



Good Guys Electronics Take-back Pilot Project

*Testing the take-back of televisions for recycling at
Good Guys retail stores in Washington State*

Project Summary

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*Northwest Product Stewardship Council &
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Electronics Manufacturers

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Recyclers

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JVC PHILIPS Pioneer SAMSUNG SHARP SONY

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Project Snapshot

Q: *Is it feasible for large (big box) retailers to collect used electronics, including televisions, at their stores for recycling?*

A: *Yes – In-store take back at retail locations is feasible and, with the incorporation of lessons learned through this pilot, can be established on an on-going basis under current conditions.*

Background

Electronic waste is a rapidly growing problem. Western Washington households will generate more than one million obsolete electronics in 2005, more than half of which is comprised of used television sets. Disposal is challenging because these products contain toxic materials such as lead, mercury, and cadmium that, if improperly handled, can damage human health and the environment.

Without a state or nationally legislated financing system, such as those recently adopted in California and Maine, government agencies, electronics manufacturers, retailers and recyclers are faced with the question of how to finance and facilitate the convenient collection and recycling of used electronics on a local level.

To address the issue, in August 2004, government agencies of the Northwest Product Stewardship Council (nwpsc) worked with electronics retailer Good Guys to administer an in-store television collection and recycling pilot project. The pilot project invited customers to bring their old television sets to four Good Guys stores in Western Washington for recycling.

The program was designed using a product stewardship model where electronics manufacturers, retailers, consumers and local governments contributed to the funding and implementation of the pilot program. Funding for the project included a grant

from the Environmental Protection Agency (epa), contributions from Good Guys, electronics manufacturers JVC, Philips, Pioneer, Samsung, Sharp and Sony, consumers and the participating nwpSC government partners.

Pilot Project At-A-Glance

Why

To determine if it is logistically feasible and financially sustainable to take back electronic products, such as televisions, at big box retail stores. In addition, the pilot project sought to determine if this type of program provided the public with convenient locations where they could bring their used electronics for recycling. The use of coupons good toward 10 percent off the purchase of a new tv from participating manufacturer brands was also tested to see if sales could be increased at the stores.

Who

- Good Guys, one of the largest specialty retailers of high-end home entertainment electronics in the nation.
- Electronics manufacturers JVC, Philips, Pioneer, Samsung, Sharp and Sony.
- Recyclers Philips Services Corporation and Total Reclaim, Inc.
- The Northwest Product Stewardship Council (nwpSC) government agencies including King County, Snohomish County, City of Seattle, City of Tacoma and the Environmental Protection Agency.

How

Good Guys collected used televisions for a fee at four of their retail stores over a four week period. Customers paid \$10 to recycle standard televisions and \$25 for console televisions. The used televisions were brought into the store where they were packaged and stored until scheduled pick up by the recycler. They were then transported to a local facility where they were disassembled into key recyclable components including glass, metals, and plastics. The materials were then shipped to final domestic processing facilities. The total program costs were \$222,968.

When

Four weeks from July 8 to August 7, 2004.

Where

Good Guys retail stores located in Bellevue, Lynnwood, Puyallup and Tukwila in Washington State.

Want more information?

Visit www.productstewardship.net. The final report will be available mid-March 2005.

Planning and Execution

With funding from the *epa* secured, the first step was to recruit manufacturer and retail partners to participate in the pilot program. Primary recruiting methods included conference calls, solicitation letters, and face-to-face discussions. Following several meetings, Good Guys signed on to run a television recycling pilot program at four local stores. Subsequent recruiting efforts aimed at Good Guys' key television vendors resulted in financial commitments from six manufacturers – JVC, Philips, Pioneer, Samsung, Sharp and Sony. Each manufacturer contributed \$5,000 to offset recycling costs.

After soliciting bids from local electronics recyclers, Good Guys partnered with Philips Services Corporation (*psc*) to handle equipment pick-up, transport, recycling and tracking. *psc* delivered collected equipment to Total Reclaim, Inc., located in Seattle, where the parts were segregated for recycling by domestic processors.

Good Guys and the government partners developed a logistics plan for the collection, storage and transportation of the e-waste to the disassembly facility. The general approach was to have the customer bring their television into the store where the sales staff would take the *tvs* from customers and direct the customer to the register to pay the recycling fee. The customer would receive a discount coupon good toward the purchase of a new television made by participating manufacturers. They were also asked to fill out a short survey about the program. *tvs* were stored on-site for scheduled pick-up by *psc* trucks and were transported to Total Reclaim for disassembly and recycling.

Each store had varied levels of success with this system depending upon the storage capacity, volume of *tvs* received, and staff resources. As the program progressed, alternative logistical methods for storing, packaging and transporting the *tvs* had to be employed at two of the stores due to the large volumes of *tvs* coming in and storage space constraints.

