

Chemicals Policy and Product Management

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Chemicals Policy

A comprehensive government or industry approach to broad classes of chemicals in production, products and wastes

Moving Towards Chemicals Policy

1970s-1980s	Pollution Control and Waste Management
1980s-1990s	Pollution Prevention and Toxics Reduction
2000s	Chemicals Policy and Product Management

New European Chemicals Management Policies

- Denmark: Danish Chemicals Policy
- Sweden: A Sustainable Chemicals Policy
- Netherlands: Strategy on the Management of Substances
- Germany: Product Chain Chemicals Policy
- European Union:
 - Waste Electrical and Electronic Equipment (WEEE) Directive
 - Restrictions on Hazardous Substances (RoHS) Directive
- “Generational Goal”: to be free of the release of known toxic chemicals within one generation

European Union “REACH” Directive

- **Registration** - Notification and submission of data on all industrial chemicals used over one ton per year
- **Evaluation** - Assessment by Governments of all substances used over 100 tons per year
- **Authorization** - Requires use permits for High Hazard Substances
- **Chemicals** - Covers all new & existing chemicals

REACH Implementation

- **Registration**
 - 1-10 tons per year---registration, no new data
 - 10 or more tons per year---tiered testing program plus Chemical Safety Assessments
- **Authorization**
 - covers all CMRs, PBTs, VBVP, POPs (3000 chemicals)
 - Requires alternatives assessment, but no mandatory substitution
- Sets up new European Chemicals Agency in Helsinki
- Expected to pass in 2006, come into force in 2007
- Registrations due by 2010

International Chemicals Management Policies

- 1989 Basel Convention on the Trans-boundary Shipment of Hazardous Waste
- 1998 Rotterdam Convention on Prior Informed Consent (PIC)
- 2001 Stockholm Convention on Persistent Organic Pollutants (POPs)
- 2006 Strategic Approach to International Chemicals Management (SAICM)

Globally Harmonized System (GHS) of Hazard Classification and Labeling

- Developed by the International Labor Organization, World Health Organization and United Nations Environment Program
- Standardizes definitions of hazard
- Harmonizes hazard labels and placards
- Formalizes expanded Material Safety Data Sheets
 - includes eco-toxicity, proper disposal, etc.

U.S. Federal Policy

- Toxics Substances Control Act
- Limited by
 - inadequate data on existing chemicals
 - confidential business information restrictions
 - high hurdle for restricting chemical use
 - slow and cumbersome chemical by chemical assessment
- Un-revised since 1976

State Chemicals Initiatives in the United States

- 1986 California “Proposition 65”
- 1990-94 State Pollution Prevention Laws (32 states)
- 1998-2004 Mercury in Products Laws (10 states)
- 2002 Washington’s “PBT Elimination Strategy”
- 2003-2004 Brominated Flame Retardant (PDBE) Laws
(California, Maine, Hawaii, Michigan)
- 2004 -> State Chemicals Management
Policies (Maine, Massachusetts, California?)

Massachusetts Toxics Use Reduction Program

- Designed to reduce the use of hazardous chemicals and generation of hazardous wastes
- Goal to reduce the need for hazardous waste treatment facilities by cutting waste generation
- Covers some 500-600 industrial facilities in Massachusetts over a 15 year period
- Requires industrial managers to plan for changes in chemicals, technologies and management of production processes

