



DELIVERING STRATEGIC SOLUTIONS ACCA'S 2000 ANNUAL MEETING

A GLOBAL OVERVIEW OF PRODUCT ENVIRONMENTAL REGULATIONS: FOCUS ON COMPUTERS AND ELECTRONICS

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Introduction

Environmental Regulatory Trends — Emerging Focus on Product-Based Regulations

General transition from facility-based issues (emissions, manufacturing wastes, etc.) to product attributes

1970s - emissions control (e.g., Clean Air Act, Clean Water Act , etc.)

b. 1980s — remediation (e.g., Superfund)

c. 1990s - chemicals, product attributes (e.g., ban on CFCs, energy efficiency, etc.)

d. 2000s - product lifecycle impacts (material content, recycling, etc.)

Effort to implement sustainable development and minimize life cycle impacts require consideration beyond the facility limits

Key Product-Related Issues

"End-of-life" management ("takeback")

2. Material restrictions/bans

3. "Green" purchasing

4. Energy Efficiency

5. Ecolabeling

Focus on Key Product Sectors

Key products categories

Computers and Electronics

Packaging

Batteries

Vehicles

Your product!

No clear criteria; apparently, consideration of:

Volume

Rapid turnover

Presence of heavy metals or other substances of concern

Product-related regulations can address a wide range of environmental attributes

Volume of wastes

Toxic/Hazardous substances

Diversity of materials

Disassembly

Recyclability

- Recycled Content
- Reuse
- Energy consumption
- Manufacturing process
- Raw material impacts
- Air/water impacts
- Noise pollution
- Indoor air quality
- Other

Challenges arising from consideration of the product life cycle

- Life cycle is still a developing tool
- No consensus on priorities

Environmental tradeoffs between environmental media (air, water, land) or life cycle stages — how to ensure a net environmental benefit?

Lack of international harmonization — potential for inconsistent standards across borders or regions, trade barriers, etc.

F. Interrelationship between key issues

Example - Waste considerations can lead to material bans/restrictions due to concerns about the impact of these substances on landfills or incinerators

Example — Governments may use ecolabels as a factor in making purchasing decisions

Example - Ecolabels can be based on criteria pertaining to product takeback or material restrictions

II. Product End-of-Life Management

Background

- Growing volume of wastes in modern society
- Sustainable development — resource conservation, waste minimization
- Concern over toxics in products, potential impact of waste disposition
- Concerns with waste management options

- Landfill shortages in certain regions
- Concerns with incinerator emissions, composition of ash

- Cost of waste management for local government
- Menu of Approaches

- Extended producer responsibility
- Landfill bans
- Disposal fees
- Private recycling infrastructure

B. Trend toward "Extended Producer Responsibility" (EPR) or "Takeback"

Key developments

- German packaging law
- European battery directive
- Proposed directives on vehicles and electronics

Global initiatives

- a. Europe is leading the way
- b. Japan and other Asian countries also active
- c. U.S. lagging, but EPA and states are becoming increasingly interested

Justification for EPR

Justification for EPR

Implementation of "polluter pays" principle

b. Attempt to provide incentives for eco-design

c. Shift cost from public sector (government, taxpayer) to private (industry, consumer)

Key data gaps

Infrastructure capacity Technical obstacles in recycling Net environmental benefits and risks Proper roles for various players in the product lifecycle
Need for different approaches for different products, regions, old or new products

C. Waste from Electrical and Electronic Equipment (WEEE)

Status - Proposed directive pending in the European Parliament

Text - http://europa.eu.int/comm/environment/docum/00347_en.htm.

3. Basic provisions

Broad scope

Product coverage - computers, appliances, consumer electronics, toys, lighting

Users - Households, commercial, industrial, institutional products

Timing - Applies to future, existing, and historic products

Key requirements for manufacturers

Manufacturer responsibility for recycling of end-of-life products

ii. Manufacturers must satisfy ambitious reuse/ recycling/ recovery targets

iii. Unclear provisions regarding financing, allocation of responsibilities

End user returns product "free of charge"

c. Limited improvements over time

i. Municipal responsibility for collection (previous drafts would have imposed this burden on manufacturers)

Minor adjustments to recycling targets (targets still unrealistic, but lower than previous versions)