Results

Recycling

The Good Guys pilot project collected more than 4,000 televisions, double the projected number. Total weight of all televisions was 197,000 pounds, or 98.5 tons.

Recycled materials totaled 166,000 pounds, including:

- 26,000 pounds of plastics
- 7,000 pounds of copper wire
- 11,000 pounds of circuit boards
- 15,000 pounds of other metals
- 107,000 pounds of crt glass (including 10,000 pounds of lead from the crt glass)

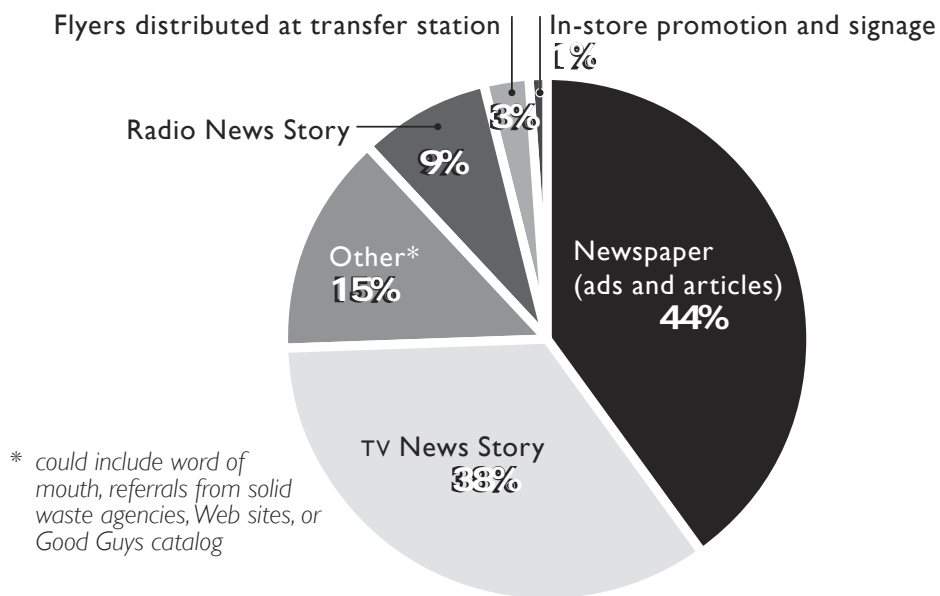
Promotion

Good Guys ran an advertising campaign that included newspaper ads and a notice on the cover of the Good Guys catalog, which was delivered to all their Western

Washington customers, at a cost of \$74,246. In addition to paid advertising, the program received significant local media coverage (earned media). Coverage included at least two radio stories, seven television news stories, ten newspaper articles, and stories in several magazines and online journals. The value of the earned media is estimated to be \$138,000.

Figure 1
HOW CUSTOMERS HEARD ABOUT THE PROGRAM

source: on-site customer survey



Customer Feedback

Customers were asked to fill out a survey when they paid the recycling fee at participating Good Guys stores. The 1,043 returned surveys indicated a high level of satisfaction with the program:

- 99 percent reported that store staff was helpful and knowledgeable.
- 99 percent reported that the service was easy to use.
- 96 percent thought the price was reasonable.
- 99 percent reported that they were likely to use the service again if offered.

Other significant findings:

- 43 percent of the customers had not been to a Good Guys store before.
- Approximately three-quarters of customers reported that they participated to “help the environment.”
- Many customers reported that they participated because the program was convenient (39 percent) and because of the low cost (24 percent).
- 9 percent of customers reported that they participated in the program because of the discount coupon.

- About 5 percent of the customers reported making a purchase while in the store.
- 5 percent reported using the discount coupon that was offered.

Costs & Funding

The cost to recruit retailers and manufacturers to participate in the pilot project and to plan and implement the Good Guys pilot project was \$222,968. The costs to transport the televisions from the retailer to the recycling facility and to recycle the equipment averaged \$0.25 per pound.

Almost a third of the budget, \$66,748, was spent on the recruitment of retailers and manufacturers to participate in the program. These are costs that would not be required for the set up of a take-back program at a retail store. Therefore it is likely that the costs

Table 1
SUMMARY OF PROJECT COSTS

ACTIVITY	COST	%
Planning and setup	\$66,748	30%
Collection	\$4,239	2%
Transportation	\$15,920	7%
Recycling	\$33,299	15%
Paid Advertising	\$74,247	33%
Evaluation	\$28,515	13%
Total Pilot Project Costs	\$222,968	100%

for implementing an ongoing electronics take-back program at a retail store would be less than those reported in this pilot project. Costs could be reduced further by controlling the volumes of equipment coming in by limiting paid advertising, adjusting recycling fees and providing the program as a standard part of customer service.

