The Road to Product Stewardship:

Local Government as Catalysts

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EXECUTIVE SUMMARY

Product Stewardship: Changing Materials Design and End-of-Life Management

"Extended Producer Responsibility (EPR), or Product Stewardship, means whoever designs, produces, sells or uses a product takes responsibility for minimizing its environmental impact through all stages of the product's life cycle. And the producer, having the greatest ability to minimize impacts, has the most responsibility. Product recycling should be an extension of the marketing system, mirroring the production and distribution process in a kind of "reverse retail" process; and it should be managed through commercial arrangements — all as part of excellent customer service."[1]

Broken System Overwhelms Local Government, Endangers Public Welfare

A century ago, local governments were able to protect human health and natural resources by managing household waste as a public service. The intervening decades brought enormous changes in manufacturers' ability to synthesize chemicals; produce inexpensive, 'disposable' goods; and operate multi-national systems for sourcing, manufacturing, packaging, and transporting products. In the absence of regulations requiring basic stewardship practices on the part of producers, both the volume and toxicity of product waste have increased exponentially, in ways that local governments have no control over.

The State of California has responded to individual product threats to health and safety at end-of-life by banning them from landfills. Local governments have established Household Hazardous Waste (HHW) Programs for residents and small businesses as a safe disposal alternative. HHW Programs statewide have become the default collection mechanism for a growing list of problem products common to households and small businesses. Although HHW programs on average serve less than 7% of the households in any jurisdiction and collect a small fraction of the products they are intended to target, they are costly to operate and stretch local government budgets beyond their limits.

California HHW programs face multiple challenges:

1. Existing collection infrastructure is inadequate to manage the current amount of hazardous products, let alone the vast amount of new Universal Waste banned from the trash.
2. HHW collection services are not perceived as being convenient by residents needing to dispose of commonly used products.
3. California residents are not aware of the landfill ban for Universal Waste in 2006 or the sharps ban of 2008.
4. HHW programs do not have adequate funding to expand the service to collect and process Universal Waste through the HHW collection infrastructure.
5. Even if they were able to collect all the hazardous products in the waste stream, local government HHW programs have no influence or effect on reducing toxicity through better product design.

[1] California Product Stewardship Council, http://www.calpsc.org/solution/index.html, 2009

Local Governments as Catalysts for Change

This fiscal and public welfare crisis demands a long-term solution. An Extended Producer Responsibility approach, as demonstrated in successfully operating programs in Canada, Europe, Japan and South Korea can benefit consumers, manufacturers, and retailers, in addition to local ratepayers and the governments who serve them. To achieve a change meeting both the public interest and business interests, the State must take the lead in creating a legal framework and producers must come to the table to design implementation systems that work for their product lines. Currently local governments are exploring strategies to engage these key players in the process of creating systems appropriate to the communities and markets within the United States.

PROBLEM PRODUCTS

U.S. Environmental Protection Agency (EPA) data establishes that 75% of the municipal waste stream is made up of products and packaging. A significant and growing share of these products contain hazardous constituents, and are banned from the landfill at the end of their useful life. Because the HHW programs around the state are identified as the primary collection mechanism, substantial infrastructure and funding are necessary to collect and manage these wastes. The following descriptions of a few problem waste streams are not inclusive of all products dealt with through local governments programs, but are meant to illustrate the gravity of the current situation facing HHW programs. The data sets to follow represent the County of Santa Clara's Household Hazardous Waste Program's collection history.

Paint

Paint is by far the largest waste stream collected by local government HHW programs, and is typically the most costly. In Santa Clara County over 2 million pounds of paint are collected annually at a total cost of over $1,600,000 (about $0.80 per pound). Roughly 49% is latex paint and the remainders are other architectural coatings, such as oil paint. As environmental awareness grows, paint volumes turned in for recycling or disposal, continue to increase.

Chart 1

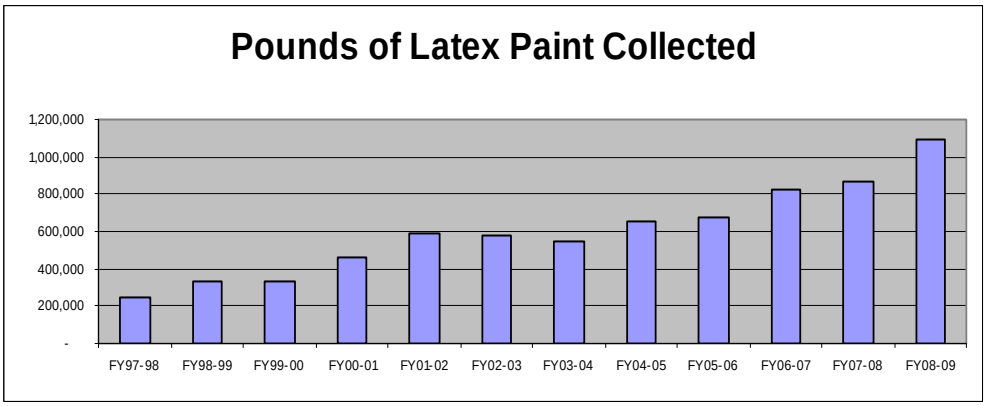
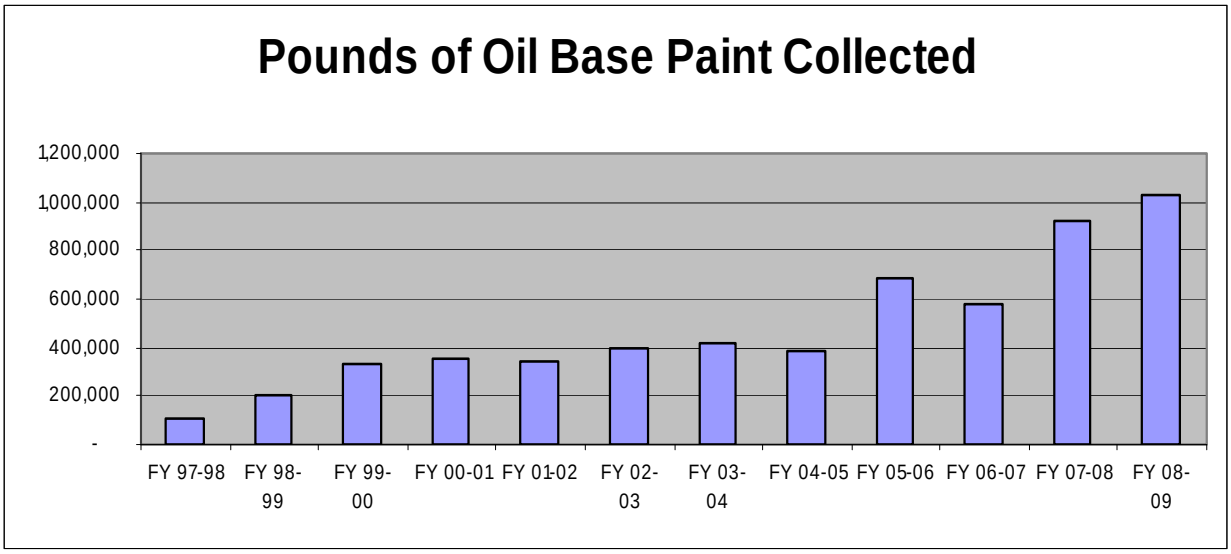


