REPORT TO THE TWENTY-SIXTH LEGISLATURE
STATE OF HAWAII
2012

PURSUANT TO SECTION 342G-15, HAWAII REVISED STATUTES,
REQUIRING THE OFFICE OF SOLID WASTE MANAGEMENT TO GIVE AN
ANNUAL REPORT ON SOLID WASTE MANAGEMENT

PREPARED BY:

STATE OF HAWAII
DEPARTMENT OF HEALTH
OFFICE OF SOLID WASTE MANAGEMENT
DECEMBER 2011

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I. INTRODUCTION

The Office of Solid Waste Management (OSWM) is required to provide an annual report to the legislature to describe the State's progress toward achieving the waste reduction goal. The report also contains general information about OSWM programs and the counties' solid waste and recycling efforts.

This report covers activities of both the OSWM and the Solid Waste Section (SWS) conducted during FY 2010-11. Both programs are contained within the Department of Health's Solid and Hazardous Waste Branch (SHWB). The SWS is the program responsible for permitting and monitoring solid waste facilities within the state, while planning functions are contained within the OSWM. The OSWM also administers the state Deposit Beverage Container (DBC) and Glass Advance Disposal Fee (ADF) Programs. The OSWM also provides technical and programmatic assistance to the counties in their development of solid waste management and recycling programs.

In 1991, the legislature established a waste stream reduction goal of 50% by the year 2000. The OSWM works to enhance the development of county and private recycling programs through a combination of statewide funding mechanisms and statewide guidance and mandates.

II. SOLID WASTE MANAGEMENT

Solid Waste Priorities and Practices

HRS §342G-2 requires the department and the counties to consider solid waste management practices and methods in the following order of priority:

1) Source Reduction
2) Recycling (to include composting)
3) Landfilling and incineration

The first two practices reduce the amount of waste to be either landfilled or incinerated.

As to practices, source reduction, also called “waste prevention” or “waste reduction”, means creating less waste. “Reuse”, although not included in the list of priorities, means using a product over without first having to reprocess it. The product may be used for its original or intended use, or may be used in a different capacity. “Recycling” is the process by which materials are collected and used as "raw" materials to create new products. Collectively, these methods are sometimes referred to as “waste diversion”.

Because waste reduction avoids creation of waste it is inherently difficult to quantify. In some cases, comparisons can be made to waste levels before a waste reduction practice was employed to waste levels afterward. In other cases, an estimate of the amount of waste reduced is all that is possible.

Reuse of products or materials is marginally easier to measure than waste reduction. It is possible to quantify reuse because it involves actual material. Quantification can be made in numerous ways including counting number of individual product units or measuring its tonnage. However, effectively measuring reuse is still difficult because it takes place at so many levels and on a widespread scale. For example, many people regularly reuse plastic containers for food storage at home or in the workplace. While this particular activity contributes to overall waste reduction, it is impossible to accurately measure. However, some reuse activity is accounted for in the diversion statistics presented in this report. An example of a reuse activity that is quantified is the amount of material that is donated and sold to non-profit organizations such as the Salvation Army or Goodwill Industries.

Recycling is the most easily quantified activity of the waste diversion trio for at least two reasons. First, like reuse, it involves actual material that can be measured. Second, many recycling facilities regularly submit data to the counties for tracking. In addition, most recycling facilities are regulated by the Department of Health under solid waste management regulations. Part V, below, discusses a difference of opinion between the department and the City and County of Honolulu regarding waste to energy activity.

Diversion refers to the combination of reuse and recycling activities. It does not include landfilling, incineration, or waste to energy processes. The diversion rates presented below are based on data collected by the counties. The current diversion rate is composed primarily of recycling activity and a small amount of reuse activity.

The State's diversion rate for FY 2009-10 is 39.6% and is nearly in line with the most recent national statistics. The EPA reported national recycling rate of 33.2% for 2008. The state's goal of 50% waste diversion was set in 1991 and mirrored EPA's recycling goal at the time. The EPA has since revised its recycling goal of 50% by the year 2000 to 35% with no target date specified. This change was made in recognition of the fact that states and municipalities need a broader time frame in which to reach higher waste reduction levels.

Hawaii's commercial recyclers continually deal with long standing challenges, with the most notable being high cost of shipping. Recycling markets for nearly all of the recyclable material collected in Hawaii are out of state. Recyclers will ship their material to the market paying the best prices at the time. Most recyclables are shipped to either the Far East or the mainland U.S.

Volatility in recycled materials markets is an issue that all recyclers deal with regardless of location. Hawaii's recyclers are, however, especially affected by market fluctuations because of thinner profit margins resulting from high shipping costs.

Solid Waste Disposal and Diversion Rates

The OSWM reports solid waste disposal and diversion rates by aggregating county collected data with data collected under authority of the Solid Waste Section's permitting system. The state's fiscal year begins July 1 and ends on June 30.