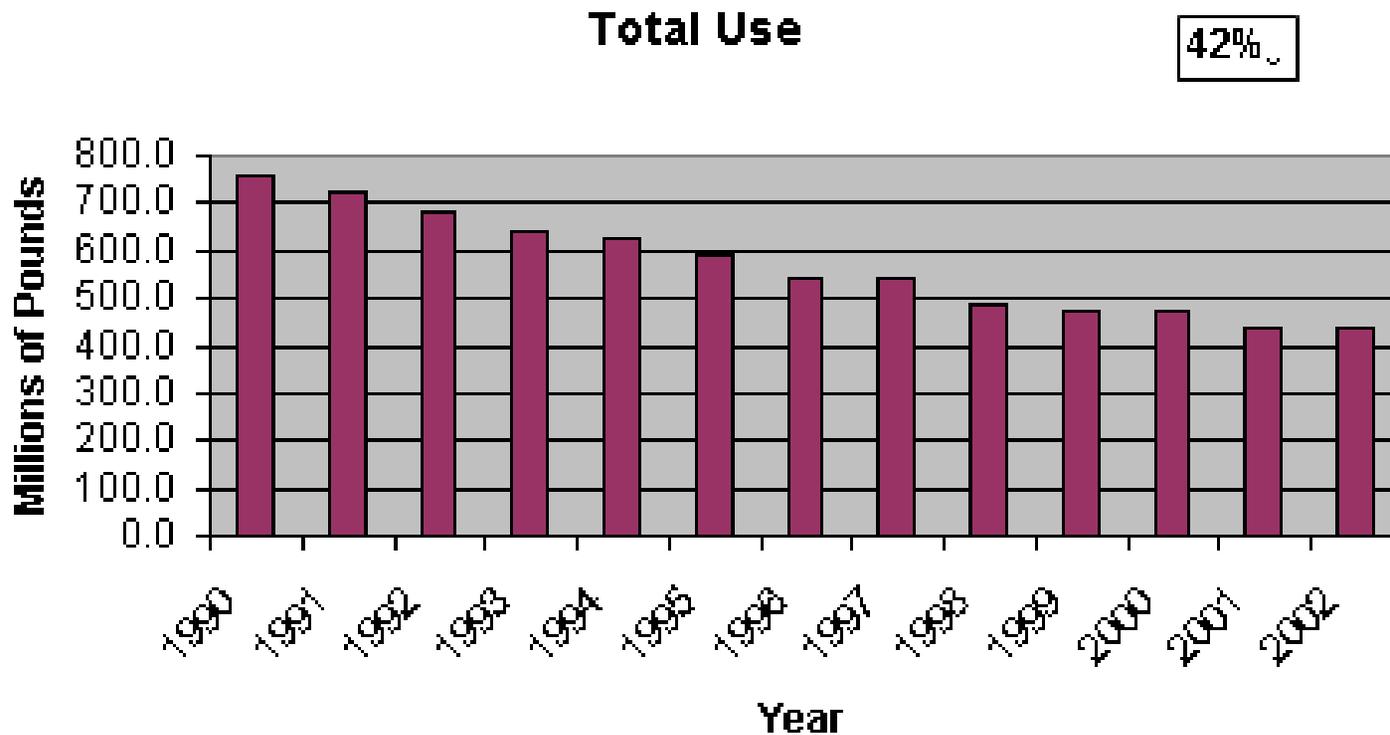
TURA Agencies

- **Department of Environmental Protection**
 - Collects data and fees and provides enforcement
- **Office of Technical Assistance**
 - Provides on-site, confidential technical assistance
- **Toxics Use Reduction Institute,
University of Massachusetts Lowell**
 - Provides research, testing, training and public education

Industry Responsibilities under TURA

- Requires annual reports on the use of some 190 toxic chemicals used over 10,000 lbs/yr
- Requires confidential, bi-annual plans and public summaries on how to reduce or eliminate the use of those chemicals
- Requires an annual fee to pay for the program

Trends in Toxic Chemical Use 1990 -2002



Trends in Toxic Chemicals Shipped as Products, 1990-2002



Green Chemistry

- Developed to encourage chemists to
 “reduce or eliminate the generation of hazardous substances in the design, manufacture and application of chemical products”
- Promoted by annual U.S. Presidential Green Chemistry Awards
- Established Green Chemistry Institute at the American Chemicals Society
- Today, green chemistry centers established in 23 countries

Green Chemistry in California

- California Policy Research Center Report
(April, 2006)

“California needs a modern, comprehensive chemicals policy to address pressing public and environmental health problems and to position itself as a global leader in green chemistry innovation.”

- Focuses on
 - closing the Data Gap
 - closing the Safety Gap
 - closing the Technology Gap

Chemicals Policy

- Considers classes of chemicals
- Considers chemicals comprehensively in production, products and wastes
- Incorporates a precautionary approach
- Focuses on hazards, not risks
- Seeks to eliminate certain chemicals
- Encourages safer substitutes
- Drives “green chemistry” and innovation in chemistry

Product Policies to Promote Chemicals Policy

“Closing the Loop”

Closing the Loop drives Toxics Reduction

- Product take back increases incentives to reduce toxics in product design
- Product collection and recycling reduces volume of new toxic chemical production
- Producer responsibility encourages better management of chemicals in end-of-life products

Product Stewardship

- Developed from European “take back” programs intended to extend producer responsibility
- Typically involves an intermediary institution for “end of life” product collection and management
- Sometimes, linked to specific chemical restrictions
- European programs on packaging, vehicles, electronic products, etc.
- U.S. programs on bottles, batteries, tires, carpets, etc.