Chart 2



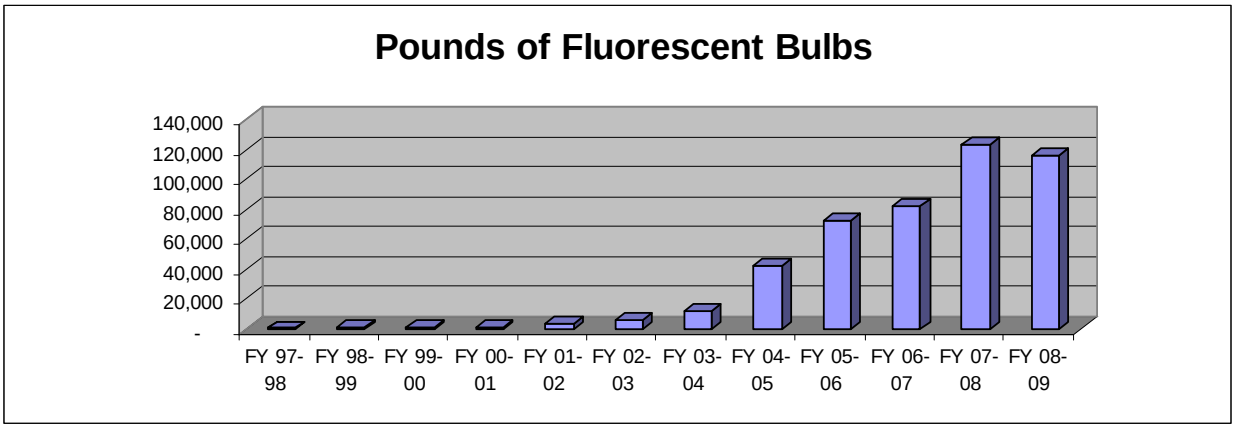
Universal Waste

On February 9, 2006, common household products containing toxic substances (such as fluorescent lamps, alkaline batteries and a vast array of electronic products) were banned from all landfills in California. Aside from the challenge for local governments to notify consumers of the new disposal restrictions, the projected volume of these "Universal Wastes" (UW) generated by households and small businesses in California will far exceed the programs' current physical and financial capability. Costs in Santa Clara County alone could increase from $4 million to $8 million per year to comply with the new regulations. Compliance under existing infrastructure and funding cannot be achieved. Moreover, improperly discarded products are increasingly recognized as a threat to human health and wildlife.

Fluorescent Lighting

Fluorescent lamp collection is one of the fastest growing segments of the HHW waste stream. At the time of the landfill ban in 2006, there were no safe, convenient and free options for residents to dispose of lamps except local government funded HHW programs. In FY 2005, the HHW Program collected and recycled 41,000 pounds of fluorescent lamps. In FY 2008 the Santa Clara County program collected and recycled 123,000 pounds of fluorescent lamps at a cost of over $300,000.

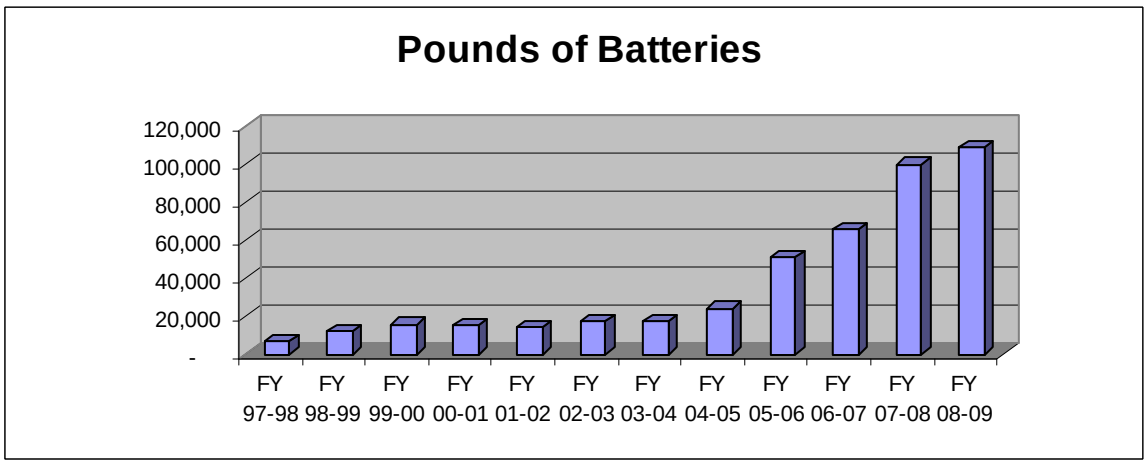
Chart 3



Household Batteries

A similar rise in the volume of household batteries (AAA, AA, 9-volt, and the like) has occurred. In FY 2005, the HHW Program collected 24,000 pounds of batteries. In FY 2009, over 100,000 pounds of batteries were collected. The recycling cost alone was $65,000. An additional $300,000 was spent on public education, collection, sorting and taping. In February 2009, new rules promulgated by the federal DOT to prepare batteries for shipment (taping each battery) raised the specter of skyrocketing costs. We have studied the labor needed to comply with this new regulation and have calculated that taping 1,100 pounds of batteries required 19 labor hours. Between January and December, 2008, the HHW Program collected over 115,000 pounds of batteries; complying with the DOT regulations takes roughly a minute per pound. This is equivalent to approximately 2,000 labor hours each year (1 FTE). The fully loaded cost of a Hazardous Materials Technician to sort and tape batteries is $42 per hour. This equates to $0.70 per pound.

Chart 4



Medical Waste

Medical devices for home use, pharmaceuticals, and even personal care products raise new issues for end-of-life management. These range from the danger of needle sticks by waste haulers to illegal and unsafe drug use by teens, to the entry of persistent organic pollutants into our water systems. Under their standing mission to protect health and safety, managing these wastes now falls to local governments, in addition to products with traditionally-recognized hazards.

Sharps

On September 1, 2008, California Senate Bill 1305 (Figueroa) took effect, making it illegal to place used home-generated sharps in the trash or recycling receptacles. The new law mandates used sharps be placed in approved sharps containers. Once the container is full, it should be brought to an approved drop-off location. The burden of legal disposal is placed on the consumer, rather than the manufacturer or distributor. In communities across California, options for sharps users range from free collection by health care providers, to drop-off at pharmacies or local government facilities, to costly mail-back programs at consumer expense.

