

The Alameda County Waste Management Authority &
The Alameda County Source Reduction and Recycling Board

Innovation, Leadership, Stewardship

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ILSR
INSTITUTE FOR LOCAL SELF-RELIANCE





The Institute for Local Self-Reliance is a non-profit research and educational organization that provides technical assistance and information to city and state governments, citizen organizations, and industry. Since 1974, ILSR has researched the technical feasibility and commercial viability of environmentally sound, state-of-the-art technologies with a view to strengthening local economies.

ILSR works to involve citizens, government, and private enterprise in the development of a comprehensive materials policy oriented toward local ownership, efficiency, recycling, and maximum utilization of renewable energy resources.

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Alameda County Waste Management Authority
Alameda County Source Reduction and Recycling Board
www.stopwaste.org

Pursuant to California Law, the Alameda County Waste Management Authority is responsible for the preparation of Alameda County's Integrated Waste Management Plan and Hazardous Waste Management Plan, and provides support and assistance to its member agencies in the implementation of those plans. The Alameda County Source Reduction and Recycling Board is responsible for delivery of voter-approved programs in the areas of waste reduction, recycled product procurement, market development and grants to non-profit organizations. Collectively the two legal entities operate as one organization (the "agency"), under the direction of self-managed teams. Although it controls no waste stream itself, the agency operates as a de-facto public/private partnership. It exercises its leadership role through a wide network of citizens, public agencies, non-profit organizations, private consultants, waste haulers, recycling service providers, environmentalists and public policy advocates to prevent waste and limit landfill disposal.

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Introduction

Over the past 25 years, the Institute for Local Self-Reliance has documented successful programs for waste reduction. The programs have included source reduction, recycling, yard debris collection, backyard composting, durable goods reuse, market development, construction and demolition debris recovery and educational efforts. While many of the programs have been exemplary, few have encompassed such a broad spectrum as those put forth by the Alameda County Waste Management Authority and Recycling Board.

Located in California, on the eastern shore of the San Francisco Bay, Alameda County is a large, urbanized county – population 1.4 million – in an area blessed with a moderate climate and a vital economy. With those blessings have inevitably come population growth, urban development and congestion. This has had an impact on solid waste management, as trash generation has paralleled, and sometimes outpaced, population growth.

As the tide of trash grew, local officials realized the old methods of collection and disposal of trash were not sustainable in the long-term. A new vision was needed. As Albert Einstein said, "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." In the new thinking, discarded resources only become trash if they

are wasted through disposal in a landfill or incinerator.

This booklet highlights the many innovative, and risk-taking programs for waste reduction and recycling implemented by the Alameda County Waste Management Authority and Recycling Board. While not every program or grant recipient has successfully reduced waste in the long-term, the agency's programs, as a whole, have done just that.

Many of the programs are easily replicable. The Institute for Local Self-Reliance invites program planners struggling to reduce solid waste disposal to consider the programs highlighted in this publication. The programs range from very simple, low-cost options, to those requiring specialized expertise and significant investment. The good news is that adopting just one program can divert waste from disposal. And communities that model numerous programs after Alameda County's example have chosen an excellent model.

Finally, the Waste Management Authority and ILSR offer numerous sources of information about waste reduction. The Authority has produced videos, reports, fact sheets and case studies, and has a knowledgeable staff able to assist other jurisdictions. Its website at www.stopwaste.org is comprehensive and easily navigated.

Please see the resources page for more details.

The Agency

The Alameda County Waste Management Authority & The Alameda County Source Reduction and Recycling Board

Solid waste management in Alameda County is overseen by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board, referred to collectively as “the agency.” Working in partnership with its member agencies – the local jurisdictions who bear direct responsibility for collection and disposal of solid waste – the agency represents a new, forward-thinking model for government problem solving.

1990 Alameda County Waste Reduction and Recycling Initiative Charter Amendment (Measure D)

Alameda County voters approved this initiative in November, 1990 by a margin of 63%. Measure D was a groundbreaking local initiative with many unique features including:

- ▶ A voter-approved surcharge of \$6 (since adjusted to \$6.59) per ton on trash landfilled in the county.
- ▶ A long term waste diversion goal of 75% for Alameda County.
- ▶ Prohibition of incineration of refuse in unincorporated areas of Alameda County.

The Waste Management Authority was formed in 1976 and originally charged with ensuring adequate future landfill capacity for the county. To do so, the Authority created a joint powers agreement among the County of Alameda, each of the fourteen cities within the county, and two sanitary districts that also provide refuse collection services. The Authority secured land to assure long-term landfill capacity, but also began to explore alternatives to landfilling. In 1987, the Authority produced its first Recycling Plan.

With the 1989 passage of the California Integrated Waste Management Act (AB939), the state mandated each city and county in California to reduce or divert 25% of its waste stream from disposal by the year 1995 and 50% by 2000 – or be subject to stiff fines and penalties. Faced with perhaps the toughest state law in the United States, Alameda County voters decided to go a huge step further by adopting the 1990 Alameda County Waste Reduction and Recycling Initiative Charter Amendment (Measure D). The measure focuses not just on reducing disposal, but on “the establishment of sustainable discarded materials management practices.” Measure D created a Source Reduction and Recycling Board to



If not for recycling, these bottles, and millions more, would be headed to a landfill.

administer its provisions and a Recycling Fund to pay for it.

