE-STAGE IMPROVEMENT PROCESS FOR SOLID WASTE COLLECTION SYSTEMS, 1974, 38 pages. (Order No. 409) Summarizes the techniques for methodical evaluation, design, and implementation of an improved collection system. Provides guidelines and alternatives for solid waste storage and collection.

IMPROVING PRODUCTIVITY IN SOLID WASTE COLLECTION; A BRIEF FOR ELECTED OFFICIALS, by the National Commission on Productivity, 1974, 10 pages. (Order No. 440) Indicates collection costs could be reduced 20 percent on a nationwide basis. Means for measuring costs and productivity along with actual data for various crew sizes, point of collection, and frequency are presented.

DEMONSTRATING MULTIMATERIAL SOURCE SEPARATION IN SOMERVILLE AND MARBLEHEAD, MASSACHUSETTS, reprinted from *Waste Age*, Feb. 1976. (Order No. 510) Describes two demonstration projects, funded in part by EPA, where source-separated paper, glass, and cans are collected for recycling.

SEPARATING PAPER AT THE WASTE SOURCE FOR RECYCLING, 1974, 16 pages. (Order No. 381) Discusses techniques for separate collection of newspaper, corrugated and office wastepaper, as well as associated market, environmental, and conservation issues.

SOLID WASTE TRANSFER STATIONS; A STATE-OF-THE-ART REPORT ON SYSTEMS INCORPORATING HIGHWAY TRANSPORTATION, by EPA, 1972, 160 pages. (Distributed by National Technical Information Service as PB-213 511. \$6.75)

MAKING REFUSE COLLECTION SAFER, reprinted from *Nation's Cities*, Sept. 1975, 4 pages. (Order No. 481) Refuse collectors suffer 10 times as many injuries as the average worker. Cities can use an EPA-developed injury analysis system, the Injury Reporting and Information System, which supplies its users at no charge an individualized quarterly report based on their injury data and makes recommendations for countermeasures.

Processing

SOLID WASTE SHREDDING AND SHREDDER SELECTION, 1974, 87 pages. (Order No. 433) A technical discussion of the shredding process and a checklist for shredder selection.

THERMAL PROCESSING AND LAND DISPOSAL OF SOLID WASTE, reprinted from the *Federal Register*, Aug. 14, 1974. (Order No. 385) Describes EPA's guidelines and performance standards for large municipal incinerators.

Land Disposal

THERMAL PROCESSING AND LAND DISPOSAL OF SOLID WASTE, reprinted from the *Federal Register*, Aug. 14, 1974. (Order No. 385) Describes EPA's guidelines and recommended practices for the thermal processing and land disposal of solid wastes. Recommendations are based on the more complete EPA documents *Sanitary Landfill Design and Operation* (Order No. 287) and *Municipal-Scale Incinerator Design and Operation* (Order No. 122).

SANITARY LANDFILL FACTS, 1970, 30 pages, color illustrations. (Order No. 47*) EPA's still-excellent general description of the sanitary landfill method for solid waste disposal.

DUMPS; A POTENTIAL THREAT TO OUR GROUND-WATER SUPPLIES, reprinted from *Nation's Cities*, Oct. 1974. (Order No. 411) Discusses the potential adverse impact of improper solid waste disposal on water resources.

CLOSING OPEN DUMPS, 1971, 19 pages. (Order No. 156*) EPA's guidance on the proper closure of unacceptable land disposal sites.

SANITARY LANDFILL DESIGN AND OPERATION, 1972, 59 pages. (Order No. 287) Guidance by EPA on the selection, design, and operation of sanitary landfill sites.

FATE AND EFFECTS OF TRACE ELEMENTS IN SEWAGE SLUDGE WHEN APPLIED TO AGRICULTURAL LANDS, by California University, 1974, 107 pages. (Distributed by National Technical Information Service as PB-231 171. \$5.50) Study of the occurrence of heavy metals in sludges and the effect of the heavy metals on plants grown in sludge-treated soils.

