Paint Management Programs Case Study
California (2008)

I. Overview

In California, leftover household paint is a presumed hazardous waste that must be managed separately from the solid waste stream. As such, and in the absence of any other existing collection option, leftover paint is managed by local government-run household hazardous waste (HHW) programs using ratepayer and taxpayer funding mechanisms. This approach amounts to a public subsidy for leftover paint management. Each program may be set up differently, using a variety of collection program types (permanent HHW facility, temporary facility, mobile facility, recycle-only facility, door-to-door, etc.), final management methods (recycle, reuse, incineration, landfill, etc.)[1], and public education campaigns.

Overview of Impacts: Government-Run Paint Programs: California (2008) (Full table on pg. 6)	
Total program cost ($) per unit	$7.66/gal[1]
Total program cost($)/capita	$0.60
Percent collected (from available for collection)	34%
Percent Reused	3.5%
Percent Recycled	47.9%
Percent Recovered for Energy	43.7% (destructive + fuel)
GHG emissions	Unknown
Job impacts	Anticipated job increases for producers, recyclers, haulers, and collectors
Program effectiveness: Not meeting presumed goal (landfill ban) of 100% diversion from landfill, with 34% collection. Programs only serve approximately 5% of the population. Programs lack sustainable financing mechanisms.	

Leftover latex and oil-based paint comprises approximately 30% of the total HHW collected by weight at local HHW programs[2], representing a significant cost burden to local jurisdictions throughout California.

Due to the extremely high cost associated with running local HHW programs in California, service is provided to, on average, approximately 5% of their corresponding service area populations.

[1] Definitions of program types, management methods may be found at the CIWMB Form 303 HHW Collection website at http://www.ciwmb.ca.gov/hhw/Forms/303/2009/Guide.pdf.
[2] According to 2008 Form 303 data.

Table 1. Stakeholder Roles & Responsibilities: California Paint Management Programs

Stakeholder	Role & Responsibility	Performance Goal(s)
Local/Regional Government (e.g. cities, counties, Regional Joint Powers Authority)	Design and administer, either individually or through regional arrangements, leftover paint collection and end-of-life (EOL) management programs. Utilize ratepayer or taxpayer funds via sources such as general fund revenue, parcel fees, landfill tipping fees, or garbage/utility rates to run program. Develop and administer public education and outreach program.	As HHW is, by definition, banned from landfill, the expectation is that local government must divert 100% of HHW.
Ratepayer/Taxpayer	Provide leftover paint program funding via sources mentioned above, regardless of whether they utilize the service.	n/a
Consumer	Properly dispose of leftover paint.	
Hauler/Collector	Some local governments may collect paint themselves through curbside, door-to-door, 1-day events, or other program type. Others will contract out some combination of collection and/or final disposition.	n/a
Producer	None	None
Reprocessor/Recycler	Reprocess or recycle leftover latex paint. Oil-based paint is largely managed by incineration.	n/a
State Agency - CIWMB	The CIWMB provides broad technical assistance to local governments relative to HHW, including paint. CIWMB also offers competitive HHW grants to implement or expand existing HHW programs, providing an opportunity to address paint. These grants are not meant to provide ongoing program activities.	None
State Agency - DTSC	The department of Toxic Substances Control (DTSC) regulates hazardous waste in California and ensures that these materials, including paint, are properly managed.	None

II. Materials Collected

- Varies by jurisdiction, but largely both latex and oil-based paint are accepted via local HHW programs.
- Due to the nature of the product, all programs accept the paint container as well; however, most find it difficult to find a recycler who will accept the containers due to the issue of product contamination.
- Geographic program boundaries vary by program. Could be city limits, county incorporated / unincorporated, regional service boundaries, etc.
- Covers residential and sometimes commercial sectors [Conditionally Exempt Small Quantity Generators (CESQGs)].

III. Collection Infrastructure

In California, local jurisdictions provide the primary, and in many cases, the only mechanism for HHW collection in their communities. The efforts of voluntary, individual product take-back programs such as

the Rechargeable Battery Recycling Corporation, and some retail businesses that collect household batteries and fluorescent lamps, for example, while encouraging, are currently insufficient to collect the quantity of HHW requiring proper management.

In AB 939 (Statutes of 1989: PRC 47000-47109), the California Integrated Waste Management Board (CIWMB) was given broad responsibilities for public information, assisting the local governments with infrastructure development, and providing technical assistance relative to HHW. In 1990, cities and counties were directed to develop and submit a Household Hazardous Waste Element by July 1992 that addressed a program for the safe collection, recycling, treatment, and disposal of household hazardous wastes (PRC 41500-41515). Subsequently, a grant program was established (Eastin AB1220, Stats. 1993) to provide financial resources to local governments to initially develop or expand their HHW programs. HHW grant funds are not meant to provide ongoing program support. California cities, counties, and local agencies, including Indian reservations and rancherias, with direct responsibility for HHW management are eligible to apply.