Elimination of design specifications (e.g., recycled content requirements)

Next steps — formally proposed by the European Commission, pending before the European Parliament and the Council of Ministers

Other European Initiatives

Battery directive

Packaging

End-of-Life Vehicles - <http://europa.eu.int/comm/environment/docum/97358sm.htm>

E. European Country Initiatives on Electronics

Existing programs in place in Austria, Belgium, Denmark, Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland Often a combination of laws, regulations, and/or voluntary programs as an alternative to legislation Each program sets forth differences in approaches and covers different products; prospects uncertain for harmonization under WEEE

F. Asia

Japan - requires manufacturers to establish takeback programs financed by end user fees, currently limited to TVs and certain appliances; proposal to expand to office equipment

2. Taiwan - advance disposal fee ("tax") paid by manufacturer, applicable to TVs, computers and peripherals

China — regulations have banned the import of 10 categories of end-of-life electronics

4. South Korea — advance disposal fee paid by manufacturer, applicable certain batteries and TVs

G. Latin America

Brazil — Existing law on batteries; an amendment has been proposed to expand it to electronics

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Mexico — draft battery law pending

H. United States

No federal legislation requiring electronics recycling, legislation in effect to permit industry program on battery recycling

EPA considering whether to add CRTs under the Universal Waste Rule

Activity by a wide variety of federal agencies — DOE and DOE (recycling grants or demonstration projects), federal prisons (demanufacturing operations), U.S. Postal Service

Increased attention at the state level

Proposed bills on takeback and disposal fees, pilot collection projects, procurement initiatives

State recycling legislation in effect for batteries, white goods

Some of the leading states — California, Massachusetts, Minnesota, New Jersey

Transboundary Waste Shipments

Basel Convention — <http://www.unep.ch/basel/index.html>

OECD Council Decision on the Transfrontier Movement of Waste Destined for Recovery — <http://www.oecd.org/ehs/waste/control.htm>

Selected Resources

1. OECD Waste Management Program - <http://www.oecd.org/ehs/waste/index.htm>

2. OECD EPR Initiative — <http://www.oecd.org/efficiency/epr.htm>

European Commission - http://europa.eu.int/comm/environment/index_en.htm

4. EPA EPR Page - <http://www.epa.gov/epr/index.htm>

5. Electronic Product Recycling and Recovery (EPR2) project - <http://www.nsc.org/ehc/epr2.htm>

6. National Recycling Coalition — <http://www.nrc-recycle.org/Programs/electronics/Index.htm>

III. Material Restrictions/Bans

A. Targeted substances

Past targets — CFCs, PCBs, etc. Current targets — lead, cadmium, mercury, copper, zinc, chromium, nickel, brominated flame retardants

B. Proposed European directive on the use of hazardous substances

Prohibition on the use of lead, cadmium, mercury, hexavalent chromium, and certain flame retardants by Jan. 1, 2008

Allows for limited exemptions specified in an Annex

Provides for a process for granting further exemptions, but criteria limited, procedure ill-defined

4. Status — formally proposed by the European Commission, pending before the European Parliament and the Council of Ministers

5. Text - http://europa.eu.int/comm/environment/docum/00347_en.htm.

6. Major issues

a. No science-based risk assessment

b. No technical evaluation of substitutes

c. No evaluation of environmental impacts of alternatives

C. Danish Lead Ban

Proposed ban on lead in virtually all products

The legislation contains an exemption for lead in electronics "until further notice"

A scientific committee of the European Commission has issued a report stating that the Danish legislation is not based on sound science

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Japan — market forces are driving many leading Japanese manufacturers to establish goals for the phase-out of lead in the next several years

E. Other Global Initiative

Persistent organic pollutants (POPs) — United Nations Environmental Program

Pesticides - aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex, and toxaphene

Industrial chemicals - polychlorinated biphenyls and hexachlorobenzene, which is also a pesticide

Unintended by-products of combustion and industrial processes, dioxins and furans.