The program was financed by a grant from the epa, recycling fees charged to the customer, contributions from manufacturers, Good Guys and the government partners.

Table 2
PROJECT FINANCING

EPA Grant	\$41,000
NWPSC Government Partners	\$38,088
Manufacturers (JVC, Philips, Pioneer, Samsung, Sharp and Sony)	\$30,000
Recycling Fees	\$49,090
Good Guys	\$64,790
Total Funding	\$222,968

What We Learned

The pilot project's primary question — “Can a retail take-back program work?” — was affirmatively answered, and the program partners took away several other key lessons.

Take-back of televisions at electronics retail stores is logistically feasible. The project demonstrated that electronic equipment, such as televisions, can be taken back at a retail store if the program is designed to accommodate the available storage space and staffing resources. Key elements to consider when designing the program include methods for packaging and storing the materials, the frequency of collection or shipment of the equipment, and ways to control the volume of materials that come into the store. It is essential to have a contingency plan in case unexpectedly large volumes of equipment are brought in.

Managing volume is critical. For a program to be sustainable, organizers must control the volume of equipment to the maximum extent possible. Three elements — limiting publicity, charging recycling fees and offering the program on an ongoing basis — are essential to managing volume. Offering the public “free” recycling programs under the current e-waste recycling infrastructure can result in unmanageable volumes of equipment and therefore a program that is not sustainable.

Under the current infrastructure, retail take-back programs can be financed using end-of-life recycling fees. It is feasible to cover the costs of collection and recycling of used electronics by charging customers a recycling fee when they bring the product in for recycling (end-of-life fees). This type of interim program, however, will only appeal to those willing or able to pay the end-of-life fee. Alternative financing systems, such as front-end financing, should be explored.

The program brought positive media coverage for Good Guys. The estimated earned media value was \$138,000, reaching more than 4,216,894 consumers in the Western Washington area.

The project was popular with both new and existing customers. The pilot project demonstrated that customers responded favorably to the program, bringing in double the projected volumes of t vs. Ninety-nine percent of customer survey respondents said they would use the recycling program again if offered. Almost half of program participants had never visited a Good Guys store before and awareness of Good Guys increased by four percent from February through August in the Washington market.

The program produced environmental benefits. More than 4,000 televisions were recycled. This kept 10,000 pounds of lead, 197,000 pounds of crt glass, 26,000 pounds of plastics and 22,000 pounds of metals out of area landfills. By recycling and

reusing these materials mining and drilling for new materials can be avoided thus reducing environmental degradation.

The program can be designed to encourage sales. Incentives, such as discount coupons, that encourage the customer to buy a new product and recycle an old one may be helpful in boosting sales at store locations. This program was successful in driving first-time customers into retail stores, which can lead to future purchases.

Clear communication between management and staff is critical. Store staff should receive detailed program objectives, clear expectations, and ample time for training and information distribution. Staff should be educated about the recycling process so they can explain it to customers, and managers should communicate any contingency plans to staff in case the program hits a snag.

Implications of Front-End Financing Systems on Retail Take-back Programs

A number of front-end financing systems are either currently in place, are being established or are anticipated in the relatively near future in the United States. The two front-end financing models currently gaining attention are the Advance Recycling Fee and the Manufacturer Responsibility model, also known as the Cost-Internalization model. Effective front-end financing can foster the sustainability of in-store take-back programs in four ways. Front-end financing systems will:

Reimburse the retailer for the costs of collecting the used electronics at the retail store. A front-end financing system that includes a “collection incentive payment” will cover retailer collection costs. A collection incentive payment is a set amount paid to the retailer (the “collector”) from the funds collected via either an Advance Recovery Fee paid at the time of product purchase or via a manufacturer Cost-Internalization system. Front-end financing eliminates the need to charge customers end-of-life fees and removes the financial risk from the retailer.

Provide opportunities for many entities to become collectors of electronics. The availability of reimbursement funds provides an incentive for multiple organizations to become collectors of electronics. Customers will have numerous, conveniently located sites where they can bring their e-waste for recycling. As the number of collection sites increases and more services become available, there is less of a chance that large volumes of material will inundate an individual collection site.

Eliminate the “pent-up demand” that can result in a collector receiving a flood of materials. As more collectors provide ongoing programs, people will clean

out their basements and attics effectively reducing the stockpile of old, obsolete electronic products. After that point, the volumes of products will remain more consistent and will flow more evenly into the recycling market.