Table 1: Waste Diversion Statistics for FY 2010-11

	Disposal (Tons)	Diversion (Tons)	Generation (Tons)	Diversion Rate
Hawaii	166,454	67,822	234,276	28.9%
Maui	155,312	88,651	243,963	36.6%
Oahu*	766,264	448,639	1,214,903	36.9%
Kauai	70,997	22,204	93,201	23.8%
State	1,159,027	627,316	1,786,343	35.1%

* Calendar Year 2010 data

Table 2: Diversion rates for fiscal years 2007 through 2011

FY	07	08	09	10	11
Hawaii	23.8%	29.2%	30.9%	35.9%	28.9%
Maui*	44.1%	33.1%	34.2%	35.3%	36.6%
Oahu	30.8%	33.4%	37.2%	39.2%#	36.9%
Kauai	19.9%	29.6%	26.3%	25.0%	23.8%
State	31.4%	32.3%	35.7%	39.6%	35.1%

Notes:
* The large increase in Maui County's diversion rate is due to a single large-scale hotel renovation project
\# Revised since the 2011 report

III. OFFICE OF SOLID WASTE MANAGEMENT ACTIVITIES

Hawaii Deposit Beverage Container Program

The State of Hawaii Deposit Beverage Container Program (Program) achieved an annual redemption rate of 76% in fiscal year (FY) 2011. Over 686 million deposit beverage containers (DBC) were recycled and public participation remained strong.

Program Redemption Rate

The DBC Program's redemption rate is a measure of effectiveness in accomplishing its mission to: (1) collect and redeem eligible deposit beverage containers; and, (2) recycle deposit beverage container materials.

The redemption rate for FY 2011 was 76%. The redemption rate is calculated by dividing the number of DBC redeemed by the number of DBC sold.

$$\text{Redemption Rate} = \frac{686{,}858{,}759 \ \textit{(redeemed)}}{907{,}119{,}634 \ \textit{(sold)}}$$