The HHW grant program is a critical tool used by local jurisdictions to address HHW needs in their communities, including paint, which comprises approximately 30% of total HHW collected, by weight. In many cases, this is the only tool local jurisdictions have had at their disposal to implement or expand the HHW programs in their communities. The CIWMB has authority to appropriate up to $5 million annually on competitive HHW grants that help local governments establish or expand HHW collection programs. In recent years, the CIWMB has not been able to provide the full amount due to declining revenue, with only $1.5 million being appropriated for fiscal year 2009-10.

Industrial paint is handled via private contractors for final disposition. Local HHW programs may choose to accept leftover paint from CESQGs from the commercial sector. While not always the case, there is usually a fee associated. The fee charged is often subsidized by the HHW program.

IV. Funding

In California, leftover household paint is managed by local government-run programs using ratepayer and taxpayer funding mechanisms. Each program may be set up differently, using a variety of collection program types (permanent HHW facility, temporary facility, mobile facility, recycle-only facility, door-to-door, etc.), final management methods (recycle, reuse, incineration, landfill, etc.)[3], and public education campaigns.

As these funding mechanisms are externalized to the general public, they do not send a market signal to paint producers to seek either efficiencies in paint collection and management efforts or improvements in product design that would make the product easier to manage from a hazardous waste perspective.

Additionally, because funding is managed by government, it is potentially subject to uses other than administering the HHW program. In these instances, and in the case of declining revenues from tipping fees and general fund revenues, HHW program activities, facility hours, and/or days of operation are reduced.

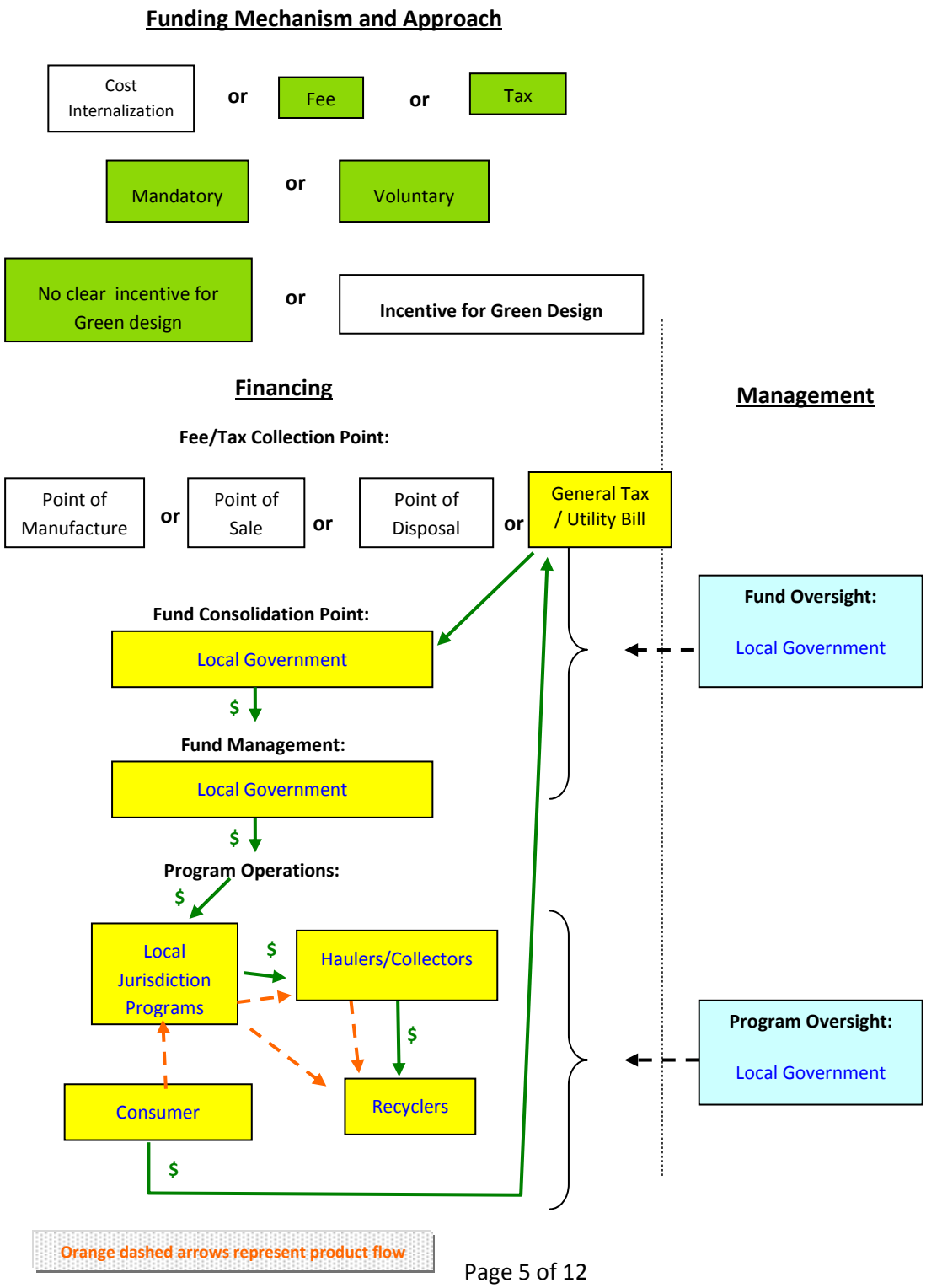
[3] Definitions of program types, management methods may be found at the CIWMB Form 303 HHW Collection website at http://www.ciwmb.ca.gov/hhw/Forms/303/2009/Guide.pdf.