LAND AVAILABILITY, CROP PRODUCTION, AND FERTILIZER REQUIREMENTS IN THE UNITED STATES, 1975, 99 pages. (Order No. 484) Relates these factors to animal waste and sewage sludge utilization and disposal.

TRAINING FOR SANITARY LANDFILL OPERATIONS. Even the best planned and most carefully engineered sanitary landfills will fail to meet current standards if the personnel charged with daily operation are not fully trained in their assigned duties. This three-part training package includes a 16-mm film (22-min, sound, color); an instructor's manual with 206 color slides, 35-mm; and a trainee's manual with 10 color slides, 35-mm. (May be purchased from the National Audiovisual Center, General Services Administration, Washington, D.C. 20409.)



HAZARDOUS WASTES

HAZARDOUS WASTES, THE GROSS NATIONAL BY-PRODUCT*. [18-min, 35-mm slide show, sound, color, 1975.] Depicts damage from improper hazardous waste disposal on the land, and describes available methods of hazardous waste management. (May be purchased from the National Audiovisual Center, General Services Administration, Washington, D.C. 20409. \$10)

DISPOSAL OF HAZARDOUS WASTES, report to Congress by the U.S. Environmental Protection Agency, 1974, 110 pages. (Order No. 345) EPA's report summarizes the Agency's investigations on the problems of storing and disposing of hazardous wastes.

HAZARDOUS WASTES AND THEIR MANAGEMENT, 1975, 3 pages. (Order No. 452*) Factsheet identifying hazardous wastes and highlighting disposal problems and potential damages. Provides sources for additional information.

HAZARDOUS WASTES, 1975, 24 pages, color illustrations. (Order No. 450*) Describes the hazardous waste situation in the United States and suggests ways concerned citizens can help solve the problems.

ISSUE ANALYSES FROM DISCUSSIONS AT FOUR PUBLIC MEETINGS ON HAZARDOUS WASTE MANAGEMENT, 1975, 90 pages. (Order No. 524) The meetings were held to gather feedback on the nature and scope of proposed Federal guidelines for hazardous waste management. The statements cluster around 11 issues which are analyzed. (In press.)

A SUMMARY OF HAZARDOUS SUBSTANCE CLASSIFICATION SYSTEMS, 1975, 55 pages. (Order No. 489) A technical analysis and review of 17 hazardous substances classification systems in use throughout the Federal Government and several States. The criteria used in these systems is based on the Federal Hazardous Substances Labeling Act.

WHERE HAVE ALL THE TOXIC CHEMICALS GONE? reprinted from *Ground Water*, Mar.-Apr. 1973. (Order No. 415) Discusses the problems of groundwater contamination due to improper disposal of toxic chemicals.

HAZARDOUS WASTE GUIDELINES: PLANS AND PROSPECTS, 1976, 7 pages. (Order No. 540) Reviews Federal plans for guideline development.

THE NATIONAL HAZARDOUS WASTE MANAGEMENT PROGRAM, 1975, 18 pages. (Order No. 541) Discusses the status of Federal legislation on land disposal of hazardous wastes, and predicts the impact of the legislation. Also describes EPA's hazardous waste management program.

FEDERAL DIRECTION FOR HAZARDOUS WASTE MANAGEMENT, 1974, 16 pages. (Order No. 542) Describes EPA's efforts to: build a data base on hazardous wastes, how many there are and where they are; develop guidelines and standards; and aid implementation of hazardous waste programs.

GROWTH POTENTIAL IN THE HAZARDOUS WASTE MANAGEMENT SERVICE INDUSTRY, 1976, 26 pages. (Order no. 543) Examines the private hazardous waste management service industry under current conditions and under a postulated Federal/State regulatory program.

RESIDUAL MANAGEMENT BY LAND DISPOSAL; PROCEEDINGS OF THE HAZARDOUS WASTE RESEARCH SYMPOSIUM, 1976, 280 pages. (Distributed by National Technical Information Service as PB-256 768. \$9.25) Identifies research aimed at minimizing the impact of disposing of hazardous wastes directly to the land and provides solutions to problems of some special wastes.