Redemption Rate = 76%

CHART 1: Number of DBC Redeemed by Material Type

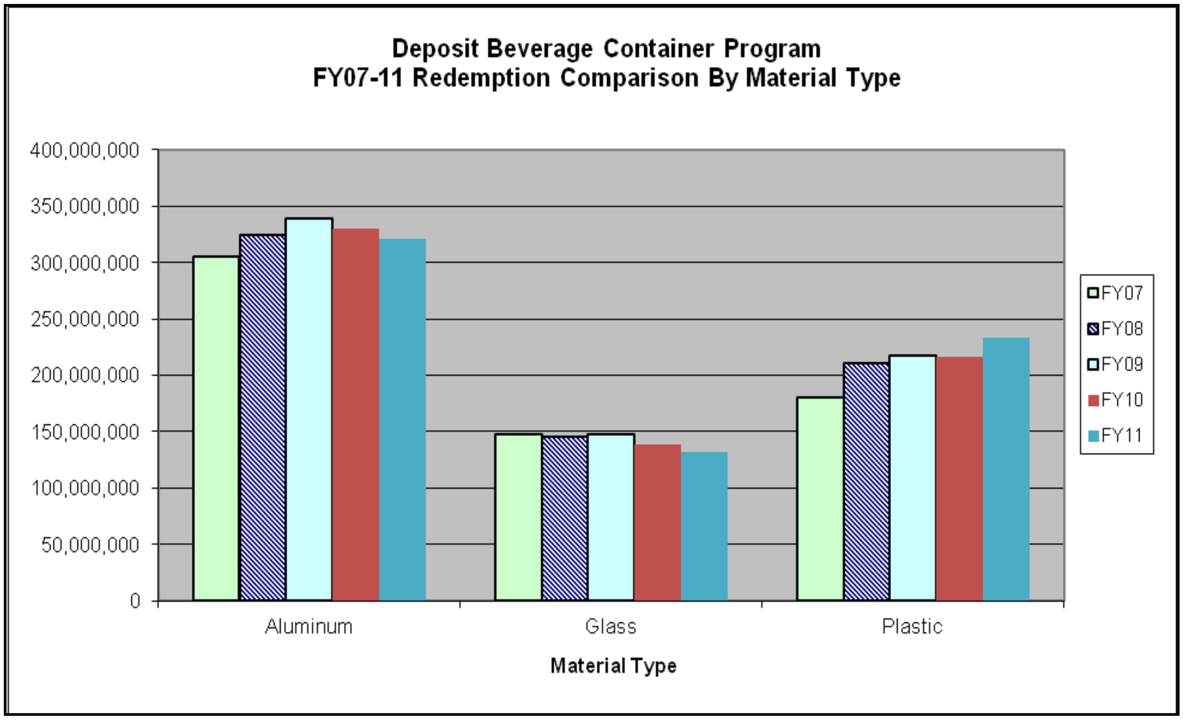


CHART 2: Comparison of Redeemed & Unredeemed

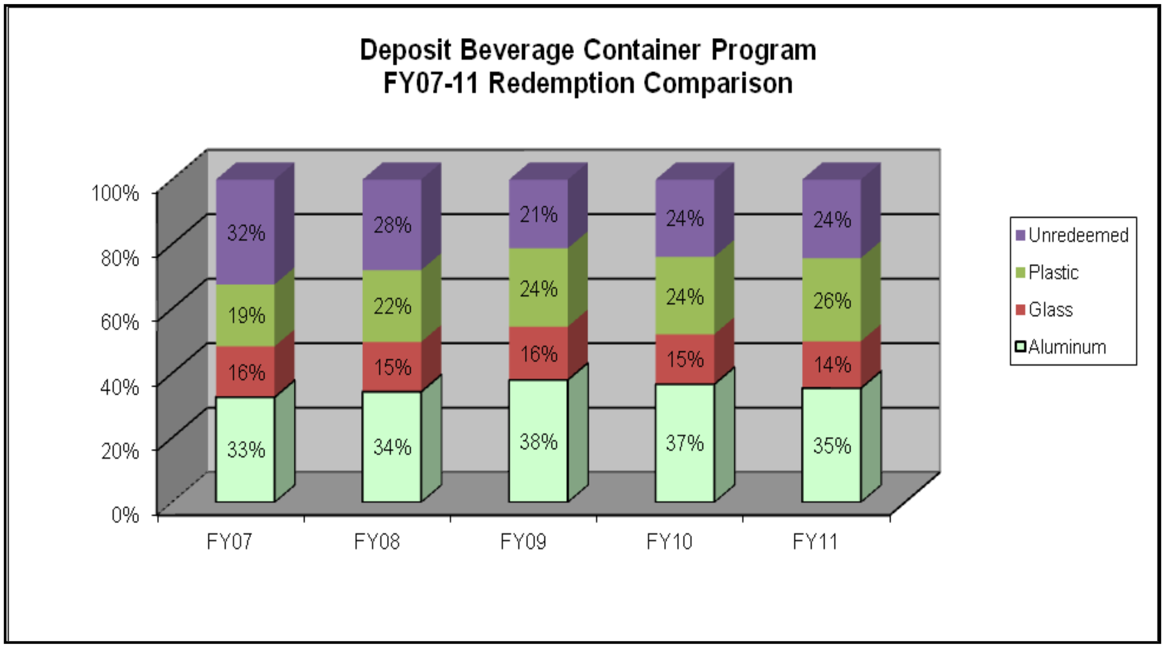
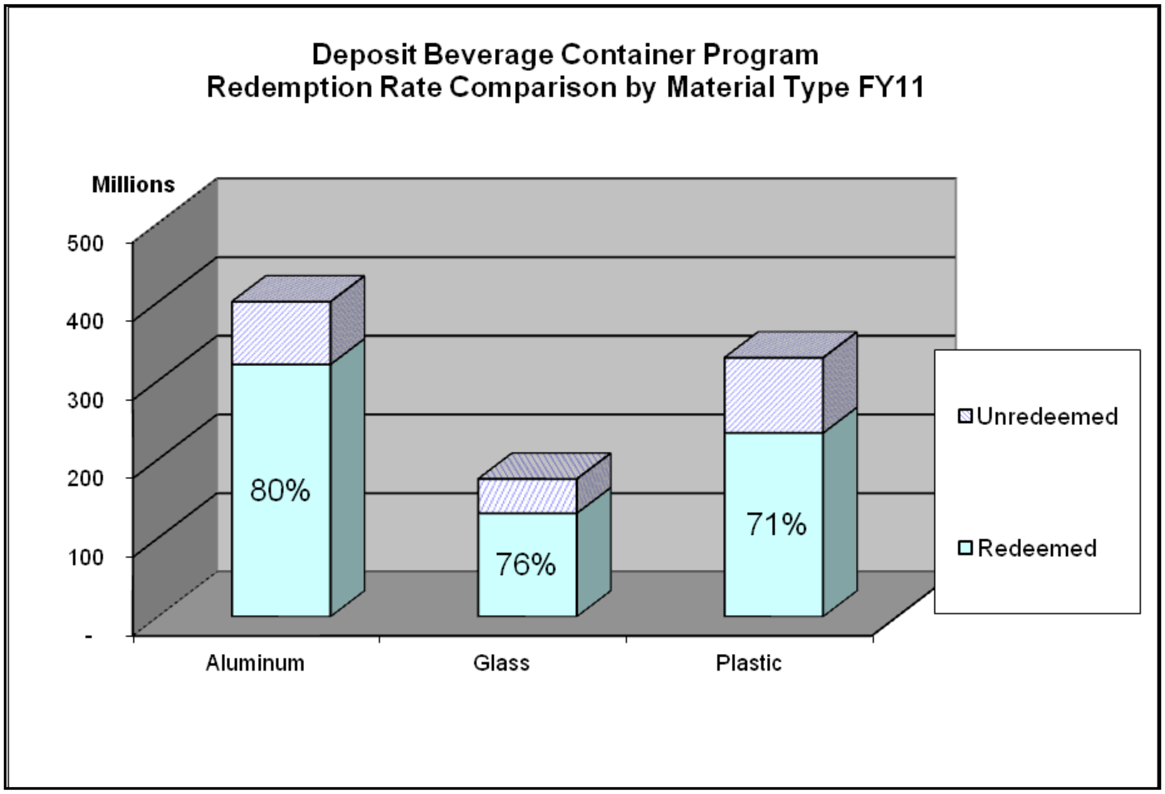


CHART 3: DBC Redeemed by Material Type during FY 11



Deposit Beverage Container Program Special Fund

During FY 2011, the department collected approximately $55 million in container fees and deposits from distributors. It paid out nearly $48 million to redemption center operators for redeemed deposits and eligible handling fees. The department also paid approximately $3.2 million for program administration and contracted DBC Program activities.

As of June 30, 2011, the DBC special fund had about $10 million remaining after encumbrances. The Program must rely on the fund's reserves to sustain itself to keep up with the high rates of deposit refunds. This is because the Program pays out more than it collects per container. While the Program collects 6 cents per container (deposit plus container fee), it pays 7 to 9 cents per container (5 cents redemption plus 2-4 cents handling fee). The Program relies on the percentage of unredeemed deposits to sustain itself. As the percentage of unredeemed deposits shrinks, due to high number of deposits being refunded, then the Program must utilize the fund's reserves or increase the container fee to sustain itself.