In 1991, the Waste Management Authority and the Source Reduction and Recycling Board signed a Memorandum of Understanding which effectively merged the organizations into one. The new agency was not just another layer of government bureaucracy. Rather, it created a single, effective organization with a clear mission and a dedicated funding source. While Measure D sets specific guidelines for how certain funds are allocated, the agency nevertheless has considerable freedom to create innovative programs and meet new challenges.

When Measure D was passed in 1990, Alameda County’s waste diversion rate was 14%. By 2000, according to the California Integrated Waste Management Board, that rate had climbed to 50%. Alameda County is truly a national model – a community taking a comprehensive, regional approach

Alameda County is truly a national model – a community taking a comprehensive, regional approach to waste reduction.

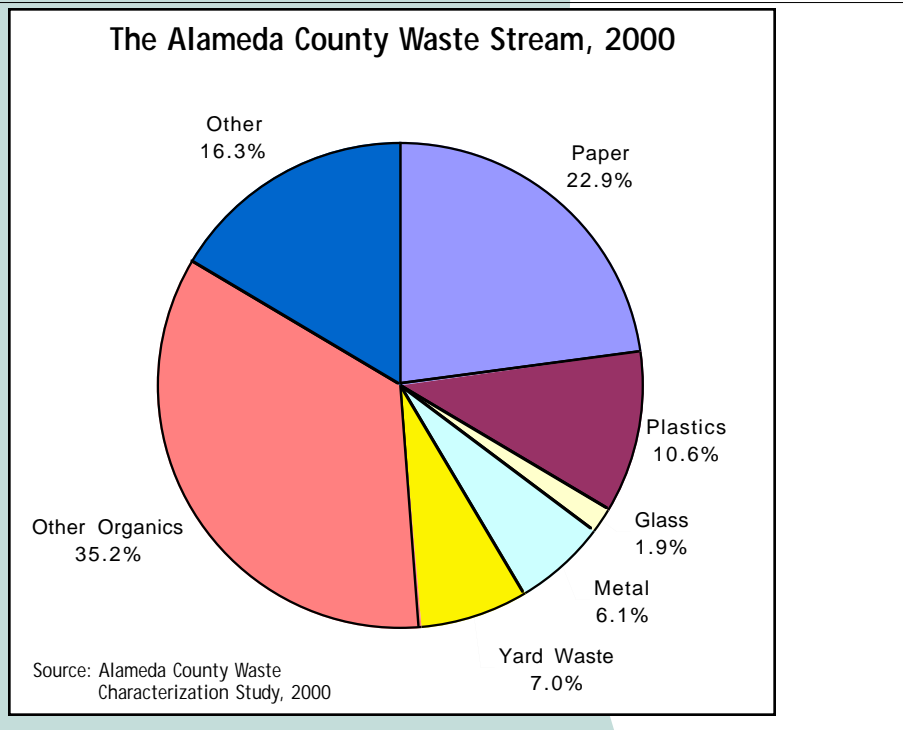
to waste reduction that encompasses source reduction, reuse, recycling, composting, buy-recycled, market development, and recycling-based local economic development.

Program Development

In the early days of the agency's existence, it focused on assisting its member agencies build basic programs for waste reduction. The agency continues to play a key role in supporting member agency programs. In fact, fully half of all Measure D revenues are returned to local jurisdictions on a per-capita basis, and many other projects fund efforts with a countywide or regional benefit.

In recent years, the agency has turned its attention to identifying and developing programs to reduce specific waste streams that are still largely disposed. These more problematic materials include, for example, organic materials and construction and demolition materials. Another agency focus is the development of processing and manufacturing facilities to handle materials diverted from disposal. This attention to capacity is essential to long-term sustainability of the agency's efforts.

The agency also places special emphasis on public awareness. To reach the broadest possible audience, the agency employs many media and repeats its messages often. In keeping with its forward-looking orientation, particular attention is paid to school programs and other outreach efforts designed to reach young people.



Mission & Vision Statements

** adopted 1998; most recently amended, 2000*

As part of its Recycling Plan, the agency crafted a mission statement and a series of “vision statements,” describing the role of the agency hopes to play in the future.

Mission Statement

The Waste Management Authority and the Source Reduction and Recycling Board form an integrated agency dedicated to achieving the most environmentally sound waste management program for the people of Alameda County. In achieving this aim, we will:

- Provide strategic planning, research, education and technical assistance to the public, businesses and local governments
- Initiate innovative recycling programs and facilities to maximize source reduction, resource recovery, recycling and economic development opportunities
- Serve as a pro-active public policy advocate for long-term solutions to our waste management challenges

Vision Statements

1. The agency is the nation’s leader in pursuing effective solutions that reduce the waste of material resources.

Leadership requires innovative ideas, advanced technology, proactive policy development, effective communication, and heightened visibility for the agency and its programs. It requires that the agency use in-house programs to “practice what it preaches.”

2. Alameda County achieves 50% diversion from landfills by the year 2000, 75% diversion from landfills by the year 2010, and progresses toward even greater reduction in later years.

Alameda County’s broad waste reduction goals are supplemented with specific goals for the residential and business sectors and for source reduction programs.