Chittendon Solid Waste District Paint Recovery Program

- CSWD collected waste paint and worked with local vendor to transfer waste paint stock for reformulation
- Local firm manufactures and sells reformulated paint as “Local Color”
- 75% of paint has been sold at a net cost of 68 cents/gallon



Paint Product Stewardship Initiative

- National stakeholder dialogue begun by the Product Stewardship Institute in 2003 to address unused and leftover paint
- 4 national dialogues held involving 55 stakeholders
- Memorandum of Understanding signed in 2005 to pilot projects and lay basis for national program



Chemical Stewardship

- A long-term relationship in which a customer contracts with a service provider to supply and manage the customer's chemicals and related services
- Shifting the chemicals industry from a commodity to a service industry (Dow Canada's "leased chemicals")
- Revenue based on performance metrics rather than product sales
- Promoted by Chemical Strategies Partnership (CSP)
- Ashland Chemical, Dow offer "chemical leasing"

CMS at General Motors

- Programs in over 90% of plants worldwide
- Reduced number of chemicals used by 50% and decreased chemical suppliers from 10,000 to just 5
- Reduced volume of chemical use on average by 30%
- Total cost savings above 30%
- Reductions over 6 years at one production facility:
 - 54% decrease in purge solvent use
 - 77% decrease in paint stripper use
 - 80% decrease in solvent masking
 - 75% decrease in VOC emissions



Procurement Policies to Promote Chemicals Policy

“People don’t waste what they don’t buy”

Consumer Sovereignty?

- Who is the consumer?
- What is consumption?
- Users make purchases
- Who makes purchase decisions?
- “Institutional Buyers” make most purchase decisions
- Institutional Buyers include governments, private purchasing organizations, distributors, and large retailers

1. Government Procurement

- Federal government directly purchases more than \$200 billion in goods and services each year
- Federal government spends an additional \$240 billion for goods and services through indirect grants and contracts
- State and local governments purchase an additional \$1 trillion