TABLE 3: DBC Revenues & Expenditures FY 2011

Revenue		
Distributor Payments		
Deposits (5¢ per container)	$ 45,864,097	
Container Fees (1¢ per container)	$ 9,204,588	
Interest (from Bank)	$ 0	
	Total Revenue	**$ 55,068,685**
Expenditures		
Payments to Redemption Centers		
Deposits (5¢ per container)	$ 34,981,307	
Handling Fees (2-4¢ per container)*	$ 18,454,022	
Subtotal	$ 53,435,329	
County Contracts	$ 1,517,381	
Infrastructure Improvement Grant *(Act 228, 2005)* FY08	$ 116,483	
Reimbursement for Lanai, and Hana, Maui to operate a Certified Redemption Center	$ 164,307	
Administrative Expenses		
DOH Payroll	$ 516,901	
DOH supplies, phone, misc.	$ 66,080	
Advertising/Outreach	$ 16,400	
Internship	$ 6,300	
Payment to General Fund for Admin & Central Services FY10 FY11	$ 3,315,422 $ 2,306,310	
RAIDS ACT 142 ACT 192	$ 300,000 $ 1,000,000	
Recycler(s) Audit Fee	$ 416,538	
Others - Travel	$ 14,070	
Subtotal	$ 7,958,021	
	Total Expenditures	**$ 63,191,521**

** Handling fees for aluminum, bi-metal, and plastic are 2¢ for Oahu and 3¢ for neighbor islands. Fees for glass are 2¢ for agriculture/construction and 4¢ for remanufacturing uses for all islands.*

Certified Redemption Centers
Just over a hundred certified redemption centers were open to the public as of June 30, 2011. Table 4 shows the historical number of CRCs by island.

Table 4: Numbers of Certified Redemption Centers by Island

Island	Jan 2005	Dec 2005	June 2006	June 2007	June 2008	June 2009	June 2010	June 2011
Hawaii	5	11	12	15	16	19	19	19
Maui	9	9	12	14	15	14	13	13
Molokai	1	1	1	3	3	2	2	2
Lanai	1	1	1	1	1	1	1	1
Oahu	23	49	52	60*	63	68	59	62
Kauai	5	6	6	6	7	10	11	9
Total:	**44**	**77**	**84**	**99**	**105**	**114**	**105**	**106**

There was a net increase of one certified redemption center from the previous year. The numbers seem to indicate that redemption center coverage is approaching maturity and is adequately meeting public demand for redemption services.

DBC Inspections & Enforcement
<u>Inspections</u>
Program inspectors conducted 107 compliance evaluation inspections (CEIs) of regulated entities which included certified redemption centers, recycling facilities, and retailers. Some CEIs were initiated pursuant to facility complaints, which warranted extensive investigation. Businesses that were found to be in violation of the law were advised orally during the CEI out brief and, if applicable, issued warning letters to inform them of corrective actions required by the Program.

The Program investigated alleged incidents of non-compliance about certified redemption centers and beverage retailers that were received from the public via electronic mail, telephone and in-person. On-site inspections were conducted to determine if any certified redemption center violated its certification requirements or if any dealer/distributor failed to properly label each deposit container sold in the State and, if so, reinstated compliance with Program requirement. The department generally referred “customer service” complaints to the applicable company (e.g. redemption company or retailer) and requested that the company resolve, to the extent possible, the complaint(s). Both, the redemption companies and retailers were generally proactive in addressing these types of complaints.

On-Going Compliance Investigations and Audits

For the purpose of identifying areas of potential and/or actual non-compliance, the Program issues annual requests for information (RFIs) to all DBC registered businesses under its authority; these include recycling facilities, distributors and manufacturers, airline companies, and cruise ship lines. This widespread investigation enables the Program to evaluate, and subsequently address, areas of non-compliance.

Enforcement

Fourteen warning letters were issued by the department in FY 2010-11; eight of which were issued to certified redemption centers, and six were issued to distributors.

The Program issued three Notices of Findings and Orders (NFVOs). The NFVOs were issued to deposit beverage container distributors (Healthy's Inc, First Pacific Trading Co. and HNK, Inc. dba Kona Oriental Foods) for failing to report and submit payments to the Program. The department successfully resolved all three cases.

Additionally, a settlement agreement was reached in response to a NFVO and Demand for Restitution against Aloha Tool & Rental, Inc. dba, Honolulu Recovery Systems Co. (HRSC), Maui Disposal Company, Inc. (MDC), and their parent company, Oahu Waste Services, Inc. (OWS). The agreement calls for the repayment, to DOH, of container deposits and handling fees on containers for which there was inadequate documentation of actual recycling.

DBC Educational Outreach

The Program's website, www.hi5deposit.com, is continually updated to reflect Program changes and general information on certified redemption centers. Department contact information is also provided on the site.

The department sponsored a "HI-5 Recycling" category in the `Olelo Community Television's 2011 Youth Xchange video competition for students grades K-12. Students produced 30-second public service announcements to promote the DBC Program and recycling in general. The department participated in judging the videos.

DBC Program Updates & Challenges

Segregated Rates

The segregated rates were updated in December 2010. The department adopted "segregated rates" (weight rates paid for deposit containers segregated by material type) to help process consumer container loads faster and to give the public options when they redeem containers for refund. The department periodically evaluates deposit beverage container weights and updates the rates accordingly to reflect recent trends in container packaging.