3. The agency’s source reduction and recycling programs are integral to a society that is environmentally, economically and socially sustainable over the long-term.

Agency programs are linked with other resource conservation efforts and with local and countywide social and economic development programs.

4. In achieving source reduction and recycling, the agency helps accomplish other worthwhile goals:

- Creates an aware and educated public that has adopted the values and behaviors associated with conservation and sustainability with respect to the use and disposition of materials.
- Establishes durable, economically sustainable markets for discarded materials that are recovered.
- Creates jobs and other forms of social betterment for the residents of Alameda County.

5. The agency’s internal operations support its mission.

The agency ensures that all residents and businesses can participate in its decision-making process and ensures that all programs funded with public monies meet rigorous standards of evaluation. Board members and staff work together cooperatively, harmoniously and with mutual respect.

Municipal Programs

Every jurisdiction within Alameda County offers weekly or bi-weekly curbside collection of recyclables and curbside yard waste collection. Many jurisdictions also offer periodic collection of bulky items. All jurisdictions also offer variable can rates for trash service, providing residents with a financial incentive to reduce

disposal. Most Alameda County jurisdictions rely on franchise agreements with private contractors to provide trash, recycling and yard waste collection services. The exception is the City of Berkeley, where municipal workers provide trash and yard trimmings collection.

■ ALAMEDA COUNTY JURISDICTIONS' WASTE DIVERSION RATES, 1990-2000				
Jurisdiction	2000 Population	Diversion Rates:		
		1990	1995	2000
Alameda	72,681	15%	48%	65%
Albany	16,542	20%	42%	62%
Berkeley	103,539	18%	41%	49%
Dublin	29,477	12%	26%	56%
Emeryville	6,906	10%	51%	48%
Fremont	204,444	19%	49%	62%
Hayward	141,621	9%	41%	50%
Livermore	73,491	4%	26%	53%
Newark	42,819	15%	27%	53%
Oakland	404,663	11%	27%	51%
Piedmont	10,997	25%	47%	63%
Pleasanton	63,798	15%	28%	48%
San Leandro	80,073	10%	34%	52%
Union City	67,334	11%	49%	61%
Unincorporated areas	136,950	10%	56%	65%
County total	1,455,335	14%	37%	55%

Source: Alameda County Source Reduction and Recycling Board 5 Year Audit 2002

Leading by Example

The agency is committed to be a role model in the environmental arena. In its daily operations, it promotes integration of recycling and sustainability initiatives. Staff members work to raise awareness of linkages between waste reduction and other social benefits, including water usage, ozone depletion, energy conservation and job creation.

At the agency's office in San Leandro, California employees practice what they preach. For example, when furnishing its new office in 1998, the agency used numerous recycled-content building materials and furniture. These include tables, chairs, partitions, carpets, and countertops. On a day-to-day basis, employees in the 25-person office seek to reduce, reuse, and recycle everything possible, and as a result, the office produces nearly no trash.

Source Reduction

Mealtime discards comprise a large portion of disposed waste – even in office settings. With this in mind, agency staff work daily to reduce food waste. The agency maintains a selection of durable flatware, dishes, mugs, and glasses for staff use. Employees also collect food scraps from the kitchen for composting.

To reduce waste from meetings and other special events, agency staff work with caterers to reduce leftover food and encourage use of reusable service items. Community service organizations, such as food banks and homeless shelters, gladly accept edible food leftover from agency events.

Reuse

The agency donates numerous surplus physical assets, such as furniture, computers, and appliances to non-profits, schools, and community organizations for reuse and actively promotes “second hand” stores and other reuse outlets through its public information programs.

Recycling

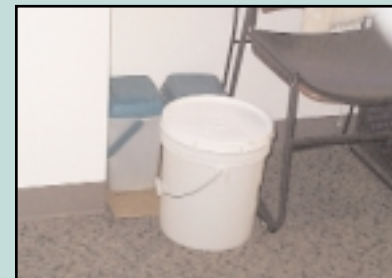
The East Bay Conservation Corps, a community service organization for youth and young adults, provides recycling services at the agency office. The Corps collects beverage containers and mixed paper. Agency staff have located outlets for other, more difficult to recycle commodities, including plastic envelopes and toner cartridges.



This Agency conference table was created from wood salvaged by an agency-financed deconstruction project.



The agency's kitchen countertop is made of recycled-content materials.



Employees empty food scraps generated in their office kitchen into this tub for later composting.

Source Reduction



The agency's Source Reduction and Recycling Plan, most recently amended in 2000, reaffirms a commitment to source reduction as the first priority in waste management. Agency staff recognized that if waste generation continued to grow, recycling growth would have to be even greater to reach its 75% disposal reduction goal established by the voters. Source reduction – stopping waste before it starts – is a more efficient and cost-effective method of reducing waste.

A large portion of the agency's expenditures fund projects with a significant focus on source reduction. For example, in the field of organics, the agency's Master Composter, Home Compost Education and Outreach, On-Site Food Recycling at Schools, StopWa\$te Partnership, Compost and Worm Bin Distribution, and Grasscycling projects all focus on source reduction.



Through one-day sales and on-going promotional efforts, the agency has sold over 42,000 home composting bins to county residents – 16% of Alameda County's single-family households.