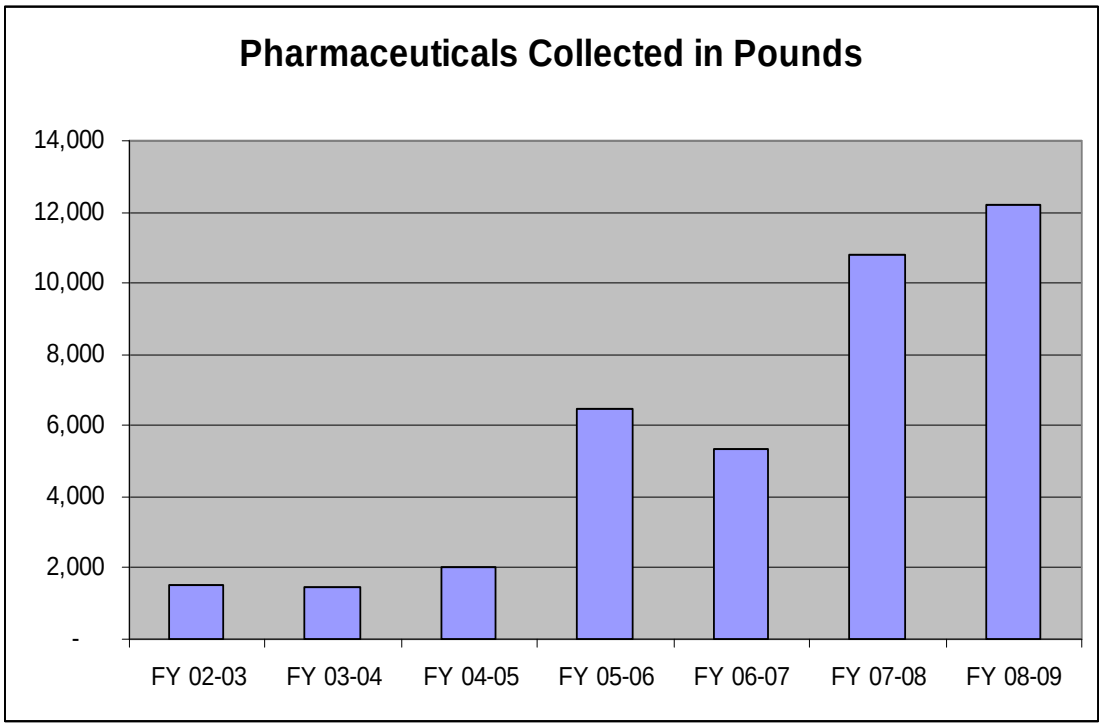
More than three billion sharps are used in the United States each year. It is estimated in Santa Clara County alone, residents generate over 14 million sharps each year. Historically, the Santa Clara County HHW Program collected approximately 2,500 pounds each year, which equates to approximately 225,000 sharps (1.5% of sharps generated). Although the County of Santa Clara's HHW Program has been accepting used home-generated sharps for many years, the Program does not have the resources to provide collection for 1.2 million sharps each month.

Pharmaceuticals

Pharmaceuticals collection and management are complicated by legal and practical issues. HHW staff are not trained in medical waste management; nor can they legally take possession of controlled substances. Controlled substances must be under the control of law enforcement and cannot be accepted by any other party. Additionally, pharmaceuticals come in a variety of solid and liquid forms, in containers normally labeled with sensitive personal information from the consumer. Since no sorting can be done by HHW staff, all containers and their contents are incinerated. In FY 2008, the HHW Program collected over 7,450 pounds of pharmaceuticals at a cost of $5,500.

In British Columbia, Canada, a medications return program has been in place since 1996. British Columbia, with a population of approximately 4.2 million, has over 900 community pharmacies participating in the program. Pharmacies offer a logical and convenient location for the public to return unused or expired medications. This simple but effective EPR program is funded by the pharmaceutical manufacturers (the same companies that operate in the U.S.) and cost $315,000 in 2008 (at a fraction of a percent of operating costs, compared to research and development or marketing).

Chart 5



Emerging Waste Streams

Solar Panels

According to the Silicon Valley Toxics Coalition, in a January 14, 2009 report entitled *Toward a Just and Sustainable Energy Industry*, solar panels contain many of the same hazardous materials found in electronic waste, including metals and chemicals such as lead, brominated flame retardants, cadmium, and chromium. Ironically, many of these same materials are being phased out of electronics in compliance with European directives. It is just a matter of time before solar panels are banned from landfill. Santa Clara County's HHW Program has already received solar panels cut up into small pieces and delivered to an HHW collection event. As part of the American Reinvestment and Recovery Act of 2009, hundreds of millions of dollars are now being distributed by the federal government to stimulate the manufacturing and installation of solar panels throughout the nation. Government agencies can choose to wait until these solar panels become a problem at the end of life, as was done with electronic waste and fluorescent lighting, or they can choose to preempt the problem by ensuring that safe disposal is part of the plan for the life cycle of the product.

Nanotechnology

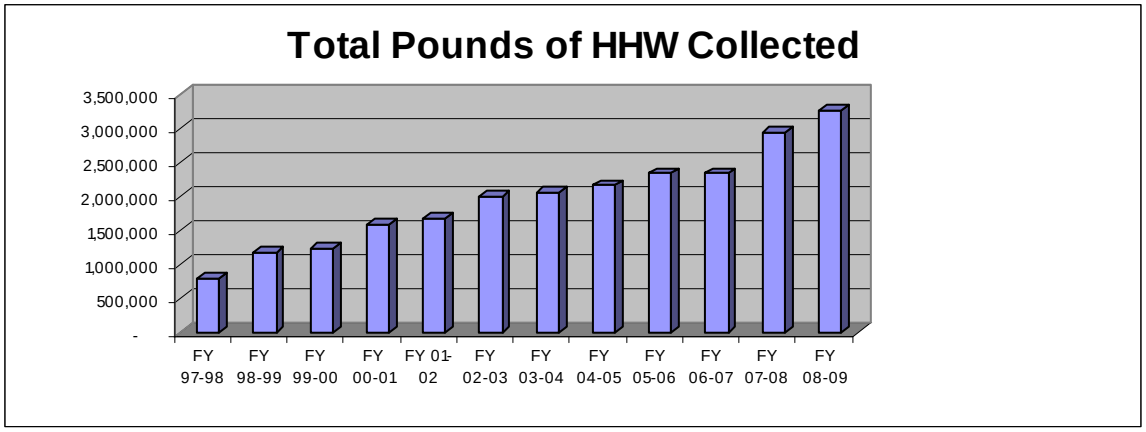
In an earlier report by the Silicon Valley Toxics Coalition, entitled *Regulating Emerging Technologies in Silicon Valley and Beyond*, nanotechnology is explored as a potential problem

technology. Nanotechnology is used in the electronics, medicine, environmental remediation and solar energy fields. These processes and materials pose unknown potential environmental and health hazards. As pointed out in the report, nanotechnology presents a particular risk for inhalation because the basis of this technology is the manipulation of material at the molecular level. As with widely used materials of the past, including DDT, asbestos, benzene, and brominated flame retardants, more information is needed about this technology and the potential risks to public health.