A statewide segregated rate study is conducted to determine the *average* number of beverage containers per pound. The segregated rate, or container weight conversion, is an average because beverage containers come in a wide variety of sizes and weights. The segregated rates are displayed in Table 5.

TABLE 5: Segregated Rates

Material Type	# Containers per lb.	Refund Amount per lb.
Aluminum	32	$1.60
Bi-metal	5.9	$0.295
Glass	2.4	$0.12
Plastic (17 fl. oz. or less)	26.3	$1.315
Plastic (mixed sizes)	18.8	$0.94

Consumers continue to have a choice to request redemption by weight or by count. Consumers who prefer a count may request a count, and certified redemption centers must provide a hand count of loads of 200 or less containers if requested. If people believe that the weight rate may result in an undercount, as may happen if many small plastic containers are involved, they can segregate the containers by size and seek a hand count. People who bring in large loads of deposit containers may choose to have their loads weighed to avoid waiting while each container is counted.

Redemption Center Company Audits

To improve accountability amongst regulated entities, i.e., certified redemption centers and registered DBC distributors and dealers, the Program has contracted for professional auditing and accounting services to conduct in-depth auditing of regulated companies. Although, the Program conducts regular and on-the-spot general audits and records review of regulated facilities, the Program expects that the in-depth audit and accounting investigations will provide more detailed insight into the regulated companies and recommend policy and procedural changes, which will significantly improve accountability of the companies audited and for the Program as a whole. Audits will begin September 2010 for recycling companies operating certified redemption centers.

Certified Redemption Center Reporting Procedure Changes

The Program continues to plan a major change to its current redemption and recycling company claims procedures. The proposal is to pay the combined DBC refund value and handling fee claims only on the quantity of DBC material that is actually shipped to and received by the materials end use recycler/re-processor. At present, the Program pays deposit refunds upon receiving claims, half the handling fee when DBC are shipped, and the other half of the handling fee when the re-processor receives the DBC. DOH has in some cases found significant differences between the number of containers claimed for deposit refunds and the number of containers reportedly shipped later. The DBC quantity claimed by redemption centers is sometimes not a reliable indicator of the actual quantity of DBC material collected, which has been found to be affected/reduced by such factors as material shrinkage, theft, contamination, etc. The proposed change will base all payments on the number or quantity of containers shipped to and received by the materials end use recycler/re-processor.

The proposed procedure will also establish a single combined deposit and handling fee form. This form will be a combination of the Program's currently used DR-1 and HR-1 forms. This modification will better ensure that refund payment requests made by redemption centers for DBC material redeemed/collected cover the same quantity of DBC material shipped to an end-user recycler and provide a simple administrative process.

The Program is assessing the negative impacts from this planned change in cash flow, which could include closing of certified redemption facilities and possible reduction of deposit beverage container redemption. Based on an informal survey, initially certified redemption companies vehemently opposed this proposed change. During recent discussions, certain certified redemption companies were more willing to discuss the proposed claims procedure changes. At the start of the Program our primary concern was encouraging private entities to provide DBC recycling. The Program is maturing and weighing other values more highly now. The audits on redemption center companies (described in the section above titled *Redemption Center Company Audits*) will provide the Program with additional information that will help the Program in designing reporting procedure changes.

DBC Closing Remarks

The Program continued to experience high participation in FY 2011. The Program believes that the redemption rate reflects the public's satisfaction with the redemption process and the overall support of the DBC Program. As such, the Program will continue to concentrate on improving customer convenience and service during the redemption process. The Program will also continue to improve by increasing internal efficiency and DBC redemption center and distributor accountability, including consistent and adequate verification of claims, and vigorous regulatory enforcement.

Electronic Waste and Television Recycling and Recovery Program

Electronics Recycling Program Background

The Electronic Waste Recycling Act was passed into law in 2008 and created a recycling program for computers, portable computers, computer monitors and computer printers. All products covered by this portion of statute are considered "Covered Electronic Device" (CEDs).

The Electronic Waste and Television Recycling and Recovery Act was adopted in 2009 and expanded the existing CED Program to cover televisions. Products covered under this portion of the law are termed "Covered Televisions" (CTVs).

The dual program is managed by the Office of Solid Waste Management (OSWM).

Electronics Recycling Program Activity

Manufacturers selling CEDs in Hawaii were required to register with DOH by January 1, 2009. In 2009, there were 44 manufacturers registered with DOH. The number increased slightly in 2010 to 46. Registered CED manufacturers were further required to submit recycling plans to the department by June 1, 2009. The plans described how each manufacturer intended to manage the collection and recycling of their used products. The CED recycling programs detailed in those plans were operating by January 1, 2010.

Manufacturers selling CTVs in Hawaii were required to register with DOH by January 1, 2010, with a total of 27 CTV manufacturers registering with the department in 2010. CTV manufacturers were required to submit their recycling plans by June 1, 2010 and have their recycling programs operating by January 1, 2011.