Reuse Programs

Case Study: The East Bay Depot for Creative Reuse

The East Bay Depot for Creative Reuse operates two retail outlets. The agency has funded numerous projects in partnership with the Depot.

The Depot Store receives materials donated by businesses, manufacturers and individuals, such as fabric and sewing supplies, arts and craft materials, and office and school supplies. The Depot re-sells these materials, at low-cost, to schools, artists, community organizations and the public.

Through its "Second Chance" project, the Depot works with local jurisdictions to glean usable items set out for bulky trash collection. Some items are reconditioned for reuse; others are creatively refashioned into "new" items. For example, used headboards and footboards from beds are turned into raised gardening beds, or an old radio (pictured) is transformed into a beautiful shelving unit.

The Depot also offers Project Create, an education program for elementary and middle school students emphasizing waste reduction and reuse. Depot staff train teachers to use its waste prevention and reuse curriculum and create reuse activity kits.



Much of the business of collecting, refurbishing, and redistributing reusable goods in Alameda County is performed by local jurisdictions and private organizations such as thrift stores, consignment shops, antique stores, and non-profit organizations. The agency, recognizing reuse as a waste management priority, provides information and financial support for numerous reuse programs and identifies reuse outlets for an extensive list of items including working appliances, audio tapes, bathroom fixtures, beads, bicycles, books, bubble wrap, building materials, candle wax, cellular telephones, child car seats, computer equipment, eyeglasses, furniture, greeting cards, hangers, hardware and tools, home health care equipment,

ink jet cartridges, magazines, maps, musical instruments, packaging peanuts, paint, pallets, school and office supplies, software applications, sporting goods, textiles, toner cartridges, toys and games, typewriters, wine bottles, and zippers.

Residents can find listings for where to reuse or recycle these, and other items, on the agency web site and in publications such as the *Alameda County Recycling Guide*, which is available in hard copy or as a download from its web site. Residents may also call the agency recycling hotline at (877) STOPWASTE.

Over the years, the agency has financially supported reuse programs of other organizations through its grant program. Grant recipients, for example, have included:

- Children's Hospital of Oakland; for truck purchase and warehouse expansion for resale shops.
- The City of San Leandro; for development of a reuse directory.
- Urban Ore; for re-location of its large-scale reuse facilities.
- The ReUse People; for development of a retail outlet.
- The East Bay Depot for Creative Reuse.

Construction and Demolition

Construction and demolition (C&D) materials comprise approximately 20% of materials disposed in Alameda County, and without considerable attention to reducing this problematic disposal stream, the agency would be unable to meet the ambitious countywide waste diversion goal. Among the tools used by the agency to promote C&D diversion are a model ordinance, a recycling rebate program, and direct assistance to its member agencies.

Model C&D Ordinance

To assist local jurisdictions who seek to increase or require C&D recycling, the agency developed a model ordinance (available on the agency web site). In February 2000, the City of Dublin became the first Alameda County jurisdiction to adopt such an ordinance. Other cities followed, and have adopted similar ordinances.

Dublin's ordinance requires developers to submit a Waste Management Plan for any project with a value of \$100,000 or greater as part of the city permitting process. Each plan must detail how the developers will divert from disposal at least 50% of the debris generated by the project. To assure compliance with the ordinance, developers of projects with a total value greater than or equal to \$1 million are required to submit a refundable performance deposit for each building permit. In the first year of

operation, over 50 projects in Dublin were subject to the ordinance.

C&D Recycling Rebate Program

Currently, there are no dedicated, permitted mixed debris processing facilities for C&D in Alameda County, although there are such facilities in the neighboring communities of San Jose, San Francisco and San Rafael. To encourage generators to divert material, the agency offers a \$10 per ton rebate to contractors who deliver such materials to one of these facilities for recovery. This rebate offsets the cost of hauling these loads to an out-of-county recycling facility.

Assistance to Member Agencies

The agency assists its member agencies divert C&D materials from disposal through:

- Customization of the model ordinance.
- Technical assistance to member agencies after implementation of an ordinance.
- Presentations to planning commissions and city councils.
- Supplying recycling guides for distribution to building and demolition permit applicants.
- Working directly with local builders.
- Developing case studies of successful projects.



Organics

Waste characterization studies commissioned by the agency consistently reveal that yard waste and other organics comprise a large portion of materials landfilled in the county. Despite successful residential curbside yard debris collection programs in most local jurisdictions, the agency recognizes the need to divert a substantially larger portion of the organics being disposed – including those generated in the commercial sector – to achieve Alameda County’s aggressive 75% waste diversion goal.

Home Composting

The agency began a home composting program in 1990, and to date has sold more than 42,000 compost bins to county residents at a discounted, subsidized rate. This represents 16% of all single-family households in the county. Home composters learn how to properly use their bins through the agency-produced instructional video, *Do the Rot Thing: The Simple Art of Home Composting*, by calling the agency’s free compost information hotline at (510) 444-SOIL or attending a free workshop at a compost demonstration garden. The agency also provides home composting information on its website and through educational displays at community events.

A 1997 evaluation of the home composting program found that 95% of families who purchased home composting bins continued to use them on an on-going basis and that the average household that composts both yard and food waste will divert 579 pounds of waste per year. (See *Home Composting in Alameda County*, available on the agency’s web site.) Extrapolating these findings to 42,000 compost bins sold corresponds to more than 11,500 tons of diversion a year.