Table 2. Program Funding: California Paint Management Programs, Typical Scenarios

Program Funding Element	Option employed by Element				Stakeholder
Funding Mechanism	Cost Internalization	Fee	Tax		Funded by local jurisdictions
Funding Approach	Mandatory	Voluntary			While local jurisdictions are not required to collect paint, per se, they are by default subjected to an unfunded mandate to keep 100% of paint collected out of landfill.
Incentive for Green Design	Incentive for green design	No clear incentive			
Funding Collection Point - None of the options listed to the right.	Point of Manufacture	Point of Sale	Point of Discard	General Tax / Utility Bill	Ratepayers and taxpayers pay for local HHW programs through general fund, landfill tipping fees, utility fees, and other public funds.
Fund Consolidation Point	Local Government				Local Government
Fund Oversight	Local Government				Local Government
Fund Management	Local Government				Local Government

V. Program Flow Diagram. This flowchart corresponds to the program Elements and stakeholder roles and responsibilities sections (Sections II and III, respectively).

California Paint Management Programs



VI. Education/Communications

- Varies by jurisdiction. Could include handouts, brochures, and other collateral. Messaging is not consistent statewide since each program varies.

V. Governance

- This is a local government-designed, funded, and operated model.
- There are no established transparency requirements.
- Enforcement is performed through the state Department of Toxic Substances Control as part of a local jurisdiction's overall HHW program.
- This model lacks any incentive to encourage green design, as the producer does not have financial responsibility for the product at EOL.

VI. Impacts

Table 3. Paint Product Stewardship Program: California (2008)

Population (2008)	36,756,666
Total program cost ($)	$21,880,989
Cost($)/capita	$0.60
Cost ($)/gal	$7.66
Education/Communications (%)	Unknown; varies by jurisdiction
EOL materials management (%)	Unknown; varies by jurisdiction
Program administration (%)	Unknown; varies by jurisdiction
Governance (program oversight) (%)	N/A
Environmental	
Materials management[4]	
Product sold (gal)	84,540,332
Product collected (gal)	2,831,581
Product sold that is available for collection (gal)	8,454,033
Percent collected (from available for collection)	34%
Percent Reused[5]	3.5%
Percent Recycled[6]	47.9%
Percent Incinerated (destructive + fuel)	43.7%
Percent Landfilled	2.4%
Percent Neutralization/Treatment[7]	0.6%

[4] Data includes latex and oil-based paint.
[5] From 2008 Form 303 data submitted by local jurisdictions, with conversion factor of 10 lbs/gal.
[6] Does not include incineration.
[7] Treatment by chemically adjusting the pH of the waste such that the waste can be discharged into a publicly owned treatment works.

