Does Extended Producer Responsibility (EPR) Influence Product Design?

Scott Cassel, CEO and Founder
Product Stewardship Institute, Inc.
November 13, 2012
Upcoming PSI Webinars

- The Roles of Government and Industry in Attaining High Performing Product Stewardship Programs
  Tuesday, November 27, 1:00-2:30 PM EST (10:00 AM-11:30 AM PST)
  Co-sponsored with the Global Product Stewardship Council

- How Best to Bag the Bag - 4 Options for Managing Plastic Bags and Film Plastics
  Tuesday, December 11, 1:00-2:30 PM EST (10:00-11:30 AM PST)

PAST WEBINAR – RECORDING AVAILABLE:
- Lifecycle Assessment – November 1

For more information and access to the recordings:
www.productstewardship.us/networkingcalls
Who is the Product Stewardship Institute?

- Non-profit founded in 2000
- Memberships
  - 47 States
  - 200+ Local governments
- Partnerships (75+)
  - Companies
  - Organizations
  - Universities
  - Non-US Governments
- Board of Directors: 7 states, 4 local agencies
- Advisory Council: Multi-stakeholder (14 members)
How to Participate Today

To ask a question (verbally) via phone or VOIP … please use the hand-raising function.

To type in a question, use the Question tab.

You can connect to the Audio portion using VoIP or your telephone.

Technical Difficulties?
Dial 800.263.6317
Goals of Extended Producer Responsibility laws:

– Influence product and packaging design – reduce waste.

– Increase product reuse and recycling AFTER the product has been designed and manufactured.

– Shift costs from taxpayers to producers and consumers by internalizing all costs associated with that product or package.

– Lower overall system costs (e.g., efficiency).

– Create recycling jobs.
• Whether, and how, EPR influences product and packaging design is a hotly debated topic.
• Whatever your beliefs, we need a forum for honest debate.
• PSI is most interested in the nuances and the shades of gray – when does EPR influence most influence design, and when does it have the least or no influence?
What is Product Stewardship?

The act of minimizing the health, safety, environmental, and social impacts, and maximizing economic benefits, of a product and its packaging throughout all lifecycle stages. The producer of the product has the greatest ability to minimize adverse impacts, but other stakeholders, such as suppliers, retailers, and consumers, also play a role. Product Stewardship can be either voluntary or required by law.
What is Extended Producer Responsibility (EPR)?

A mandatory type of product stewardship that includes, at a minimum, the requirement that the **producer’s responsibility for their product extends to the post-consumer management of that product and its packaging.**

EPR is a central tenet of product stewardship.
Product Stewardship and EPR

Product stewardship is about lifecycle and sustainability

EPR is about extending a producer’s responsibility to managing its product at end-of-life
Product Stewardship and EPR

Product Stewardship

Extended Producer Responsibility (EPR)
Expert Panelists

- **Chris van Rossem**, PhD in Industrial Environmental Economics from Lund University, Sweden (currently the Director of Technical Advisory Services at Stewardship Ontario)

- **David Stitzhal**, President, Full Circle Environmental, Inc.

- **Catherine Abel**, Director of Stakeholder Relations and Sustainability Programming, Stewardship Ontario

- **Walter Alcorn**, Vice President of Environmental Affairs, Consumer Electronics Association

- **Alan Blake**, Executive Director, PAC NEXT
Does EPR influence Product Design?

Chris van Rossem, PhD
Director, Technical Advisory Services
Stewardship Ontario
Presentation Outline

• Background and Context
• Evidence of EPR and Design Change
  – Empirical Studies
  – Design Literature
• Implications for EPR Implementation
"Extended Producer Responsibility (EPR) is a policy principle to promote total life cycle environmental improvements of product systems by extending the responsibility of the manufacturers of the product to various parts of the entire life cycle of the product, and especially to the take-back, recycling and final disposal of the product" (Lindhqvist, 2000)

EPR is 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 related features of EPR policy: 1. Shifting of responsibility (physical and/or economically; fully or partially) upstream to the producer and away from municipalities, and 2. to provide incentives to producers to incorporate environmental considerations in the design of their products. (OECD, 2001)
My Context - PhD Dissertation

Overall Research Objective
To contribute to the understanding of how Extended Producer Responsibility (EPR) programs can be structured to increase incentives for improved environmental performance of products and product systems, especially from an end-of-life perspective.
Empirical Research – Program Evaluation

• 14 studies reviewed published between 2000-2007
  – Waste Electrical and Electronic Equipment
  – End-of-life Vehicles
  – Packaging

• 9 studies documented explicit product design change (upstream measures to improve end-of-life performance) and downstream improvements to collection and recycling infrastructure - *Anticipatory Effects of EPR implementation*

• 5 studies did not document any impact on product design – *Lack of incentives after EPR implementation*
Design for Environment Literature

• Reviewed Generic Eco-design and Design for Recycling Literature in the Electrical and Electronic Equipment (EEE) sector
• All point to EPR regulations as current and future motivators to invest in design for end-of-life/design for recycling for competitive advantage
Implications for EPR Implementation

• EPR at a turning point? Should the notion that EPR policy instruments create product design incentives be abandoned, making EPR simply a tool for shifting the cost of end-of-life management away from government or should there be an reinvigorated attempt to realize the incentive potential of EPR?