Manufacturer Ranking by Pounds Recycled in 2010

For the 2010 calendar year, manufacturers reported recycling 3,235,432 pounds of electronic waste from the state. However, the 3,235,432 pounds of electronic waste recycled includes other types of electronic waste (TVs, keyboards, mice, etc.) in addition to the electronics covered under the CED law. In 2010, the US Census Bureau reported Hawaii's population as 1,360,301, which equals 2.38 pounds of electronic waste recycled per person by manufacturer-sponsored recycling programs. This is in contrast to electronic waste recycling programs in Oregon (6.30 pounds/person) and Washington (5.87 pounds/person).*

*Source: Electronics Recycling Coordination Clearinghouse, www.ecycleclearinghouse.org.

Table 6: Manufacturer Ranking by Pounds Recycled in 2010

Rank	Manufacturer	Pounds Recycled
1	Apple Inc.	2,016,639
2	Samsung Electronics	500,000
3	Hewlett Packard	244,402
4	Best Buy	178,340
5	Ricoh Americas Corporation	145,252
6	Sony Electronics, Inc.	102,875
7	LG Electronics USA Inc.	15,028
8	Acer America Corporation	6,277
9	Panasonic Corporation of North America	5,000
10	Dell Marketing USA LP	4,042
11	NEC Display Solutions of America, Inc.	3,620
12	Oracle America, Inc	3,252
13	ViewSonic Corporation	2,848
14	Brother International Corporation	2,504
15	Lexmark International	2,334
16	WYSE Technology	1,340
17	Oki Data	1,011
18	Toshiba America Information Systems, Inc.	536
19	International Business Machines Corporation	91
20	Canon USA, Inc.	34
21	Fujitsu America Inc.	7
	Total	**3,235,432**

Apple Inc. is responsible for recycling 63% of all e-waste recycled by manufacturers in 2010. Apple sponsored a four-day collection event on the islands of Kauai, Oahu, Maui, and Hawaii in October 2010. Apple is the only manufacturer that provided collections on multiple islands (Kauai, Oahu, Maui, and Hawaii). In addition, Apple accepted all types and brands of e-waste. Of the 41 CED manufacturers registered with the state of Hawaii for 2010, 20 manufacturers recycled zero (0) pounds. Manufacturers that did not recycle any CEDs for 2010 are listed alphabetically in Table 7.

Table 7: CED Manufacturers Reporting Zero Pounds Recycled for 2010

ASUS Computer International
BenQ America Corp.
Cyberpower Inc.
Eastman Kodak
Envision/AOC
Epson America, Inc.
Hannspree North America, Inc.
Hitachi America Ltd.
InfoPrint Solutions Company
Konica Minolta Business Solutions U.S.A., Inc.
Kyocera Mita America, Inc.
Lenovo (United States), Inc.
Motion Computing, Inc
Motorola Solutions
NCR Corporation
Nokia, Inc
Planar Systems, Inc.
VIZIO Inc.
Wacom Technology Corporation
Xerox Corporation

Electronic Device Recycling Fund

CED and CTV manufacturers are required to pay an annual registration fee to the department. The CED registration fee is $5,000 per year; and the CTV registration fee is $2,500 per year. The fees are separate, meaning that manufacturers that produce both CEDs and TVs are required to pay a combined $7,500 per year. All fees are deposited into the Electronic Device Recycling Fund.

The number of registered CED manufacturers fluctuated dramatically from FY 09 to FY 11. This may be due to a combination of factors including small volume manufacturers choosing to exit the Hawaii market; clarification by manufacturers that their products do not qualify as CEDs; and manufacturers neglecting to renew their annual registration. The department worked with CED manufacturers to help ensure proper manufacturer registration.

Table 8: Electronic Device Recycling Fund Revenue

FY	09	10	11
	$377,500	$87,500	$307,464

Table 9: Number of Registered Manufacturers

FY	09	10	11
CED	75	5	44
CTV	1	25	29

Electronics Recycling Program Concerns and Challenges

Convenience and Effectiveness of Manufacturer Recycling Programs

In an attempt to strike a balance between oppressive mandates and flexibility, the law gives manufacturers considerable leeway in the types of recycling programs they offer consumers. The law requires each manufacturer to submit their recycling plans to the department. The plans need to describe collection and recycling procedures. While the law does require the department to review and approve acceptable plans, it does not provide the department any criteria or performance standards by which to evaluate the plans.

This has resulted in some manufacturers implementing programs that require consumers to do much of the work recycling their used electronic devices or televisions. The department is concerned that inconvenient plans will discourage consumers and limit recycling. Examples of what consumers may find inconvenient are described below:

- Mail-back programs that require customers to package CEDs for mailing. This could be problematic for consumers who have large-sized TVs, or are required to supply their own boxes/packaging for mailing.
- Drop-off programs with a limited number of collection sites that don't provide adequate coverage for the entire state. Neighbor Island consumers may be required to mail their CEDs to collection sites located on Oahu.
- Drop-off programs with inconvenient hours of operation.

Anecdotal evidence suggests that mail-back programs will result in minimal amounts of material being recycled, while programs with generous take-back requirements and convenient hours being the most successful. The department will use 2010 collection data submitted by CED manufacturers to assess program effectiveness and make appropriate recommendations for improvement.

Impact on County Programs

The department has had contact with each of the counties during the process of implementing the first stages of the electronics recycling program.

Counties have made diversion of electronic waste from landfilling (or incineration) a high priority and had developed programs to do so. Each county has contracted for electronics recycling services in the past. However, most of the collection programs have been drastically scaled back or completely eliminated in the past two years because of budget constraints.