BEYOND LOCAL CAPACITIES

As environmental awareness grows and issues such as pharmaceuticals in the water and the ban of many products from landfill become more publicized in the press, the volume of hazardous waste managed by the HHW Program continues to rise. This increased environmental awareness by residents of the County encourages the proper disposal of UW products, such as fluorescent lamps and batteries, which continue to show the highest disposal growth patterns. Individual product Producer Responsibility laws in California, such as the Mercury Thermostat Collection Act of 2008 (AB 2347), which requires manufacturers to collect and recycle mercury-containing thermostats, provide a small measure of relief. In addition, alternative collection mechanisms such as voluntary Retail Take-it Back Partners are assisting in the collection of UW and sharps and deflecting some costs away from the Santa Clara County HHW Program.

Chart 6

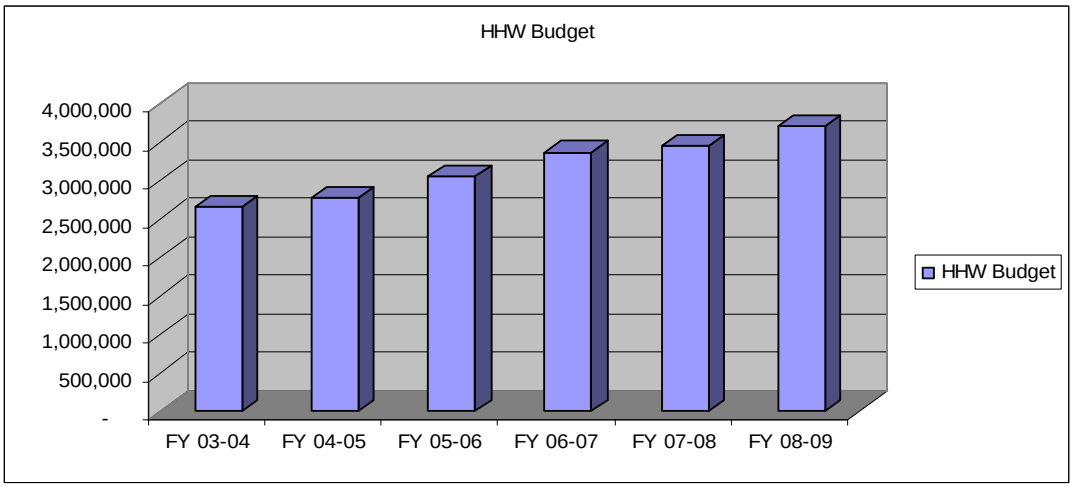


Local government infrastructure, with centralized collection points staffed by government workers and isolated from the places where consumers conduct everyday business (home, work, shopping, recreation), are not designed for the convenience needed for high participation rates. Nor are they large enough to safely store and separate the vast array of products and packaging on the market. The notion that government service can simply be increased, like placing a larger bucket at the end of the same pipe, ignores fundamental differences between government operations and the flexibility and innovation possible in private-sector run systems.

Increased Costs

As a result of increased hazardous waste volumes, cost to manage the waste has increased as well. Santa Clara County and all of its cities fund the HHW Program through a solid waste tipping fee (AB 939 Implementation Fee) assessed on each ton of residential and commercial waste disposed at a local landfill. The AB 939 Implementation Fee has increased (see Table 1); but it still does not allow for higher service levels.

Chart 7



The AB 939 Implementation Fee displayed below was designed to support resident participation from 3% of households in each jurisdiction. Historically, this level of funding has been inadequate to deliver services to residents demanding service. Each city has had to augment their funding using other funding mechanisms to satisfy their residents. The AB 939 Implementation Fee has been increased to $2.60 per ton for Fiscal Year 2009/2010 to aid the cities in funding increased demand. Unfortunately, even this increase will not meet demand in most of the cities. As a result, most cities must augment the Fee with general funds or other sources to satisfy resident demand. Budget concerns place local governments in the tenuous position of needing to educate the public about proper disposal but not being able to afford too much success in the form of improved participation.

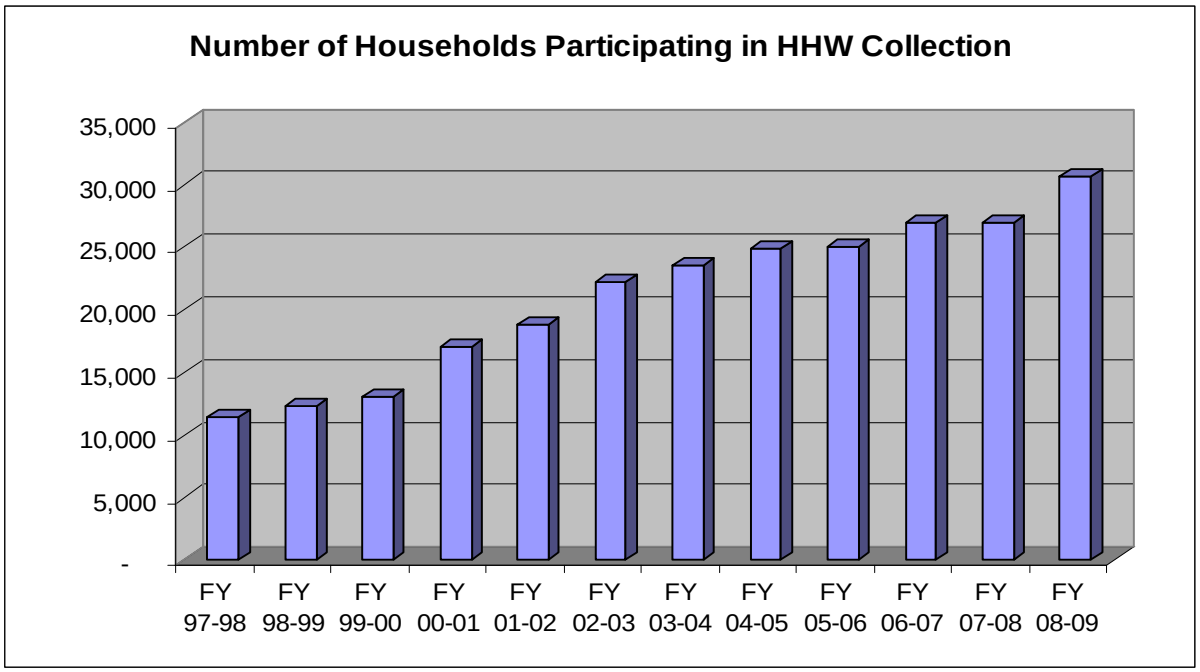
Table 1

Fiscal Year	AB939 Fee	Augmentation Provided by Cities & County	Non Competitive Grant Fund	Competitive Grant Fund	Total Cost	AB 939 Fee Per Ton
FY 03-04	1,772,480	386,154	389,755	108,470	2,656,860	$1.85
FY 04-05	1,751,114	409,873	412,441	199,596	2,773,024	$1.85
FY 05-06	1,883,517	446,744	481,671	230,441	3,042,373	$1.85
FY 06-07	2,161,138	576,819	488,615	136,857	3,363,430	$2.22
FY 07-08	2,214,534	641,812	526,757	62,423	3,445,526	$2.05
FY 08-09	2,219,466	775,692	564,140	140,698	3,699,996	$2.05

Increasing Participation

Since the Program inception in 1992, participation has gradually grown. The marketing of products that contain hazardous components has grown faster than local governments' ability to manage them at end of life. The state continues to ban products from landfill, further burdening local government. Below is a chart of participation growth. However the number of households using the HHW is a small fraction of the total number of households in the County. Total number of households in the County, excluding the City of Palo Alto, is almost 600,000.