Paraphrased form Lifset R & Lindhqvist T, 2008
PSI Webinar: Does EPR Influence Product Design?
13 November 2012

David Stitzhal, MRP
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Coordinator, Northwest Product Stewardship Council
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What is EPR? Extend Yourself.

Triangle Shirtwaist Factory Fire (1911)
Extended Responsibility: Worker Safety
Baseline Structure: OSHA
What is EPR? Extend Yourself.

Triangle Shirtwaist Factory Fire
Extended Responsibility: Worker Safety
Baseline Structure: OSHA

Cayuhoga River Fire (1969)
Extended Responsibility: Effluent and Emissions
Baseline Structure: Clean Water Act
What is EPR? Extend Yourself.

Triangle Shirtwaist Factory Fire  
Extended Responsibility: Worker Safety  
Baseline Structure: OSHA

Cayuhoga River Fire  
Extended Responsibility: Effluent and Emissions  
Baseline Structure: Clean Water Act

Corvair: Unsafe at Any Speed (1965)  
Extended Responsibility: Consumer Safety  
Baseline Structure: Consumer Product Safety Commission
What is EPR? Extend Yourself.

Triangle Shirtwaist Factory Fire
Extended Responsibility: Worker Safety
Baseline Structure: OSHA

Cayuhoga River Fire
Extended Responsibility: Effluent and Emissions
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Corvair Unsafe at Any Speed
Extended Responsibility: Consume Safety
Baseline Structure: Consumer Product Safety Commission

Drinking Water & Toxicity Exposure
Extended Responsibility: Daylighting/Information
Baseline Structure: Proposition 65 (1986)
What is Influence?

• Consumer Demand
What is Influence?

• Consumer Demand
• Market Demand
What is Influence?

• Consumer Demand
• Market Demand
• Competitive Demand
What is Influence?

• Consumer Demand
• Market Demand
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• Innovation Demand
What is Influence?

- Consumer Demand
- Market Demand
- Competitive Demand
- Innovation Demand
- Internal Company Demand
What is Influence?

- Consumer Demand
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- Competitive Demand
- Innovation Demand
- Internal Company Demand
- Social Demand
What is Influence?

• Consumer Demand
• Market Demand
• Competitive Demand
• Innovation Demand
• Internal Company Demand
• Social Demand
• Regulatory/ Legislative Demand
Where Do Extended Responsibilities and Influence Overlap?
Product stewardship embraces a wide range of tools and mechanisms, including:

- take-back requirements,
- substance restrictions,
- recovery mandates,
- individual and joint producer responsibility,
- recycled-content standards,
- and more.

Where Do Extended Responsibilities and Influence Overlap?
THE FOLLOWING PROGRAM EXAMPLES ARE EXPLORED IN:

ENVIRONMENTAL QUALITY MANAGEMENT, Spring 2011:
“Product Stewardship: Can it Drive Green Design?”

- Restriction of Hazardous Substances (RoHS)
- Waste Electrical and Electronic Equipment Directive (WEEE)
- Top Runner (Japan – Regulatory and Market drivers)
- Electronic Product Environmental Assessment Tool (EPEAT)
- Oregon E-Cycles Program
- Oregon Paint Program
- Seattle Food Packaging Requirements
- Denmark’s Packaging Law
- “Empty Space” Restrictions
How EPR influences Product Design

Product Stewardship Institute
November 13, 2012
• The Blue Box Program is a shared responsibility between Ontario’s municipalities and industry stewards (50/50)
• The Orange Drop Program is a 100% industry funded and managed program for municipal hazardous and special waste.
• Blue Box Program is focus of today’s discussion
SO packaging design influencers

1. Consumers equate blue box with sustainability
2. Fee Setting Methodology differentiates stewardship fees
3. Working with municipalities to standardize ‘Basket of Goods’
4. Support steward initiatives
5. Developing end-markets
6. Guidance to stewards at packaging design stage
Blue Box Brand Endures

- 57% of consumers still “feel good” about blue box
- 75% say the blue box is their primary environmental effort
- 89% say blue box is the main driver of recycling
- 82% say being “friendly” depends on acceptance in blue box
Brand Drives Behaviour

• 82% say being “friendly” depends on blue box

• 83% will buy blue box friendly products over those that are not
Fee Differentiation

• Three factor formula ensures that:
  • Materials with lower relative recovery rates attract higher fees
  • Materials with lower relative costs per tonne due to higher recovery rates attract lower fees
• Weight based incentive to light weight
Standardizing the Basket of Goods

Plastic Is In!