Percent Stabilization[8]	1.9%
GHG emissions	Unknown
$ invested in product design R&D	Unknown
Program effectiveness	
Progress against goals and targets	33% (of 100%) collection
Regulatory non-compliances	Unknown
Demonstrated improvements in product design	None
Public awareness	Unknown
Public participation	Approx. 5% of households
Anticipated total job change from government-run to EPR (+/-/=)	Base year used for comparison: 2008)
Local Government	=
Product Stewards	+
State Government	=
Materials processors, & manufacturers	=
Collectors & Recyclers	+
Retailers	+

VII. Lessons Learned

The current leftover paint management system in California is:

- Not financially sustainable, even at current collection rate of approximately 33%
- Not consistent with the Board-adopted EPR Framework for product stewardship
- Not sending the appropriate market signals to the Producers that would encourage program efficiencies and encourage green design

VIII. Considerations for Next Steps in the Transition to Full Product Stewardship

- Transition the current leftover paint management system from government-run to industry-run via product stewardship, as broadly defined in the CIWMB Board-adopted EPR Framework.

- While largely silent on program financing (as this would be designed by the Producers), a differential fee structure that encourages green design by assigning higher fees to Producers for those paint products that are the most difficult to manage at EOL (i.e. due to high VOC content, etc.).

- Monitor California AB 1343, which seeks to institute a producer-led leftover paint management system in California, and follow Oregon's recently-enacted legislation. The latter represents the first of its kind legislation for paint in the United States.

[8] Treatment where waste is chemically stabilized into a solid or semi-solid state such that it no longer exhibits hazardous characteristics and can be managed as non-hazardous waste.

IX. Program Contact Information

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Appendix 1: Element Descriptions

Element 1 – Funding Mechanism. The means by which funding for a product management program is obtained. There are three primary Funding Mechanisms: cost internalization, fees (government and PSO fees), and taxes.

Cost internalization. Cost internalization occurs when the producer of a covered product internalizes the costs of implementing the stewardship program into the cost of the product. There is no separate line item on a receipt between any of the stakeholders involved.

Fee. **Government Fee.** A fee is a charge that, if collected by government, must be dedicated to, and used for, the governmental purpose related to the use of the item on which the fee is imposed. Fees may cover the full or partial cost of the service or program. Examples include advance disposal/recycling fee, franchise fee, solid waste tipping fee, utility fee, etc.

PSO Fee. A fee that is collected by a Product Stewardship Organizations (PSOs) that may cover the full or partial cost of the service or program. Examples include visible and invisible eco-fees.

Tax. A tax is a compulsory payment to government by consumers, producers, or retailers. Products or services paid for with taxes do not necessarily have anything to do with the product or item on which the tax is charged.

Element 2 – Funding Approach. The Funding Approach is the way by which a Funding Mechanism is implemented. There are two funding approaches that can be utilized: voluntary or mandatory.

Voluntary Funding. A voluntary Funding Approach is when there is no government requirement for any party to pay for the collection, transport, and recycling of a product. It relies on the voluntary participation of entities such as producers to pay for the cost to collect, transport, and recycle the product.

Mandatory Funding. A mandatory Funding Approach is when a public agency (city, county, state, or federal government) requires that an entity, such as a producer or consumer, pay for the cost to collect, transport, and recycle the product. Depending on how the fee/tax amount is established, the full cost to start and operate a collection program may or may not be covered.

Element 3 - Incentive for Green Design. Product stewardship programs can be design to provide incentives for green design, that is, product/packaging design that reduces a product's impact on the environment.

No clear incentive. When a fee is applied to all products within a product category, regardless of its environmental impact or cost to manage, then it doesn't provide an incentive to modify the product as no cost reduction is realized.

Incentive for green design. Applies if a producer is able to lower product stewardship program costs through product modification. For example, if a product stewardship program fee structure charges a producer less, if its product is less expensive to manage or easier to recycle.

Element 4 – Funding Collection Point. The Funding Collection Point describes any of the three points during a product's life where the fee/tax can be levied:

> **Point of Manufacture (POM).** The producer pays the fee/tax. The fee/tax, if paid at this point, is generally built into the cost of the product as an invisible fee. For the purposes of this exercise, the POM collection point is defined as the first person or entity in the state to take title to the product.
>
> **Point of Sale (POS).** The consumer pays the fee/tax when the product is purchased. The retailer remits the money on behalf of the consumer to the entity consolidating the funds for program activities.
>
> **Point of Discard (POD).** An entity, typically the consumer, pays the fee/tax to the collector or recycler when the product is disposed.
>
> **Public Funding.** The funds are collected from the general taxpayer or ratepayer, at points other than POM, POS, or POD, such as via property tax or utility bill.

Element 5 – Fund Consolidation Point. The Fund Consolidation Point refers to the entity responsible for receiving the taxes/fees collected either at the Point of Manufacture, Point of Sale, or Point of Disposal. The entity managing the Fund Consolidation Point may be different from the entity responsible for Fund Oversight and Fund Management.