Chart 8



LOCAL STAKEHOLDERS: HHW PARTNERS

HHW Programs are now the default collection mechanism for environmental contaminants identified by many agencies as pollutants of concern (notably, mercury, pesticides, and pharmaceuticals). Water, water treatment, stormwater and solid waste agencies share a common interest in keeping toxics out of the environment. Since they cannot block or treat most chemicals entering the water systems through improper disposal, these agencies promote public use of existing HHW programs

Waste Water Treatment Plants

The four publicly owned treatment works (POTW) in Santa Clara County are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit to demonstrate to the Federal government and the State Water Resources Control Board their plans to minimize the discharge of pollutants from sewer systems to water bodies of the State, including the San Francisco and Monterey Bays. The San Jose/Santa Clara, Sunnyvale and Palo Alto POTWs discharge to the San Francisco Bay and the Gilroy POTW discharges to the Monterey Bay. All POTWs are required to minimize the discharge of pollutants of concern listed on the Federal 303(d) list. The 303(d) list monitors threshold levels of pollutants that may have detrimental effects on water quality and human health. Mercury and pesticides are pollutants of concern listed on the 303(d) list and as a result, all POTWs are required to develop pollution prevention plans to minimize impacts to the Bay. In addition, local POTWs maintain a watch list of potential pollutants not yet listed on the 303(d) list. The current pollutant being considered for the watch list is pharmaceuticals, which enters the POTWs through the residential sewer system.

Financing of these programs comes from the respective tributary cities. Individual financing mechanisms vary. For the San Jose/Santa Clara Water Pollution Control Plant (WPCP), the primary source of funding comes from fees paid through tax-based assessments within the residential, commercial, and industrial sectors. Funding is also generated through monthly user fees, and one-time development fees paid by individuals or organizations needing the WPCP's services.

Stormwater Management Agencies

All cities within the County are required to obtain a NPDES permit to manage stormwater that drains to the Bay, passing untreated from streets, lawns and parking lots through the watershed's creeks. The thirteen cities in the northern part of Santa Clara County and the County, representing the unincorporated areas, are co-permittees to one NPDES permit. The fourteen jurisdictions fund and cooperate through the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPP). The County and the cities of Gilroy and Morgan Hill are co-permittees to a separate permit. Co-permittees are required to develop and implement pollution prevention plans to manage pollutants of concern on the 303(d) list, including litter (products and packaging), mercury, pesticides, and a wide range of common household chemicals.

The US EPA has listed all sections of the San Francisco Bay and Santa Clara County's Guadalupe River Watershed as impaired due to mercury pollution. When mercury is introduced

anywhere in the environment, it has the potential to volatilize and be deposited elsewhere. Because of mercury's bioaccumulation and movement patterns in the environment, the reduction of any amount of mercury is important. Recycling and disposal of mercury in consumer products can have a significant impact on reducing mercury levels in the environment.

Stormwater fees are used to improve the quality of a city's storm and surface water runoff and to meet the costs of increasing federal, state, and regional regulatory requirements. These fees support pollution control, system maintenance and operations, storm sewer improvements, and administrative services. Each NPDES co-permitee city finances their portion of the stormwater program differently. For example, in one city the fee appears on each property owner's property tax bill while other cities fund storm water program activities directly from their general fund.

Role of HHW Programs

The Santa Clara County HHW program provides an essential service in support of the POTW's and Stormwater administration of the region's NPDES permits by providing the only legal means of disposal for residents to dispose of household toxics that might otherwise end up dumped into the storm sewer system or down the drain.

POTWs and Stormwater agencies are conducting education campaigns to discourage residents from disposing of mercury containing products, pesticides and pharmaceuticals down the drain, recommending disposal through the local HHW Programs as the preferred alternative. As a result of increased public education and the Al Gore phenomenon, participation by residents continues to increase at HHW collection facilities, waste volumes continue to grow, and costs continue to rise. At this time, no funding from the POTWs or stormwater programs is provided to the HHW program.

TRANSITIONING TO EPR

Expand Local Government Collection Infrastructure?

The least preferable way for local government to deal with the onslaught of hazardous waste products is to build infrastructure and raise rates and taxes. As displayed above, the Santa Clara County HHW Program is funded by an AB 939 Implementation Fee. The fee is designed to provide a minimum level of service to 4% of households in each jurisdiction. Currently 4.9% of households in the County use the HHW program at a cost of approximately $3.7 million. If the Countywide program was to actually collect and manage 100% of the banned waste, the Program could cost as much as $60 million. Clearly this would be an unattainable level of funding in today's economic and political climate and could cost hundreds of millions of dollars statewide.

Even if sufficient funding were available, HHW programs are not capable of providing the convenience needed for full consumer participation, or the efficiency of a producer's reverse distribution systems.

Retail Take-it-Back for Fluorescent Lamps and Batteries:

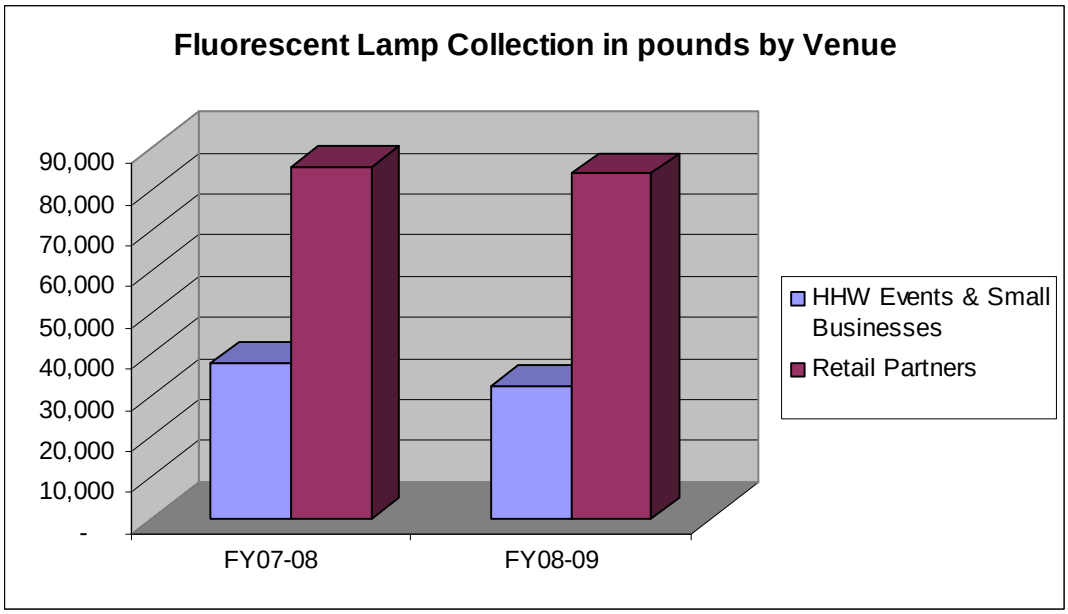
Baby Steps toward Producer Responsibility