Into the Blue

Out of the Blue

If you live in the City of Kawartha Lakes, City of Peterborough, County of Peterborough or the County of Northumberland you can recycle all of your plastic packaging and containers.

Don't forget, all PET (#1) plastics can go in your blue box.
Supporting Steward Initiatives
Developing end markets

Green Mantra

**INPUTS**
- Virgin Plastic
- Plastic Jugs
- Plastic Bags
- Other Recyclable Plastic

**Catalyst (reused)**

**OUTPUTS**
- Diesel
- Wax
- Grease

**Reactor** (plastic processing)

**Filtration & Purification**
Developing end-markets

- Identified demand for material in North America
- Working with municipalities on pilots to increase capture rate
• Blue Box stewards are encouraged to provide Stewardship Ontario with packaging prototypes for assessment

• We work with experts on a confidential basis to evaluate the potential impact on recycling system
Walter Alcorn
VP Environmental Affairs
Consumer Electronics Association (CEA)®
Consumer Electronics Association

• Represents more than 2,000 companies in the $195 billion U.S. consumer electronics industry
• Membership includes component suppliers, device manufacturers, retailers, distributors and service providers
Does EPR Influence Design?

• Intuitively it sounds correct
  – *If manufacturers are required to take back their products at end of life then they will be incentivized to design them for recycling*

• Assumptions built into this statement
  – Manufacturers can get their own products back in significant amounts, as opposed to their competitors, and in time to be financially relevant
EPR Influence Design? (cont)

• Our Experience
  – Product distribution and collection systems not conducive for brand-specific take back
  – Many, many brands and producers
  – Time from design to recycling is not actionable

• Possible exceptions
  – Products with short life spans
  – Leasing/subscription based business models
For More Information….

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Does EPR influence Product Design?

• Package design is driven by brand owners and retailers responding to consumers needs (Global markets have 000’s of packaging formats for delivering products to consumers)

• Packaging Worlds / DuPont recent survey confirmed that lower cost while providing convenience and safe products are the priorities (with sustainability increasing in priority over next 10 years).

• Industry sustainability movement driven by WalMart globally has had a profound positive impact on package design (the supply chain listens to it’s customers i.e. retailers)

• The Consumer Goods Forum thru the GPPS is driving improved sustainable packaging design.

• PAC NEXT thru their Sustainable Packaging Design Guide will influence and yield better optimized sustainable package design.
Industry taking the lead the way!
Transparent Collaboration

The Stakeholders

Consumers

Government policy makers

NGOs

Sustainable Material Management

Reduce

Reuse

Recycle

Compost

Upcycle

Emerging solutions

Energy from waste

2011 The PAC NEXT Story
Finding solutions to economical packaging recovery

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Finding Balance
Product Design & the Value of Packaging

• Consumer preferences
  • Winning pack designs that look great, communicate brand equity and product info, are convenient and safe to use

• Consumer attitudes
  • Winning pack designs that offer value, performance AND sustainability but with no compromises

• Packaging value chain system efficiencies
  • Efficient unitization, shelf utilization, handling

• Product protection
  • Protect and preserve (no product damage / loss, shelf lives of 2 years or more)
Biggest packaging efficiencies come from synergistic product AND package innovation.

...and innovation that drives winning at shelf with logistics efficiencies.
Questions/Discussion

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For the Audience: 2 ways to ask questions

• **Spoken:** Use the “hand-raising function” on your control panel so we can unmute you.
  – Speak through a microphone on your computer OR
  – Be dialed-in through a telephone (and enter your Audio PIN)

• **Written:** Write your question in the Question box at any time. Please tell us to whom you are addressing your question.
**Speaker Contact Information**

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Past PSI Webinar in this Series

• LifeCycle Analysis – How Seemingly Simple Assumptions can Influence – Even Predetermine – the Outcomes of an Analysis November 1, 2012

– Access the recording on our website today!

For more information and access to the recordings: www.productstewardship.us/networkingcalls
Let Us Know What You Think!

Please Fill Out Our Evaluation

You will receive an email shortly
THANK YOU!