Case Study: Castro Valley High School



Students at Castro Valley High School began composting pre-consumer food discards from their cafeteria. Agency staff worked with students and teachers to develop a collection program and set up a vermicomposting system at the school.

Students collect the kitchen scraps at the end of the school day and deliver them to the compost bin. There, students mix the food with newspaper and other bulking agents.

The program requires a year-round commitment, with some students volunteering to feed and look after the school’s worms during vacation periods. The program diverts large amounts of food from disposal each week and teaches students valuable lessons in environmental science.

Photos: Student composters (top). Bucket of food discards collected by kitchen staff at the high school (middle). The vermicomposting bin, showing food scraps layered with newspaper and covered with damp burlap (bottom).



Master Composter Program

Training resources for home composting are maximized through the Master Composter Program. Every spring, the agency trains volunteers in home composting techniques, organic gardening and public speaking. Students are obligated to provide 50 hours of community service, teaching others to compost. Since the program's inception, nearly 250 individuals have completed Master Composter certification and contributed over 11,000 hours of community service. Many continue volunteering in the program after their training is completed.

Grasscycling

The agency promotes grasscycling through the use of mulching mowers among residents and landscapers, as a way to reduce disposal of grass clippings. With a number of private and public sector partners, the agency offers residents an opportunity to receive a substantial discount on electric or push reel mulching mowers when trading in an older gas-powered mower. The disposal reduction from use of mulch mowers can be significant.

The California Integrated Waste Management Board estimates that the average lawn of a single-family home generates 704 pounds of grass clippings per year. The University of California estimates that 300 to 400 pounds of grass clippings are generated for every 1,000 square feet of lawn per year. The mower exchange program provided the added benefit of reducing the significant air emissions from gas-powered mowers that were traded in.

The agency also works with professional landscapers and has produced *A Landscaper's Guide to Grasscycling: Save Time, Save Money and Create Beautiful Lawns*. This colorful report provides tips on how to overcome popular misconceptions about grasscycling and provides photographic documentation of properly grasscycled lawns, such as the lush football turf at UC Berkeley's Memorial Stadium.

School Composting

The agency assists schools interested in composting through a composting education program and a mini-grant program. Trained educators from the agency visit schools and help set up programs. As a first step, staff and students perform a waste characterization study to determine the appropriate composting system for each school. Composting equipment and training are provided to teachers and students. The mini-grant program provides up to \$1,500 in direct funding to schools seeking to start a garden featuring composting.

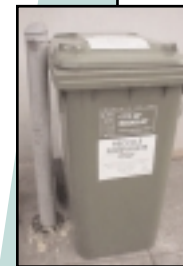
Commercial Food Recovery

The agency has identified commercial food waste as a significant component of the disposal stream and supports numerous programs to reduce it. These include efforts that reduce food discards through donations to food banks and community service organizations and innovative composting projects. Agency assistance includes grants for community and non-profit organizations, technical assistance for businesses and incentives for commercial waste haulers.

Case Study: Berkeley Commercial Food Collection Program

The City of Berkeley began a pilot Food Scrap Collection Program after a waste stream analysis showed that 25% of city-collected refuse from the commercial sector was food scraps. The agency assisted in program start-up by providing a \$35,000 grant for equipment. Currently 40 businesses including restaurants, markets, bakeries, florists, coffee shops, and food producers participate in the program and divert approximately 140 tons per month of food scraps. Participants source separate food scraps, flowers, paper napkins and wrappings, waxed cardboard, and unpainted wood scraps into city-provided totes or dumpsters.

Photos: (Right) Front-loading truck collecting a dumpster of commercial food scraps from a Berkeley business. (Left) Toter for source-separated commercial food collection in Berkeley.



StopWa\$te Partnership

The cornerstone of the agency's business waste prevention program is the StopWa\$te Partnership. The program is sponsored by the Waste Management Authority and Recycling Board in partnership with Pacific Gas & Electric Company, the East Bay Municipal Utility District, the Alameda County Economic Development Alliance for Business, and Science Applications International Corporation. It is a non-regulatory program that works with medium and large-sized businesses and public agencies to reduce waste generation and to cut disposal, energy, water use and wastewater treatment costs. Program staff provide free services to organizations upon request.

The StopWa\$te team has advised over 100 businesses and public agencies, including electronic manufacturers, bio-technology firms and food producers. Clients also include hospitals, universities, hotels, stadiums and airlines.

StopWa\$te client services include:

- Assessment of business operations and development of recommendations.
- Evaluation of practices to improve environmental performance.
- Implementation of selected plans and training programs.
- Measurement and documentation of achievements.



Stopwa\$te provides resources, recognition and funding assistance. Resources include publications, signage and stickers, and the Best Practices Database, a compendium of waste prevention practices, case studies, and vendor listings. The Partnership's annual StopWa\$te Recognition Awards acknowledge an organization's efforts to continuously improve their environmental performance. The StopWa\$te Business Efficiency/Financial Awards fund waste prevention projects and StopWa\$te Mini-Grants, available in amounts ranging from \$250 to \$5,000, can be used for specific waste prevention, reuse, recycling or market development activities.