Since February 2006, Californians are prohibited from placing fluorescent lamps and household batteries in the garbage. To provide Santa Clara County residents with convenient opportunities to properly dispose of these wastes, the Santa Clara County HHW Program created the Retail-Take-it-Back Partner Program. This program establishes partnerships with local retailers to serve as collection points for used batteries and fluorescents lamps. Retailers work in cooperation with the HHW program by becoming a collection point for residents to drop off lamps and batteries. The HHW program picks up the waste and transports it to a HHW facility for final shipment to a recycler.

The HHW Program provides Retail Take-it-Back Partners with supplies and materials to collect these wastes from the community and pays for the recycling. The supplies consist of fluorescent lamp recycling boxes and 5 gallon buckets for battery collection. The Program also provides posters for in-store program advertising and lists partners on the HHW website (www.hhw.org) and in public education material. Each partner is provided with instructions for cleaning up bulb breakage, a list of guidelines and responsibilities, and general information on UW to assist them in the collection process. In addition, the County ran ads in local newspapers and funded various television spots, thanking these participating retailers and educating residents about safe and proper disposal.

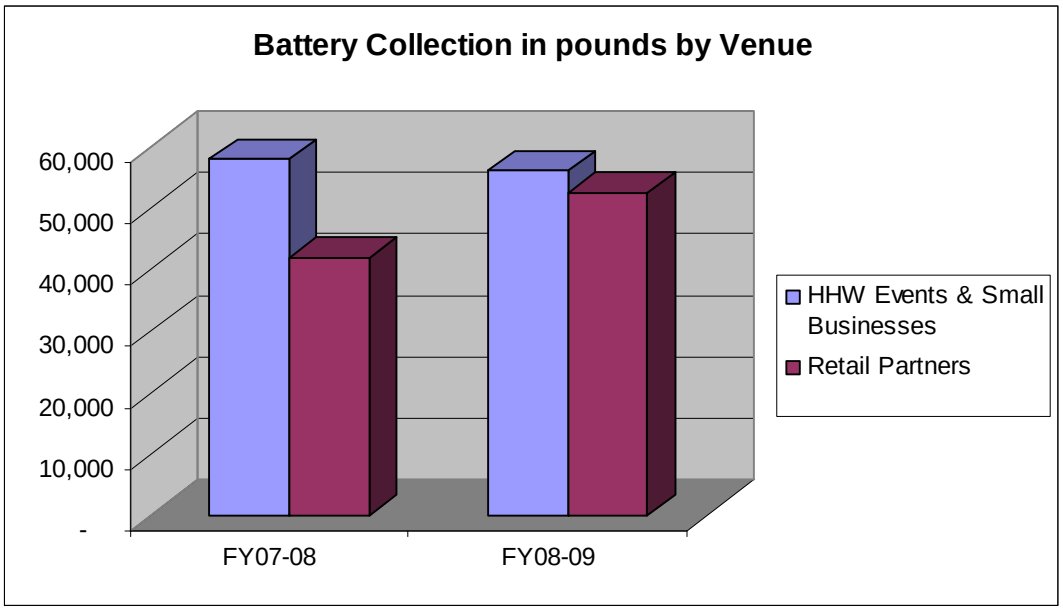
Currently, 66 retailers are participating in the collection of batteries and 32 retailers are collecting fluorescent lamps. Hopefully, in the future, the cost of managing these wastes will be shifted away from local government and taxpayers and placed on the manufacturers where the cost of recycling can be included in the price of the product.

Chart 9



As the chart above illustrates, convenience is the key to consumer participation. Since the creation of Retail Take-It-Back Partners, about 70% of fluorescent lamps managed by the County are brought to the retailer. This new convenient drop-off service affords residents simple and easy recycling opportunities. Residents prefer to take their lamps back to the place they bought them.

Chart 10



About 50% of the batteries managed by the HHW Program are collected by the Retail Take-it-Back Partners. Even with a small, non-breakable item, residents prefer the convenience of the 'drop-while-you-shop' option.

Due to the high cost and labor required to manage batteries, some local jurisdictions are considering the discontinuance of residential battery collection. While this is an option for local government HHW programs, an elimination of services could prove politically unpalatable.

An Attempted Transition to EPR

The Santa Clara County HHW Program attempted to shift the financial responsibility of battery and fluorescent recycling to the retailers participating in our program. When Home Depot announced their program to accept compact fluorescent bulbs (operating collection and disposal at their own cost), the County HHW Program saw this as an opportunity to require the same of the other retailers. Almost all retailers threatened to stop accepting bulbs if the County withdrew funding. Only Orchard Supply Hardware agreed to assume the cost for recycling but insisted that their acceptance of bulbs be unpublicized. In the absence of a local ordinance mandating retailer participation we could not withdraw funding. Each retailer remains listed on our website and listed on educational materials.