New electronics recycling services for the general public have become available in response to the new electronics recycling law. Generally, these new programs are being sponsored by electronics and television manufacturers. The most comprehensive programs have been centered on Oahu with recyclers accepting all brands of electronics free of charge and even accepting items not covered by the law. Neighbor Island services are still limited to mail-back programs that are inconvenient to the public. Recently, Oahu based recyclers provided limited free collections on the neighbor islands on an ad hoc basis.

In order to foster a more effective and convenient statewide electronics recycling system for the public, the department feels that stronger requirements on manufacturer recycling programs, in addition to setting minimum recycling quotas, are needed in the law. The department supported a bill during the 2011 legislative session that proposed some of these changes; however the billed stalled in subject matter committee and ultimately did not pass into law. The department will continue to work with the legislature to try to strengthen the program with respect to consumer convenience.

In the interim, the department has been attempting to provide funding to the counties to bolster (or restart) existing electronics waste recycling collection programs. While there is some concern that the funds will be providing services that should be the responsibility of CED (and eventually CTV) manufacturers, the department has determined that the short term need to divert these materials from disposal outweighs this concern.

Glass Advance Disposal Fee (ADF) Program

The OSWM continues to administer a statewide glass recovery program that is funded by an advance disposal fee (ADF). The department collects the fee from distributors of products contained in glass containers that are not deposit beverage containers. The department then contracts with each county to establish glass buy-back programs that divert glass from the waste stream towards recycling. As directed by statute, HRS §342G-84, the funds are distributed to the counties based on de facto population. Each county is allowed enough flexibility to structure its glass-recycling program to maximize recycling of the glass.

The Glass ADF Program has been significantly affected by implementation of the DBC Program. Beginning October 1, 2004, glass deposit beverage containers were transferred from the ADF Program to DBC Program. This reduced the number of containers covered by the ADF Program by approximately 80%, and resulted in a corresponding decrease in revenue. For most of its existence, the ADF Program has focused on commercial glass recycling. A more recent development has seen some DBC redemption centers starting to collect, and pay for ADF glass containers under ADF funding. This has increased the amount of glass being recycled and significantly increased the drawdown of ADF funds.

The decrease of containers covered by the ADF Program is also reflected in the decreased amount of glass collected through each county operated buy-back program. The department has reduced the amounts of each of the county contracts in accordance with the decrease in Program revenue.

Table 10: Glass ADF Revenue

FY	07	08	09	10	11
	$676,011	$622,215	$731,115	$701,607	$761,535

Table 11: Expenditures for County Collection Programs

<table>
<tr><th>FY</th><th>07</th><th>08</th><th>09</th><th>10</th><th>11</th></tr>
<tr><td>Hawaii</td><td>$56,879</td><td>$832,580</td><td>$59,390</td><td rowspan="5">$0*</td><td>$150,000</td></tr>
<tr><td>Maui</td><td>$57,261</td><td>$150,640</td><td>$57,205</td><td>$145,000</td></tr>
<tr><td>Oahu</td><td>$314,363</td><td>$67,740</td><td>$295,205</td><td>$745,000</td></tr>
<tr><td>Kauai</td><td>$25,577</td><td>$151,650</td><td>$24,890</td><td>$40,176</td></tr>
<tr><td>Total</td><td>$454,080</td><td>$1,202,610</td><td>$436,690</td><td>$1,121,097</td></tr>
</table>

** Funding was not provided to the counties in FY 2010 because the Glass Advance Disposal Fee special fund was identified as a potential source to cover general fund shortfalls.*

Table 12: County Recycled Glass Tonnages

FY	07	08	09	10	11
Hawaii	401	433	371		1,145
Maui	620	1,000	1,564		2,095
Oahu	1,171	2,154	2,139	0*	5,993
Kauai	221	0	259		243
Total	2,413	3,587	4,333		9,476

** The Glass Advance Disposal Fee special fund was identified as a potential source to cover general fund shortfalls, so funding was not provided to the counties in FY 2010. Therefore, tonnage reports were not required by the counties during FY 2010*

Construction & Demolition Waste Minimization and Diversion Outreach

The OSWM continues to provide compliance assistance to Hawaii's construction industry, which is comprised of general contractors, subcontractors, builders, developers and other interested parties. The purpose is to promote recycling practices and compliance with State illegal dumping laws established in Chapters 342G and 342H, HRS, and Chapter 11-58.1, HAR, "Solid Waste Management Control". The OSWM conducts compliance assistance through presentations, workshops attendance at industry-led events (i.e., General Contractors Association of Hawaii).

County Solid Waste Management Planning Activity

Statute requires that each county develop and maintain an integrated solid waste management (ISWM) plan. Counties are required to revise their ISWM plan every ten years. Statute requires each county to assemble an advisory committee as part of its revision process. The OSWM has been represented on the advisory committee for each of the revisions to the county plans thus far conducted. All county ISWM plans are currently in compliance with the revision requirements.

Environmentally-Preferable Purchasing

Pursuant to Section 342G-43, HRS and Governor's Administrative Directive No. 06-01, the OSWM collects annual progress information from state and county agencies on quantities of recycled content products purchased vs. non-recycled content products. Annual results are reported to the DBEDT State Energy Office for inclusion in the Lead-By-Example report.

Green Government

The OSWM also continues to participate in the Green Government Challenge, a green building certification process administered by the DBEDT State Energy Office and in coordination with DAGS building managers.