Twenty-three organizations active in the StopWa\$te Partnership from July 1998 to December 2000 diverted more than 63,500 tons of materials from disposal. Participants recycled everything from paper, cardboard, yeast, beverage containers, grass clippings, wood, food discards and shipping pallets to construction and demolition materials.

Twenty-three organizations active in the StopWa\$te Partnership from July 1998 to December 2000 diverted more than 63,500 tons of materials from disposal.

Case Study:
U.S. Postal Service Processing and Distribution Center



Before starting its recycling program, this large postal distribution center was spending approximately \$50,000 per month on garbage service. Facility managers expected to cut costs through recycling, but results were even better than expected.

The facility implemented a three-pronged program to recycle materials that had previously been landfilled.

Employees now recycle undeliverable bulk mail, plastic strapping, and materials generated in the facility's offices.

As a result, the Oakland Postal Center annually recycles over 400 tons of paper, cardboard, shrink wrap, scrap wood, scrap metal, plastic mail bags, beverage containers, and plastic mail trays – and cut its trash bill by \$250,000 per year.

Photos: Baled undeliverable bulk mail ready for recycling (above). A post office employee collects cardboard for recycling (right).



Case Study:
New United Motor Manufacturing, Inc. (NUMMI)



New United Motors is a joint venture of General Motors and Toyota. NUMMI operates under a “lean manufacturing system,” including a continuous effort to eliminate waste of labor and resources. With the assistance of Stop WaSte staff, NUMMI has implemented programs to increase

material efficiency, conserve energy, reduce air emissions, conserve water, and reduce generation of hazardous waste, waste water and municipal solid waste.

Source reduction accounts for much of the company's disposal reduction. The company has reduced its use of cardboard by 60% by requiring its suppliers to use reusable shipping containers and returning plastic packaging to suppliers for reuse. The company also recycles cardboard, wood, metal, and plastic, which are processed at an in-house sorting line. These efforts keep nearly 14,000 tons of material out of landfills and save the company over \$3 million dollars a year.

Photos: NUMMI uses these reusable shipping containers (right), avoiding generation of over 10,000 tons of waste each year. A forklift operator (above) empties a dumpster of recyclables onto the NUMMI sorting line.



Case Study:
John Lewis Glass Studio

John Lewis is a nationally renowned glass artist. His specially commissioned works have been incorporated into installations at museums, memorials, airports, and upscale residential projects.



The John Lewis Glass Studio has grown from an artist's studio to include a cast glass manufacturing operation that uses significant amounts of recycled glass as feedstock and recycled graphite for molds. The company uses recycled glass as feedstock in about half of its product line. Approximately one-third of the recycled glass the company uses comes from Alameda County sources.

The agency supported this company through a Revolving Loan Fund loan of \$125,000. The company used the funds as working capital and to purchase a new glass kiln.

Photo: These glass wash basins (above), manufactured with recycled-content, were cast at John Lewis Glass Studios.

Market Development

Since 1996, the Revolving Loan Fund recipients have used the monies to divert more than 60,000 tons per year of material from disposal, and have created or retained nearly 500 local jobs.

The agency provides support to businesses and organizations to promote healthy markets for recycled materials. It offers funding assistance to public agencies, non-profit organizations, private businesses and educational institutions through numerous programs including a Revolving Loan Fund, "Mini Grants" for funding requests under \$5,000, Market Development Assistance, and Grants to Non-Profits.

Revolving Loan Fund

This program began lending money in 1996 and concentrates on investing in local recycling enterprises. The fund provides loans with interest rates as low as 5% to businesses that:

- Improve their processes to reduce waste generation.
- Use recycled materials as feedstock.

- Otherwise divert materials from Alameda County landfills.

The program has been very successful, providing loans over \$3 million with no companies defaulting on loans to date.

Market Development Assistance

The Market Development Assistance program supports business expansion and attraction efforts aimed at establishing or expanding value-added processors or end-use manufacturing facilities in Alameda County.

Grants to Non-profit Organizations

On an on-going basis, the agency makes provides grants to non-profit organizations for implementation of innovative projects that will increase involvement in recycling and decrease the amount of waste sent to landfills.

**Case Study:
Epic Plastics**

Epic Plastics, located in Richmond, California, has received a \$200,000 loan from the agency's Revolving Loan Fund and, in addition, was awarded a \$127,000 grant. The company used this funding to produce a product promotion packet for distribution to potential markets east of the Rocky Mountains.

Epic Plastics sustains 34 jobs and is one of the largest processors and end-users of post-consumer HDPE and LDPE in Northern California. The company's principle product is 100% recycled-content landscape edging. The company uses approximately one million tons of plastic a month. Epic Plastics purchases much of this feedstock from local collection programs, including materials collected in the residential curbside recycling programs in the cities of Oakland and San Leandro.



At Epic Plastics, bales of post-consumer plastics (top) are turned into finished landscaping products (middle). An Agency grant helped EPIC plastics produce this promotion packet (left).