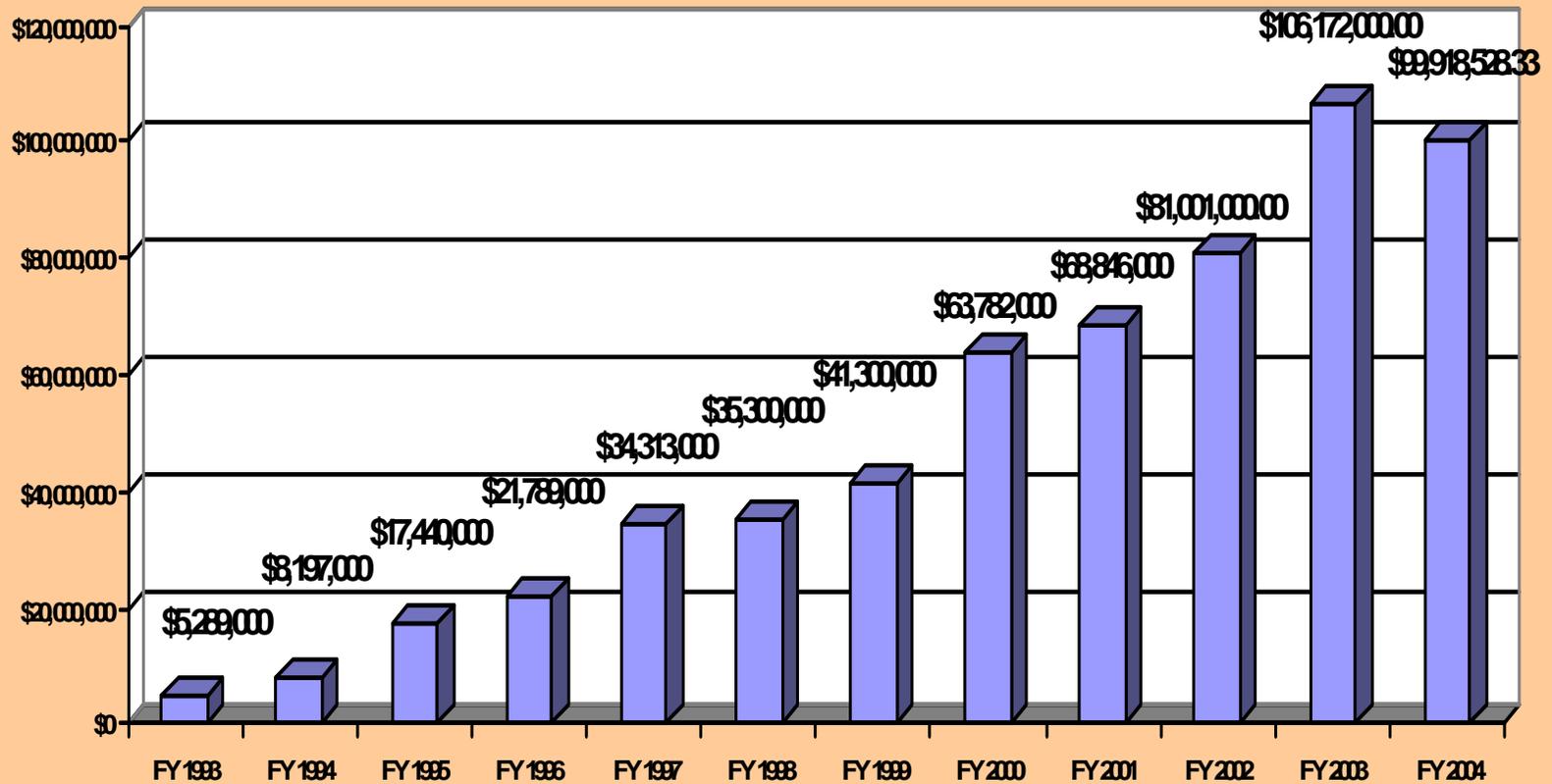
Government Procurement Program

Massachusetts EPP Program

- Environmentally Preferred Purchasing Program established in 1994 by Massachusetts Operations Services Division
- Environmental criteria coordinated with National Association of State Purchasing Officers
- Massachusetts state government purchases some \$300 million in products each year



Growth in Massachusetts EPP



Massachusetts EPP

- EPP Program purchases by state agencies in FY2001 totaled \$92.5 million
 - \$68.8 million in recycled-content purchases
 - \$21 million in recycled office printing paper
 - sharp reduction in mercury containing products
- Program evaluation of 25 manufacturers found that the EPP Program
 - generated \$11.6 million in revenues and 33 permanent, full time jobs

2. Group Purchasing Organizations

- Hospital GPOs
 - Premier, Novation, Consorta, Health Trust
 - Health Industry Group Purchasing Association
- Hotel GPOs
 - Higgins, Rausch, Benjamin West, Buy Efficient
- Academic GPOs
 - Inter University Council Purchasing Group,
Philadelphia Area Collegiate Cooperative

Group Purchasing Organization

Consorta

- A cooperatively held Group Purchasing Organization (GPO) for 13 Catholic health care systems
- Over 600 supplier agreements with annual purchase volume of \$4.1 billion
- Partnered with Health Care without Harm to develop purchasing criteria



Consorta's Environmentally Preferred Purchasing Program

- Consorta contracts for environmentally preferred products that:
 - Do not contribute to other health issues.
 - Are manufactured by companies that are committed to reducing the generation of hazardous waste
 - Combine environmentally friendly features with economic features.
 - Are of high quality.
 - Offer the same or better functionality than current products.
 - Are reliably available at reasonable prices.

Consorta's Environmentally Preferred Purchasing Program

- Established a list of chemicals of concern and requires disclosure of their presence in products when evaluating potential suppliers
- In 5 years, Consorta has negotiated 67 contracts for “environmentally preferred products”
 - eliminating mercury containing products
 - limiting products containing latex
 - minimized PVC-containing products

3. Large Retail Corporations

- 20 retail chains in the U.S. with revenues over \$15 billion per year
- Sheer size of purchasing can rapidly swing product markets

	Revenue/yr	# of Stores
Wal-Mart	\$288 million	5,189
Home Depot	\$73 million	1,890
Kroger	\$56 million	3,763

“Big Box” Retail Corporation

Wal-Mart

- 5,189 stores worldwide
(3,800 stores in the U.S.)
- 200 million customers/ year
- 68.000 suppliers
- Health and personal care products takes up 1/4 aggregate floor space
- Apparel takes up 1/4 aggregate floor space primary sourced from Latin America and China

The image shows the Wal-Mart logo, which consists of the words "WAL" and "MART" in a bold, black, sans-serif font, separated by a five-pointed star. A small trademark symbol (TM) is located at the end of the word "MART". The logo is centered within a white rectangular box.

Wal-Mart's Environmental Program

“Wal-Mart encourages its suppliers to reduce excess packaging and to use recycled and non-toxic materials whenever possible.”

- Established 13 advisory “Sustainable Value Networks” working on sustainable packaging, wood, produce, electronics, and “elimination of substances of concern”
- Developing incentive plans for suppliers and scorecards for merchandise buyers

Wal-Mart's Organics

- Started with organic yoga cotton apparel and soon moved into organic bath, bed and baby products
- Experimenting with over 400 organic foods
- Organic Exchange claims that the Wal-Mart program has saved 500,000 pounds of biocides and made Wal-Mart the world's largest purchaser of organic cotton



**How can Household Hazardous
Waste Collection Programs promote
Chemicals Policy?**

Household Hazardous Waste Collection Programs

- Programs in place in many communities
- Experienced with waste product collection, sorting and disposal
- Well positioned to identify products containing chemicals of concern
- Capable of managing product take back
- Need to be linked to broader state and national policies
- In need of increased resources

Conclusion

Chemicals Policy and Product Policy

- Chemicals policy offers a new, comprehensive approach to chemicals in production, products and wastes
- Household hazardous waste programs can play an effective role in promoting safer chemicals policy
- Product and chemical stewardship programs should focus on “closing the loop”
- Programs should partner with Institutional Buyers to increase environmentally preferred purchase decisions