State Programs and Regulations

STATE PROGRAM IMPLEMENTATION GUIDE, 1975, 38 pages. (Order No. 464) "How to" guide for States in conducting surveys of hazardous waste generation and management.

Environmental Effects

DAMAGE INCIDENTS FROM IMPROPER LAND DISPOSAL, reprinted from the *Journal of Hazardous Materials*, Jan. 1976. (Order No. 494) Identifies the major mechanisms of damage from the land disposal of hazardous wastes. Typical case studies are cited.

HAZARDOUS WASTE DISPOSAL DAMAGE REPORTS, 1975, 1976. (Order Nos. 449, 492, 546) Case studies documenting health, environmental, and economic damages from hazardous waste disposal.

TETRACHLORODIBENZODIOXIN: AN ACCIDENTAL POISONING EPISODE IN HORSE ARENAS, reprinted from *Science*, May 16, 1975. (Order No. 474) Describes poisoning episode following the disposal of waste oil in Missouri. Medical aspects are documented.

Disposal Technology

ULTIMATE DISPOSAL OF SPILLED HAZARDOUS MATERIALS, reprinted from *Chemical Engineering*, Oct. 27, 1975. (Order No. 506) Discusses the use of existing hazardous waste disposal facilities versus on-site disposal.

LANDFILL DISPOSAL OF HAZARDOUS WASTES: A REVIEW OF LITERATURE AND KNOWN APPROACHES, 1975, 36 pages. (Order No. 475) An overview of conventional sanitary landfilling, the chemical waste landfill, and alternatives to chemical waste landfill disposal.

INCINERATION IN HAZARDOUS WASTE MANAGEMENT, 1975, 104 pages. (Order No. 427) Summarizes available information on incineration and incinerators used for detoxifying hazardous wastes.

INFORMATION ABOUT HAZARDOUS WASTE MANAGEMENT FACILITIES, 1975, 130 pages. (Order No. 468) Detailed descriptions of selected hazardous waste management facilities.

FEDERAL SURVEYS OF INDUSTRIAL WASTE, 1975, 20 pages. (Order No. 545) Gives results of six of 13 studies of specific industries initiated by EPA in 1974. The studies cover hazardous waste characteristics, generation, and disposal technology and costs.

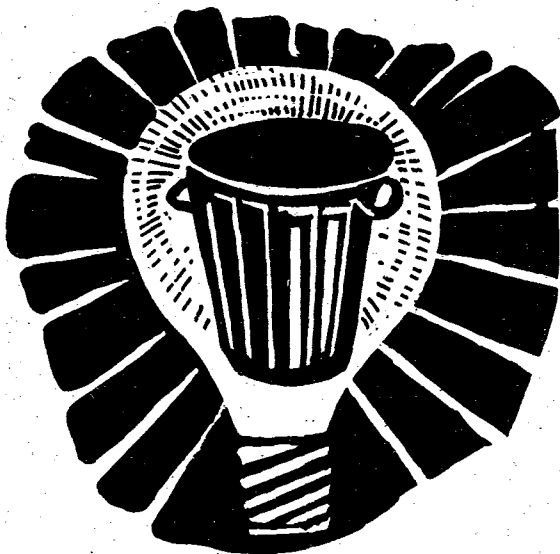
Specific Chemicals

PCB-CONTAINING WASTES (INDUSTRIAL FACILITIES); RECOMMENDED PROCEDURES FOR DISPOSAL, reprinted from the *Federal Register*, Apr. 1,

1976. (Order No. 516) Guidance from EPA on the disposal of polychlorinated biphenyl wastes, addressed primarily to industrial users.

VINYL CHLORIDE: RECOMMENDED PROCEDURES FOR DISPOSAL OF AEROSOL CANS, reprinted from the *Federal Register*, June 9, 1976. (Order No. 529) Guidance from EPA, intended mainly for holders of large quantities of vinyl chloride-containing aerosol cans.

PESTICIDES AND PESTICIDE CONTAINERS: REGULATIONS FOR ACCEPTANCE AND RECOMMENDED PROCEDURES FOR DISPOSAL AND STORAGE, reprinted from the *Federal Register*, May 1, 1974. (Order No. 376) EPA's first issuance on pesticide containers and disposal requirements necessary to protect the environment.