EPA focus on persistent, bioaccumulative, and toxic chemicals (PBTs)

F. United States - states

Mercury

Considerable focus in northeast (NEWMOA), Great Lakes (and Canadian provinces)

b. Vermont mercury labeling law struck down by district court, appeal pending

Lead

focus on CRTs in various states

b. Massachusetts - ban on disposal of TVs, computer monitors

c. Minnesota - pilot projects

G. Selected Resources

UNEP action on POPs — <http://www.chem.unep.ch/pops/>

EPA PBT initiative - <http://www.epa.gov/opptintr/pbt/>

NEWMOA proposed legislation — <http://www.newmoa.org/prevention/hottopics.cfm>

Industry coalition on lead free electronics — <http://www.leadfree.org/>

IV. Green Purchasing

A. Background

An effort to use purchasing power, especially of government, to promote environmental goals

2. IT equipment is a top priority

3. Existing programs for cleaners, building materials, etc.

4. Key issues

Criteria for determining "environmental preferability" — tradeoffs among media and lifecycle stages, prioritization, etc.

Criteria for identifying targeted products — amount of government purchasing? Degree of environmental impact? Other?

Transparency of development of criteria

Trade implications — lack of harmonization, use of ecolabels as market requirements

Design specifications can hamper innovation

Administrative burden and delay to secure approval

Implementation — how carefully will procurement officers evaluate the life cycle impact of competing products, or will they rely on lists of "approved" products or ecolabels?

B. Numerous Executive Orders

E.O. 12845 (requires purchase of Energy Star office equipment)

E.O. 13101 (requires agencies to consider recycling and waste prevention in their purchasing practices)

Other initiatives

Federal Electronics Asset Management Task Force

a. Pressing for increased use of leasing

Development of criteria for office equipment

2. Similar initiatives by states, institutional purchasers

D. Selected Resources

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EPA Environmentally Preferable Purchasing page - <http://www.epa.gov/opptintr/epp>

EPA guidance on environmentally preferable purchasing — 64 Fed. Reg. 45810 (August 20, 1999)

EPA EPR Page - <http://www.epa.gov/epr/index.htm>

Office of the Federal Environmental Executive - <http://www.ofee.gov/>

5. National Recycling Coalition — <http://www.nrc-recycle.org/Programs/electronics/Index.htm>

V. Energy Efficiency

A. Background

Interrelationship with climate change and efforts to achieve the goals of the Kyoto Protocol

Recognition by manufacturers of value of efficiency to product performance, lower user cost

Potential conflict with product performance, features, customer satisfaction

EPA Energy Star Program

Product coverage

Office products

Home electronics

Appliances

Buildings, windows, insulation

Miscellaneous — Exit signs, etc.

Voluntary program, government-industry partnership

Positive features

Self certification

Low administrative burden

Industry participation in setting standards

Increasing international harmonization

Negative features

Constantly shifting specifications

Increasingly aggressive requirements can impede product performance, result in diminishing returns

EPA consideration of industry views is limited International Initiatives

Japanese "Top Runner" Program

Group for Efficient Appliances (GEA)

International Energy Agency (IEA) — "standby" power initiative

D. Selected Resources

EPA Energy Star program — <http://www.epa.gov/energystar.html>

2. IEA Standby Power Initiative — <http://www.iea.org/standby>

3. Lawrence Berkeley National Laboratory — <http://eetd.lbl.gov/standby>

VI. Ecolabeling

Background

Attempt to spur market forces to improve environmental performance

Broad application — laundry detergent to computers

Sometimes inconsistent criteria for similar products across different programs

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Key Initiatives

Government

European Commission (e.g., Criteria for an Ecolabel for Personal Computers)

Country-specific — Blue Angel, White Swan

U.S. Federal Trade Commission Guidelines for the Use of Environmental Marketing Claims (available at: <http://www.ftc.gov>)

Governs self-declarations such as "recyclable," "biodegradable"

ii. Prohibits the use of claims of general superiority

Private Entities

Environmental groups — e.g., Green Seal

Certification bodies

C. Possible European Directive on Eco-Design

1. Self-proclaimed "New Approach" directive on eco-design

Would require life cycle consideration of all products, components, materials, processes

3. Marking, documentation requirements

4. Details to be supplied by technical standards bodies

Conclusion

Environmental regulations governing product attributes will expand to encompass virtually all product categories

Product-related environmental regulations can pose significantly greater technical, design, and marketing challenges than facility-based regulations.

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