**Case Study:
Carnales Unidos Reformando Adictos (CURA, Inc.)**

CURA is a non-profit residential treatment program for individuals with chemical dependency that emphasizes service to the community. It operates a warehouse where program residents sort, repair or dismantle clothes, furniture, metals and electronic products for recycling and resale. The program generates revenue for the organization while helping residents develop basic qualities that an employer looks for in potential workers – punctuality, teamwork, regular attendance, proper attitude and behavior appropriate to the workplace.

The agency has made two grants to CURA, totaling nearly \$250,000. CURA has used the funds to expand its bulky goods collection, recycling, and reuse program and to start the electronic products program.

The electronics program primarily handles computers and peripherals, although it sometimes accepts other electronics, such as copiers and telephone equipment. CURA attempts to sell these items, as is, for reuse. Workers dismantle older equipment and non-working items for recycling.



CURA workers (above) test electronic equipment to see if it can be reused. CURA workers dismantle for recycling approximately 60% of the electronics handled (left).

Green Building



Case Study: Arroyo del Valle Youth Camp and Environmental Education Center

Camp Arroyo was developed by the East Bay Regional Park District and the Taylor Family Foundation for use as an environmental education center and youth camp. During the school year, students from surrounding communities use the environmental education center. In the summer, the camp hosts children with life-threatening illnesses.

In keeping with the partners' desire to construct an ecologically sustainable center, the camp incorporated many elements of green design. This effort was supported by an \$83,000 grant from the agency. Design considerations included in camp construction included the use of recycled and reused materials and incorporation of recycling, composting, and vermicomposting systems.

Photo: The multipurpose dining hall's external walls are constructed of straw bales.

Our buildings place a significant burden on the environment. For example, the construction of a typical new 1,500-sq. ft. home will generate approximately three tons of waste. Furthermore, buildings in the United States account for about one-third of our total energy consumption – 60% of our electricity alone. “Green building” is about making the environment sustainable and includes a broad range of topics such as choices of material usage in construction and strategies to reduce energy and water use over a structure's lifetime.

The agency primarily supports green building through educational efforts and funding of projects that incorporate green design principles. It promotes awareness of green design via publications, presentations and seminars, linkages to industry databases, and its innovative *Resource-full Showcase*.

Agency publications serve as valuable resources for builders and do-it-yourselfers interested in incorporating green design principles in new construction and remodeling projects. *The Home Remodeling Green*

Building Guidelines include strategies to minimize construction-related waste, create healthier and more durable homes, reduce operating costs for homeowners, support local manufacturers and suppliers of resource-efficient building materials and reduce the impacts of building in Alameda County.

The Guidelines included a *Green Building Materials Resource Guide*, a comprehensive directory for local purchase of listed materials. *The Builders' Guide to Reuse and Recycling* contains practical waste reduction tips and a directory of recycling and reuse outlets for C&D materials in and around Alameda County.

Resourceful Specifications, produced by a local architectural firm with funding from the agency, presents guideline specifications to assist design professionals in choosing environmentally sound, or “green” building materials and techniques.

Agency staff give presentations about green design at conferences and the agency has sponsored numerous seminars on the subject. Seminar topics have included “Tools for Building Green,” “Greening RFPs and RFQs in Public and Commercial Building Projects,” “Strategies for Reducing and Recycling

Job Site Waste in Public and Commercial Building Projects,” and “Environmentally Sound ‘Green’ Building.”

To deliver a consistent, standardized message, the agency developed a speaker’s bureau comprised of local green building professionals to deliver an overview of green building to a variety of audiences.

The agency has also provided financial support to local projects for implementation of green building practices. These projects have included:

- Habitat for Humanity; for green specifications for 14 low-income homes.
- The City of Albany; for environmentally sound renovation of a community teen center.
- The City of San Leandro; for green building products for a fire station.
- The City of Berkeley; for LEED certification of its city hall renovation project.
- Alameda County General Services Agency; for green specifications of 1.5 million square feet of new office buildings.
- Camp Arroyo Youth Environmental Education Center.

Case Study: The Resource-*full* Showcase



The Resource-*full* Showcase is an award-winning 28-foot trailer constructed of over 50 recycled-content, non-toxic, energy efficient, recyclable and reused building materials. The agency developed the showcase to:

- Serve as an environmental education exhibit demonstrating the use of recycled, reused, recyclable and non-toxic materials in home construction and remodeling.
- Illustrate design and building practices that minimize the impact on the environment.
- Assist Alameda County efforts in market development and procurement of recycled content building materials.
- Spread the “buy recycled” message to the public, particularly the construction industry.



Since 1999, agency staff have taken the Resource-*full* Showcase to nearly 100 building shows and recycling conferences. The showcase has received several awards, including special recognition from the Construction Specification Institute, the California Resource Recovery Association and the California Integrated Waste Management Board.



Photos: The showcase trailer’s exterior (top). Inside (middle and bottom) are examples of lumber, insulation, panels, ceiling tiles, countertops, flooring, fabrics, and furnishings that can be incorporated into green building projects.

Education and Outreach

The Waste Management Authority and Recycling Board is committed to providing comprehensive, on-going education and outreach efforts to support the agency waste reduction goals. The agency has a two-pronged approach to disseminating its message – endeavoring to reach as much of the populace as possible with constant reinforcement of waste reduction messages in multiple media, and targeting youth through educational efforts in schools.