Element 6 – Fund Oversight. Fund Oversight is carried out by the entity responsible for ensuring that the collected money is being used by the program as intended. Responsibilities may include ensuring the transparency of fund allocations through fiscal audits and review of annual reports.

Element 7 – Fund Management. Fund Management is carried out by an entity responsible for managing the administrative duties related to the disbursement of funds that support program activities.

Appendix 2: Comparison of Government-run vs. Product Stewardship Paint Management Approaches, California vs. British Columbia, Canada

	Government-run CA Status Quo, California Paint Program	Product Stewardship BC Status Quo, British Columbia Paint Program	Projected CA Program Costs Unchanged and Product Stewardship (BC) Diversion Rate Achieved	Projected CA Program Costs with Product Stewardship (BC) Costs and Current CA Diversion Rate	Assumptions/ Notes
Paint Sold (gal)	84,540,332	9,303,285	84,540,332	84,540,332	CA gal sold = 2.3 gal sold /person (PPSI Infrastructure Report) * CA 2008 population of 36,756,666 (US Census 2008 estimate). BC paint sold data from Product Care annual reports, 2004-2008, based on the average paint sold since using avg cost/gal, below.
Amt Paint Available for Recovery (gal)	8,454,033	930,329	8,454,033	8,454,033	All figures based on amt of paint available for recycling = 10% of paint sold, 2007 PPSI Infrastructure report http://www.productstewardship.us/displaycommon.cfm?an=1&subarticlenbr=131. BC based on avg as noted above.
Total Cost/Gal	$7.66	$6.13	$7.66	$6.13	$7.66 based on FY 02-03 local jurisdiction survey data with adjustment for decreased disposal costs observed in 2009 data. Includes direct costs + 40% operating costs; median cost of raw data. $6.13 based on 2008 collection costs/gal, e-mail from Mark Kurschner, 7/30/09. BC total cost/gal includes space at collection site, bins, drums, collection svc, transp, bulking, processing, communications, educ., admin. CA total cost/gal includes salary, indirect costs, pub ed/outreach, materials & supplies, insurance, contractor costs, labor, transp, set-up/mobilization, & equip/svcs.
Gal Collected	2,856,526	714,396	6,509,606	2,856,526	CA gal collected using conversion factor of 10 lbs/gal for latex and oil-based FY 07-08 Form 303 data. BC data based on 2008 gallons collected, e-mail from Mark Kurschner, Product Care, 7-30-09.
Diversion Rate	34%	77%	77%	34%	Based on amt collected/amt available for recycling.
Total Cost Per Capita	$0.60	$0.99	$1.36	$0.48	CA population of 36,756,666 (US Census, 2008 estimate). BC population of 4,381,603 (2008; BC Government website, http://www.bcstats.gov.bc.ca/data/cen06/profiles/detailed/ch_prov.asp)
Total Program Costs	**$21,880,989**	**$4,379,247**	**$49,863,579**	**$17,510,504**	Equal total cost/gal * gal collected.
Difference in Total Program Costs as Compared to CA Status Quo			$27,982,589	-$4,370,485	negative number shows a savings, positive shows a cost

Appendix 3: Summary of Anticipated Job Impacts for a California Paint Product Stewardship Program[9]

Region covered: CA Paint Programs	PRIVATE SECTOR						PUBLIC SECTOR					
Category of jobs in CA	**Product stewards**	**Materials process-ing & Manf.**	**Recyclers/ collectors / PRIVATE**	**Retailers**	**Sub total private sector**		**Local gov**	**State gov**	**Recyclers/ collectors / PUBLIC**	**Sub total public sector**		**Net Change**	**Totals**
Materials extraction/mining processing	0	-1	0	0	-1		0	0	0	0		-1	Decrease
Research & design	1	0	0	0	1		0	0	0	0		1	Increase
Manufacturing	0	1	0	0	1		0	0	0	0		1	Increase
Marketing / education	1	0	0	0	1		0	0	0	0		1	Increase
Customer Service	1	0	1	1	3		0	0	0	0		3	Increase
Recycling/SW facility operators	1	0	1	0	2		0	0	0	-1		1	Increase
Truck drivers/ transporters	0	0	1	0	1		0	0	0	0		1	Increase
Administration	1	0	1	0	2		0	-1	0	-1		1	Increase
Compliance managers / oversight / enforcement	1	0	0	0	1		0	1	0	1		2	Increase
Sub totals	6	0	4	1	11		0	0	0	-1		10	Increase

[9] Positive number indicates increase in jobs; negative number indicates decrease; 0 indicates no change.