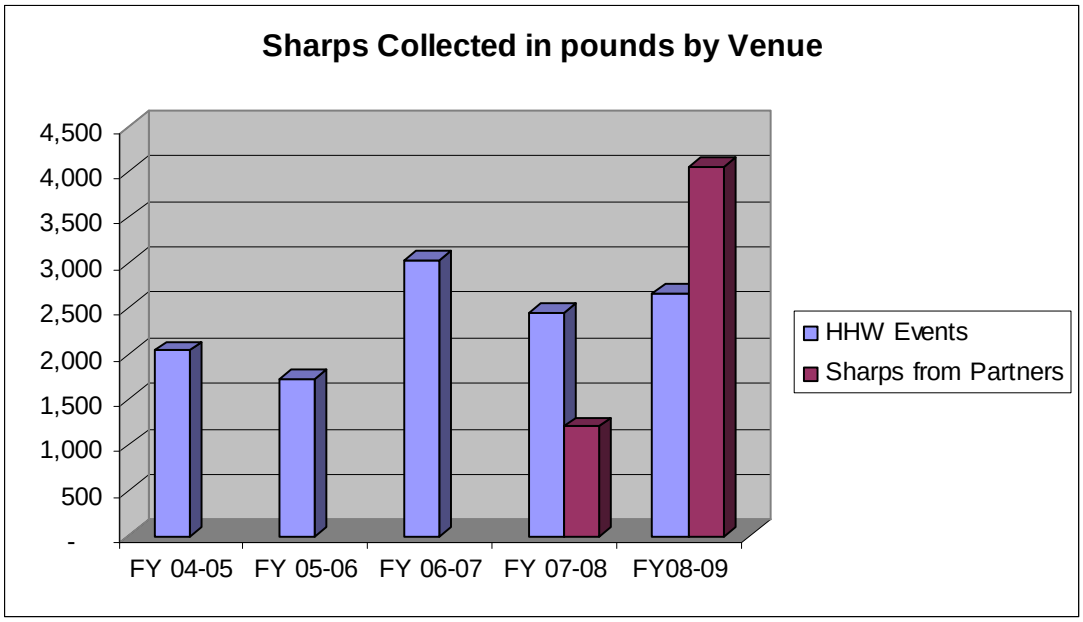
Retail Take-it-Back for Sharps at Pharmacies

Prior to the September, 2008 ban on sharps in the waste stream, the HHW Program recognized the need for more convenient drop-off locations and began recruiting local pharmacies, medical clinics, and veterinarian clinics, to become Retail Take-it-Back Partners for used home-generated sharps. The goals of the Retail-Take-it-Back Program are to encourage proper disposal, develop convenient drop-off locations, and shift the collection and disposal of sharps waste from local government to producers or distributors of the product. Pharmacies may have leverage with producers to create cost-sharing.

In establishing the Retail Take-it-Back Partners, the HHW Program contacted pharmacies, veterinarian clinics, and medical centers, asking if they would partner with the County and become a consolidation point for used, home-generated sharps. As incentives to participate, the HHW Program provided partners with a steel receptacle in which residents would directly deposit their used sharps, a limited quantity of quart size biohazard sharps containers for distribution, and advertising opportunities for their business. Partners are listed on the HHW website and in the drop-off location cards that are placed in trilingual (English, Spanish, and Vietnamese) sharps brochures. The HHW program also helped with the set-up process by providing them with a list of medical waste haulers, a safety guideline for sharps collection, and signage. In addition the County ran ads in local newspapers thanking these participating businesses and educating residents about safe and proper disposal.

Currently 17 pharmacies are participating in the program and provide a valued service to their customers. Each pharmacy recognizes the need for drop-off locations in their community. These Retail-Take-it-Back Partners have made it more convenient for County residents to properly dispose of their used sharps and help reduce the financial burden of managing this waste stream for the County and all cities participating in the HHW Program.

Chart 11



Sharps collection in FY 2008/09 is expected to double and almost all of that increase was collected at our private Retail Take-it-Back Partners. As cited earlier in the British Columbia model, an industry-funded and -implemented collection program would provide a higher level of convenience to better serve the needs of the community

ROLE SHIFTS IN EXTENDED PRODUCER RESPONSIBILITY (EPR) SYSTEMS

The Organization for Economic Cooperation and Development defines EPR as an environmental policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product's life cycle. There are two key features of EPR policy: (1) the shifting of responsibility (physically and/or economically, fully or partially) upstream to the producer and away from municipalities, and (2) the provision of incentives to producers to take environmental considerations into the design of the product.

When the roles of government, producers, retailers, recyclers and reverse distributors, and consumers are properly assigned under an EPR system, both the economy and the environment improve. Existing inefficiencies are removed, and the system financially rewards behavior that conserves resources and prevents pollution.

Wasting Government Resources

EPR is a paradigm shift in how we think about material flows. Generating "waste" implies a misuse of resources; and local government management of waste squanders taxpayer money. Local governments, historically responsible for protecting public health and managing waste, react to the flow of material at the end of the pipe and have no control or say over the production process to minimize waste. More importantly, local governments are not part of the manufacturing process to reuse these materials. Manufacturers are best suited to reuse these materials in their processes. Local government waste management is inefficient and should be turned over to manufacturers. This shift in the physical management of materials can lead to more efficient material usage, reduced degradation to the natural world from resource extraction, the creation of green jobs and conservation of energy, particularly fossil fuels. Recycling, reuse, deconstruction, and remanufacturing shift the value added in the economy from highly mechanized, environmentally harmful extraction industries, to labor□intensive, local industries[2]. EPR can also drive better product design emphasizing reusability, recyclability, and recycled content.

Producers as Designers of Cradle-to-Cradle Systems

EPR programs can be best understood as a change in the traditional balance of responsibilities between the producers of consumer goods and local governments with regard to waste management. Although they take many forms, these programs are all characterized by the involvement of producers, sometimes through other members of the supply chain (retailers or

[2] Opportunities to Reduce Greenhouse Gas Emissions Through Materials and Land Management Practices, U.S.EPA Office of Solid Waste and Emergency Response, September 2009

distributors) in the return and sound management of consumer products at the post-consumer stage. EPR extends the traditional environmental responsibilities that producers have previously been assigned (i.e. worker safety, prevention and treatment of environmental releases from production, and financial and legal responsibility for the sound management of production wastes) to include management of products at the post-consumer stage.

Shifting the financial responsibility can persuade manufacturers to reduce the generation of waste and design convenient and efficient systems for the collection of waste. Financial responsibility can also drive economically sound recycling systems and reduce the toxicity of products on the market. These efficiencies can only be achieved when the experts of production use the same innovation and ingenuity to recycle materials that they use to produce the product. Local government waste management systems are simply a subsidy to industry. Government resources would be better invested in regulating and overseeing market-based systems to protect the environment and public health.

Public Benefits

A properly designed EPR policy can be a driving force for waste avoidance and associated pollution reduction throughout many sectors of the economy. EPR can improve recycling rates, reducing litter, particularly ocean litter as studied by the Ocean Protection Council. According to Environment Canada, further benefits could include:

- reducing the number of landfills and incinerators and their accompanying environmental impacts;
- reducing the burden on local government for the physical and/or financial requirements of waste collection and management;
- fostering recycling and reuse of products or parts thereof;
- improving the ease and timeliness of disassembling products for recycling or reuse;
- reducing or eliminating potentially hazardous chemicals in products;
- promoting cleaner production and products;
- promoting more efficient use of natural resources;
- improving relations between communities and firms;
- encouraging more efficient and competitive manufacturing;
- promoting more integrated management of the environment by placing an emphasis on the product's life cycle;
- improving materials management."[3]

[3] Environment Canada, http://www.ec.gc.ca/epr/en/epr.cfm

LOCAL GOVERNMENTS AS CATALYSTS

Until recently, local governments have been quiet in the U.S and California about the deluge of hazardous products they must manage in order to comply with state landfill bans. Historically, they act as agents of higher levels of government and provide direct services to their resident communities. The growing waste crisis, however, has inspired many to move into the policy-making arena, raising their voices individually and collectively to advocate for meaningful and constructive change.