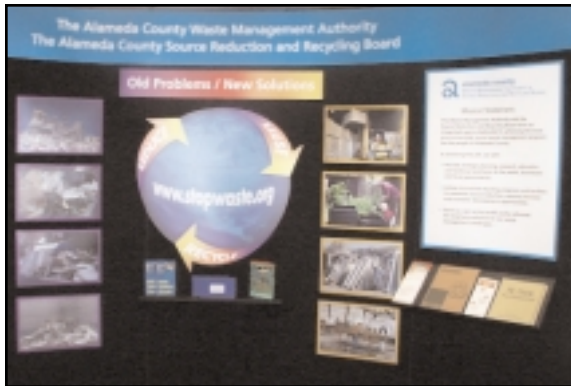
General Outreach

The agency's public information programs seek to address both the "how" and "why" of waste reduction. Experience has shown

that often residents and businesses want to reduce, reuse or recycle discarded materials, but don't know how. The agency transmits "how to" messages through publications, its hotline services, its web site, business waste assessments, and seminars.

A key element of the agency outreach effort is its hotlines, which get over 10,000 calls a year. The hotlines, started in 1995, include both a Recycling Hotline and a Compost Information "Rotline." Both have live operators that provide a wide range of information to callers, including where to locate recycling centers, how to properly dispose of household hazardous waste, options for handling hard-to-recycle materials such as

The agency's portable display and hotline operators help educate and serve the public.





This image, displayed on billboards in public transit stations, reminds county residents why it is important to buy recycled-content paper.

plastics, and local sources of worms for vermicomposting.

The agency also relies on extensive use of radio and television commercials, newspapers, and public signage, such as billboards, to spread messages on the importance of waste reduction. The agency is a regular sponsor of the *Trash Talk* feature which runs on KCBS radio in the San Francisco Bay Area market, and has produced several award winning videos and public outreach campaigns.

School Programs

The agency focuses educational efforts on young people, knowing that habits formed

while young will continue over a lifetime. And because students carry home lessons learned at school they often can affect their entire household's behavior. Youth-oriented education projects include presentations, lesson plans and curricula, videos, and field trips to waste management facilities.

The agency also provides equipment, funding, and technical assistance to schools wishing to implement recycling and composting projects on-site. Agency staff offer presentations to students, teachers and other school personnel and created *Do the Rot Thing: A Teacher's Guide to Compost Activities* and other activity guides. These resources tie lessons on waste reduction



More than 4,000 students visit the Davis St. Education Center each year.



to the California State Science Framework. Three agency-produced videos are also available to schools free-of-charge – *Kids Talkin' Trash*, *Do the Rot Thing: The Simple Art of Home Composting*, and *Taking Back Our Trash II: Putting Waste to Work*.

The Davis Street Education Center, a joint project of the Waste Management Authority, the Alameda County Office of Education and Waste Management Inc., offers tours of facilities at the adjacent Davis Street Transfer Station. The center features an award-winning environmental education exhibit and hands-on activities at an on-site garden. Over 4,000 students visit the center annually.

Resources and Contacts

Alameda County Waste Management Authority &
Alameda County Source Reduction and Recycling Board
777 Davis St., Suite 100
San Leandro, CA 94577
tel (510) 614-1699
fax (510) 614-1699
web www.stopwaste.org

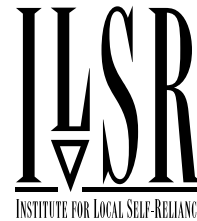
Publications

Alameda County Recycling Guide
Alameda County Source Reduction and Recycling Plan (2000)
Alameda County Waste Reduction and Recycling Initiative
Charter Amendment (Measure D)
Construction & Demolition Guide
Grasscycling: A Landscaper's Guide
Master Composter Training Instructor's Manual
RECYCLExpress: The Workbook that has Everything
You Need to Start a Mixed Paper Recycling Program

Videos

Taking Back Our Trash II: Putting Waste to Work (2000),
28 minutes
The Paper Trail: Conserving Resources through
Paper Reduction (1998), 16 minutes
Do the Rot Thing: The Simple Art of Home Composting
(1997), 22 minutes
Kids Talkin' Trash (1995), 14 minutes
Taking Back Our Trash: A Film about Waste (1993), 28 minutes

For more information: Bruce Goddard, Public Affairs Director,
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Publications

Cutting the Waste Stream in Half:

Community Record-Setters Show How

Brenda Platt and Kelly Lease, a U.S. EPA published 169-page report detailing 18 communities recovering 43% to 65% of their waste. June 1999. A U.S. EPA fact sheet packet (October 1999) summarizing the results of the report by the same name is also available.

Complex Recycling Issues: Strategies for Record-Setting Waste Reduction in Multi-Family Dwellings

Kelly Lease, Brenda Platt and Joanne Goodwin, a fact sheet packet published by the U.S. EPA detailing successful recycling programs in multi-family housing. October 1999.

Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings

Kelly Lease, Mark Jackson and Brenda Platt, a U.S. EPA fact sheet packet showcasing building, renovation, and deconstruction projects that recovered construction and demolition debris June 2000.

Wasting and Recycling in the United States 2000

Brenda Platt and Neil Seldman, a 64-page report published by the Grassroots Recycling Network that provides a comprehensive look at the current state of wasting and recycling in the United States. March 2000.