Landfill Operations
Pursuant to Section 342G-63(3), HRS, the OSWM also offers compliance assistance training events to landfill operators on an annual basis. Training events are scheduled and coordinated upon request by county municipal solid waste managers.

IV. SOLID WASTE MANAGEMENT PROGRAM FUNDING

Solid Waste Management Disposal Surcharge
The disposal Solid Waste Management Disposal Surcharge is the primary funding source for the Solid Waste Section (SWS); and a portion of the OSWM, providing partial funding for the Solid Waste Coordinator and Recycling Coordinator.

The department collects the Surcharge from the owners/operators of disposal facilities operating within the state. This includes all municipal solid waste and construction and demolition landfills, as well as the H-Power waste-to-energy incinerator on Oahu. Surcharge revenue is deposited in the Environmental Management Special Fund.

Originally proposed at 75¢ per ton in early discussions, the Surcharge was initially set, in statute (HRS §342G-62), at 25¢ per ton in 1993 and raised to 35¢ per ton in 1997. As indicated in Table 11, Surcharge revenue has decreased by about 15% over the last two years. While the economy is believed to have affected the reduction of waste generation rates, the reduction can also be attributed to the increase in waste diversion. Revenue is expected to decline further in the future due to increasing waste diversion activities. The Program has recently permitted recycling and non-incineration waste to energy facilities.

The disposal surcharge is a common funding mechanism for solid waste management programs across the country. Past research has indicated that seventeen states utilize disposal surcharges to fund solid waste management functions; with an average of $1.43 per ton, and a high of $3.00 and a low of $0.35 per ton. Hawaii's Surcharge is small when landfill tipping fees are taken into account. For example, Hawaii's 35 cents per ton represents less than one percent of the approximately $90 per ton tipping fee charged at the City and County of Honolulu's Waimanalo Gulch Landfill. The following is a summary of each county's landfill tipping fees and associated charges.

Hawaii County	$85.00 per ton
Maui County	$53.00 + $10.00 recycling surcharge = $63.00 per ton total cost
C&C of Honolulu	$81.00 per ton, + 12% recycling surcharge = $90.72 per ton total cost
Kauai County	$56.00 per ton

Table 11: Solid Waste Disposal Surcharge Revenue

FY	07	08	09	10	11
	$565,122	$564,934	$537,862	$476,990	305,760

Increasing Costs
Program expenses currently exceed $600,000 annually, and projections are that costs will continue to increase due mostly to rising salary and benefit costs. The SWS and OSWM have been able to maintain positions and operations by utilizing cost savings incurred through position vacancies. However, due to the recent elimination of general-funded staff positions, including two within the SWS, vacancies in OSWM have been filled through the reduction-in-force process and personnel levels in both programs have reached maximum position counts.

The SWS staff of three FTE engineers and three environmental health specialists annually handle approximately 300 permitted facilities; 100 to 200 permit applications; 150 to 200 solid waste complaints; illegal dumping sites; and numerous miscellaneous inquiries annually. Additionally, the revenue situation keeps the OSWM from undertaking other activities stipulated in statute, which include waste reduction, recycling, and market development.

Decreasing Revenue
In addition to rising costs, the Program has faced elimination of two general-funded positions as well as decreasing Tip Fee Surcharge revenue due to decreased disposal tonnages at landfills and the H-Power facility, and increased waste diversion. The decreased disposal tonnages are directly linked to economic slowdown. Tip Fee Surcharge revenue has decreased 16% since FY 2007-08. Additional decreases are anticipated based on the proposed operations of additional recycling and waste to energy facilities.

While the amount of waste disposed in Hawaii would decrease; the workload carried by the SWS and OSWM to regulate solid waste facilities remains at a high level as the number of regulated facilities has remained relatively unchanged.

Unlike other regulatory programs within the department, the SWS receives no federal funding, which leaves it nearly entirely dependent on Surcharge revenue.

V. Clean Energy and Solid Waste Management

Increasing energy costs and Hawaii's dependence on fossil fuels has increased the focus on developing local renewable energy sources. The Hawaii Clean Energy Initiative seeks to have 70% of Hawaii's energy come from renewable sources by 2030, and landfill methane is a potential energy source to replace some fossil fuel use.

These efforts will likely affect the way we consider future waste management technologies. As an example, the City and County of Honolulu classifies the H-Power Waste to Energy facility as a recycling activity. The City estimates that 65% of Oahu's waste is recycled by including waste to energy use with traditional recycling. With the construction of H-Power's third boiler to be completed by the end of 2011, we expect the City's recycling numbers to increase. Although we support the development of alternative energy sources, the state solid waste laws (Hawaii Revised Statutes, Ch. 342G) define incineration as waste disposal and not recycling and therefore DOH cannot concur with the City's position that incineration is a form of recycling.

In addition, in considering the hierarchy of solid waste management practices and the definition of recycling, there is an opposing view in that if incineration (or waste to energy) is considered recycling there will be less of an incentive to retrieve recyclable materials for the creation of new products and instead be utilized only for its energy value. Because of our distance to markets and fuel sources, typical discussions heard on the national level may not be appropriate locally. Therefore, such evaluations should be conducted in the next state ISWMP, pending available funding.

These emerging issues are of serious importance to both the SWS and OSWM, as they may lead to a redefinition of traditional solid waste management approaches. The collective staff of both programs actively monitors these issues, tracking national and international discussions, and studying how new concepts may be incorporated into both its planning and permitting processes.