With a heavy stake in the game, local governments seek a seat at the table while new systems are designed. And they are taking a range of actions to bring producers to the table to cooperate in the creating of a level legal playing field overseen by State and Federal agencies.

Strategies for Consideration

1. Adopt Local Ordinances

New York City will be a proving ground for a local ordinance mandating take-back by producers. In this case, the electronic manufacturers (producers) are responsible for the development of a system to take back their products from the consumer. The new ordinance has been challenged by the Consumers Electronics Association and the Information Technology Industry Council, both electronic manufacturer groups. This case speaks to the heart of EPR and the ability of local governments to regulate the behavior of global producers who may indirectly sell products in the City.

Only one jurisdiction in California, the San Luis Obispo Integrated Waste Management Authority, has imposed a local ordinance mandating take-back by a retailer who sells a certain product. The local ordinances require that retailers take back and manage the end of life disposition of sharps, fluorescent lamps, paint and batteries.

Whether this type of local ordinance is upheld by the courts will take some years to resolve at a national level. In both the short and the long run, manufacturer resources are better invested in designing EPR systems appropriate to their specific product lines than in fighting a host of lawsuits in District courts. Should the local governments prevail, producers will also bear the expense of compliance with a patchwork of regulations across their markets.

2. Collective Jurisdiction Lawsuit

Collectively, all jurisdictions in California have the option to sue manufacturers doing business in the state for the proliferation of hazardous products in the waste stream. Manufacturers knowingly sell products that are hazardous and toxic at the end of life and banned from landfills. Each jurisdiction, in an effort to protect public health and the environment, spends millions of dollars collecting and disposing of these products. The pollution resulting from hazardous products may be seen as a strict liability issue for manufacturers.

3. Litigate to require State Action

Jurisdictions in the state can join together to sue the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) for failure to regulate toxic products through their authority to mandate take-back programs. DTSC has found and banned from landfills many products determined by the state to be toxic at the end of their useful life. DTSC has authority under Health and Safety code Section 25253(b)(7) to require a manufacturer whose product is hazardous at end of life and banned from the landfill to implement a take-back system to collect and dispose of or recycle their products.

Mercury in particular is a neurotoxin and a component of fluorescent lamps. It is also a pollutant identified on the 303(d) list of contaminants. The release and accumulation of mercury is known to endanger public health and welfare. Increased mercury is known to bioaccumulate in fish; the general public and in particular, pregnant woman and nursing mothers are cautioned to limit their diet of certain fish. In addition, mercury is a contaminant in drinking water and, due to climate change, California's water resources are expected to continue to be strained and the contamination of water resources by mercury threatens an already imperiled resource.

Since 2008, DTSC has had authority to require that manufacturers selling fluorescent lamps in the state implement a system to safely collect fluorescent lamps and manage the mercury. DTSC has the authority to mandate the proper management of fluorescent lighting by manufacturers and has failed to do so. Local jurisdictions could band together to demand action on DTSC's part to protect the environment and public health and reduce the financial burden on local governments who have taken action by collecting and managing hazardous waste through local household hazardous waste programs.

4. Environmentally Preferable Purchasing

Local and state governments are large volume consumers and can use their purchasing power to drive markets toward better design, increased recycled content, reduced packaging and vendor take-back of obsolete and unwanted hazardous products for responsible recycling. Purchasing departments can include Extended Producer Responsibility in the purchasing specifications of a product, which can save local government the time it takes to manage the waste at end of life and the money required to dispose of it legally.

A variety of jurisdictions are taking this approach, and sharing the most efficient and effective ways to implement new specifications. In some cases, such as the adoption of EPEAT standards for electronics, changes in product design are already being seen.

Hierarchy of Preferred Producer Responsibility Purchasing Strategies*

Best. Buy directly from manufacturers (typically the brand owners) who offer collection and recycling systems that they operate or finance. This gives the greatest incentive for producers to redesign their goods for recyclability. Example: Dell offers Asset Recovery and Recycling Services that include equipment collection, data destruction, and equipment donation and recycling.

Better. Buy from vendors who participate in a manufacturer-financed third-party recycling program. Example: the Rechargeable Battery Recycling Corporation's (RBRC) Call2Recycle Program.

Good. Buy from vendors who collect and recycle products and packaging when new items are delivered or when old items reach the end of their useful life. Sending products back up the supply chain will create an infrastructure for recycling, but it may not offer incentives for manufacturers to redesign their products.

* Product Policy Institute

5. Join and Support the California Product Stewardship Council

The California Product Stewardship Council (CPSC) is the only statewide organization speaking for local government HHW programs. Incorporated in July 2007, CPSC was created by local government staff that recognized the current model of waste management as unsustainable. It provides a powerful voice to educate elected officials, businesses, and the public, and dozens of cities and counties, waste haulers, special districts handling solid waste and water services, and producers participate. Allies include a variety of nonprofits with similar interests, retailers, and a few industry groups. Membership provides valuable opportunities for outreach and education assistance, information sharing with local governments throughout the state, and current news on the ever-changing legislative arena of EPR.

The mission of CPSC is simple:

> *To shift California's product waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order to reduce public costs and drive improvements in product design that promote environmental sustainability.*[4]

On February 28, 2007, the Santa Clara County Recycling and Waste Reduction Commission (RWRC) voted to support the CPSC and forward a recommendation to the Board of Supervisors

[4] CPSC Mission, http://www.calpsc.org/index.html, 2009

to encourage their support. On May 22, 2007, the Board of Supervisors voted to support Extended Producer Responsibility and made it part of the Board's Legislative Policies and Priorities. Since then, the Technical Advisory Committee, staff to the RWRC, assigned Rob D'Arcy to act as liaison for the County to CPSC.

Visit www.CalPSC.org or call (916) 480-9010.

CONCLUSION

The implementation of EPR can take many forms. As outlined above, EPR can range from forming partnerships with local retail businesses to engaging manufacturers in the courts. As the responsibility for handling materials at their end of life shifts from government to manufacturers, the manufacturers will see the benefit in greener design and resource conservation.

Without a change in responsibility, wrong signals are sent to manufacturers, and markets continue to use our limited resources. The business community and our political process accept externalities like pollution and hazardous materials as though commerce would cease without it. But correct incentives for cleaner production can eliminate these externalities.

The absence of EPR forces local governments to raise taxes and rates and build a massive waste management public infrastructure to manage materials for recycling and safe disposal. EPR puts industry in charge of their materials management and the free market will provide incentives for recycling and reuse of these materials. As we shift responsibility to industry through EPR, we can expect smaller government programs and lower taxes or fees to support them. Local government programs that handle hazardous and universal waste streams now, should consider how to support EPR partnerships or programs and shift the responsibility for this waste from government to industry.