Attain process efficiencies that result in additional cost-effective collection services. Front-end financing systems eliminate the need for staff to collect fees when the product is brought in for recycling. Such a system also provides incentives for more transport and processing services to develop and will make it easier for collectors, such as retailers, to contract with these companies. Recyclers/processors will have to comply with environmentally sound management standards (in order to qualify as an official recycler and receive payments) so the retailer does not have to conduct its own due diligence to ensure that the recycler/processor is complying with all laws and requirements. This also helps reduce the retailer's liability.

Recommendations

Financing

In areas that have no front-end financing system in place, providing financing for sustainable, ongoing retail take-back programs will be an issue. The following are recommendations for conducting take-back programs in areas where there is no front-end financing infrastructure:

- Charge customers an end-of-life fee that is high enough to cover the program costs and helps to control the volume of equipment that comes in to the store.
- Seek financial support from manufacturers to cover some of the recycling costs.
- Cover some program expenses by incorporating them into product price or cost of doing business.

Managing Volume

In order for the program to be sustainable, it is essential to manage the volume of materials coming into the store. Recommendations for controlling volume include:

- Determine the volumes of material that staff can reasonably handle without affecting normal business operations.
- Base the frequency of pick up by the recycler on the rate of incoming equipment and the available storage space and adjust the frequency as needed.
- Provide the recycling service on an ongoing basis, not as a special offer or event.
- Charge adequate end-of-life fees to manage the volume.
- Limit advertising.
- Consider offering a one-for-one take-back, i.e. when a customer buys a new t v, the retailer takes back the old t v to be recycled.

Recommendations for Good Guys

Good Guys' 71 stores are located throughout California, Nevada, Oregon and Washington. There are 60 stores in California, two stores in Nevada, three stores in Oregon and six stores in Washington. Of the 71 stores, 61 exist in California and Snohomish Counties, Washington where televisions are banned from disposal. The nwpssc recommends the following next steps for Good Guys:

Establish an ongoing end-of-life fee program in six stores in Washington.

Building on the knowledge and relationships gained in the pilot, Good Guys could offer an ongoing end-of-life fee based program at their Washington stores that is financially and logistically viable. nwpssc offers these recommendations:

- Offer the recycling service to customers during regular store hours.
- Consider charging approximately \$20 for standard televisions and \$30 for big screen and consoles or an adequate amount to cover the collection, transportation, processing and any advertising costs.
- Consider providing one-for-one take-back at no charge. In other words, allow one television to be recycled at no charge for customers buying a new television.
- Join the Snohomish County and King County Take it Back Networks (www.metrokc.gov/dnrp/takeitback) and be listed as a member in the brochure and on the web sites. This program can provide a modest amount of targeted publicity in lieu of spending advertising funds to publicize the program.
- Establish an on-going contractual relationship with one or more of the manufacturers involved in the pilot to help cover the costs of collecting t v's commensurate with their volume of sales through Good Guys.

Consider establishing an end-of-life fee program similar to the Washington program in Oregon and Nevada Good Guys stores. Based upon the knowledge and experience gained from the take-back pilot program in Washington, Good Guys could implement similar programs at the three stores in Oregon and two in Nevada.

Establish take-back pilot projects in a limited number of Good Guys stores in California to determine the feasibility of becoming an e-waste collector under a front-end financed system. Good Guys stores are in the unique situation of being one of the only television retailers to have conducted an electronics take-back program at retail stores. California is now accepting applications for collectors of electronics via their new statewide e-waste recycling system. Several Good Guys stores could apply to become a collector and receive reimbursement at the rate of \$0.20/pound for the materials collected. These pilot stores could be used to test the assumptions about how a front-end financed electronics recycling system would work for a retailer providing collection services to customers.

Consider establishing an end-of-life fee program at CompUSA stores.

Good Guys is a subsidiary of CompUSA, which has about 250 stores nationwide. CompUSA can benefit from the lessons learned during the Good Guys pilot project and programs offered by other retailers, in addition to providing customers with an added service. As more local and state governments ban televisions and computers from disposal, consumers will welcome an easy solution for their old products when they buy new ones. Customers will begin to expect this service as more retailers offer these e-waste recycling programs.

nwpsc recommends that CompUSA establish its own voluntary in-store take-back program with the following features:

- Provide on-going in-store take-back as a standard business practice.
- Use end-of-life fees to cover costs of program and control volume.
- Partner with product manufacturers to reduce the cost of recycling products. Offer recognition in exchange for recycling funds.
- Adjust end-of-life fees to cover costs remaining after any manufacturer contributions and to control volume in areas where there are limited recycling services.
- Consider establishing an ongoing one-for-one take-back system where customers purchasing a new product can recycle a similar product for no charge.
- Require environmentally sound recycling standards from all recyclers and processors participating in the program.
- Conduct pilots with stores in states that have front end financing mechanisms, currently California and Maine to understand how those systems affect in-store take-back dynamics.
- Work with local and state government partners to design and establish pilots and programs.