RESOURCE RECOVERY

RESOURCE RECOVERY AND SOURCE REDUCTION: SECOND REPORT TO CONGRESS, 1974, 112 pages. (Order No. 353) Presents findings from EPA studies about resource recovery and source reduction.

RESOURCE RECOVERY AND WASTE REDUCTION: THIRD REPORT TO CONGRESS, 1975, 96 pages. (Order No. 448) Examines policy issues, reviews technological progress, summarizes city and State activities, and reviews EPA studies and investigations for 1974.

A NATIONWIDE SURVEY OF RESOURCE RECOVERY ACTIVITIES, 1976, in press. (Order No. 432) A summary of progress in resource recovery projects throughout the United States. Updated periodically.

THE RESOURCE RECOVERY INDUSTRY, reprinted from *Environmental Science & Technology*, May 1976. (Order No. 501) A profile of the resource recovery industry and projections for its future.

Materials

WHAT YOU CAN DO TO RECYCLE MORE PAPER, 1975, 12 pages. (Order No. 446) Guide for citizens interested in ways to recycle paper.

RESIDENTIAL PAPER RECOVERY: A MUNICIPAL IMPLEMENTATION GUIDE, 1975, 26 pages. (Order No. 486) Discusses public vs. private collection, success factors, pilot vs. full-scale programs, and mandatory vs. voluntary separation of paper by households.

RECOVERING RESOURCES FROM SOLID WASTE USING WET-PROCESSING; EPA's FRANKLIN, OHIO, DEMONSTRATION PROJECT, 1974, 26 pages. (Order No. 408) Summary report on the Franklin pilot plant, a commercially operated facility that recovers paper, metals, and glass from the city's solid wastes.

RESOURCE RECOVERY TECHNOLOGY UPDATE FROM THE U.S.E.P.A.

- **DEMONSTRATING RESOURCE RECOVERY,** reprinted from *Waste Age*, June 1976. (Order No. 528) Summarizes EPA's resource recovery demonstration grant projects to date.
- **BALTIMORE PYROLYSIS AND WASTE-FIRED STEAM GENERATOR EMISSIONS,** reprinted from *Waste Age*, July 1976. (Order No. 537) A list, with discussion, of particulate emission data from 100-percent solid-waste-fired steam generators.
- **EPA RESOURCE RECOVERY DEMONSTRATION: SUMMARY OF AIR EMISSIONS ANALYSES,** reprinted from *Waste Age*, Aug. 1976. (Order No. 538) Summary of the particulate, bacterial, gaseous, and viral emissions testing at the St. Louis refuse-derived fuel project.

Energy

ENERGY CONSERVATION THROUGH IMPROVED SOLID WASTE MANAGEMENT, 1974, 39 pages. (Order No. 378) Summarizes the potential energy conservation benefits from source reduction, energy recovery, materials recycling, and improved solid waste collection. Summarizes energy recovery technologies and energy recovery activity in communities around the country.

ENERGY RECOVERY FROM WASTE; SOLID WASTE AS SUPPLEMENTARY FUEL IN POWER PLANT BOILERS, 1973, 24 pages. (Order No. 264) Describes the St. Louis energy recovery demonstration, funded in part by EPA, where solid waste is processed and used as a supplementary fuel in power plant boilers.

BALTIMORE DEMONSTRATES GAS PYROLYSIS: RESOURCE RECOVERY FROM SOLID WASTE, 1975, 24 pages. (Order No. 431) Describes the Baltimore energy and materials recovery demonstration, funded in part by EPA, where steam is generated by burning gases produced by pyrolysis of solid waste.

SAN DIEGO COUNTY DEMONSTRATES PYROLYSIS OF SOLID WASTE TO RECOVER LIQUID FUEL, METALS, AND GLASS, 1975, 27 pages. Describes the San Diego County pyrolysis demonstration project where a 200-ton-per-day plant will convert organic solid waste into an oil-like liquid fuel.

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