Roundtable Three

Packaging Waste: Whose Responsibility Is It Anyway?

November 6, 1998

APPENDIXES A-J
APPENDIX A

List of Invitees and Attendees
(Attendees marked with *)

* Barbara Belasco
US EPA, Region 2, Solid Waste
290 Broadway
New York, NY 10007
212-637-4182
Fax -4437
belasco.barbara@epamail.epa.gov

* Carole Bell
Science Applications International Corporation (SAIC)
221 3rd St.
Newport, RI 20840
401 848-4756
cbell@mtg.saic.com

* Wade Beltramo
Mayor’s Office of Operations
100 Church Street, 20th Floor
New York, NY 10007
212 788-9770
wbeltram@mayorlan.nycnet.ci.nyc.ny.us

* Judy Bergtraum
Deputy Commissioner, Div. of Municipal Supply Services
Municipal Building, 18th Floor
New York, NY
212 669-8520
fax: 669-7723

* Jane Bickerstaffe
INCPEN, Technical Director
Tenterden House, 3 Tenterden St.
London, UK, W1R9AH England
44 118 948 4256 or 44 118 947 2687. Fax:44 1189 479 520
j.bickerstaffe@dial.pipex.com

* Ed Boisson
Northeast Recycling Council (NERC)
139 Main St., Suite 401
Brattleboro, VT 05301
802-254-3636
fax: 6254-5870
eboisson@sover.net

Chris Boyd
Brooklyn Borough President’s Office
Brooklyn Borough Hall, 209 Joralemon Street
Brooklyn, NY 11201

* Ken Brezner
NYS DEC, Region 2
1 Hunters Point Plaza, 4740 21st St
Long Island City, NY 11101-5407
718 482-4889
fax: 718 482-4979
kbrezne@gw.dec.state.ny.us

* Duncan Bury
Environment Canada, Nat’l Office of Pollution Prevention
Place Vincent Massey, 351 St. Joseph Blvd. 13th Floor
Hull, Quebec
K1A 0H3 Canada
819-953-0459
fax: 953-0509
duncan.bury@ec.gc.ca

* Ed Campbell
Empire State Development ORMD
633 Third Avenue, 33rd Floor
New York, NY 10017
212-803-2313
fax: 212-803-2239
ecampbell@empire.state.ny.us

* Erica Clark
US EPA, Region 2, Solid Waste
290 Broadway
New York, NY 10007
212-637-4161
clark.ERICA@epamail.epa.gov

* Susan Clark
Queens Solid Waste Advisory Board
6-29 161st Street
Beechurst, NY 11357
* Marjorie Clarke
  The Center for Applied Studies of the Environment (CAPSE)
  1795 Riverside Drive Apt. 5F
  New York, NY 10034
  212/567-8272
  mclarke@shiva.hunter.cuny.edu

* Gary A. Davis
  Director, Center for Clean Products and Clean Technologies
  The University of Tennessee. Conference Center Building, Suite 311
  Knoxville, TN 37996
  423 974-1835
  fax: 423974-1838
  gadavis@utk.edu

* George Davis, III
  Deputy Director, Mayor’s Office of Operations
  100 Church Street, 20th Floor
  New York, NY 10007
  212-788-2643

* Hada de Slosser
  CCE of New York City
  16 East 34th Street, 8th Floor
  New York, NY 10016-4328
  212 340-2914
  hld3@cornell.edu

Brian V. DiNatale
Xerox in Rochester
Xerox Corporation, Building 304 135, 800 Phillips Road
Webster, NY 14580
716-422-6111
fax: 9211
Brian.DiNatale@usa.xerox.com

Nick Dymtryszyn
Staten Island Borough President’s Office
Room 100, Staten Island Borough Hall
Staten Island, NY 10301

Judy Enck
NYPIRG
107 Washington Ave.
Albany, NY 12210
518/ 436-0876
fax: 432-6178

John Filippelli
US EPA Region 2, Solid Waste
290 Broadway
New York, NY 10007
212 637-4125
filippelli.john@epamail.epa.gov

* Bette Fishbein
  INFORM, 120 Wall Street
  120 Wall Street, 16th Floor
  New York, NY 10005
  (212) 361-2400 x 230
  fax: 2412
  fishbein@informinc.org

Tim Forker
Manhattan Borough President’s Office
Municipal Building, 19th Floor South
New York, NY 10007
212 669-8136

* Eric Friedman
  Environmental Purchasing Coordinator, Massachusetts Operational Services Div.
  1 Ashburton Place, 10th Floor
  Boston, MA 02108
  617-727-7500 ext. 351
  fax 727-4527
  eric.friedman@state.ma.us

* Michael Gagliardo
  Conference of Mayors
  1620 Eye St NW
  Wash, DC 20006
  202 861 6777
  FAX 202 429-0422
  gagliardo@usmayors.org

* Paul Gallay
  Special Assistant to the Commissioner, NYS DEC, Region 2
  1 Hunters Point Plaza, 4740 21st St
  Long Island City, NY 11101-5407
  (718) 482-4949;
  Fax (718) 482-4026

* Lorraine Graves
  US EPA, Region 2, Solid Waste
  290 Broadway
  New York, NY 10007-1866
  212 637-4099
  fax 637-4437
  graves.lorraine@epamail.epa.gov
Giovani Graziosi  
Bronx Borough Presidents’ Office  
Room 301, Bronx Borough Hall, 851 Grand  
Concourse  
Bronx, NY, 10451  
718-590-6124  
fax 590-2698

Steve Hammond  
NYS DEC, Division of Solid & Hazardous Materials  
50 Wolf Rd, Rm 229  
Albany, NY  12233  
518 457-6934  
fax: 0629

* Ellen Harrison  
Cornell Waste Management Institute  
Rice Hall, Cornell University  
Ithaca, NY 14853  
607 255-8576  
fax: 255-8207  
ezh1@cornell.edu

* Alan Hershkowitz  
Natural Resources Defense Council  
40 West 20th Street  
New York, NY  10011  
212 727-2700  
ahershkowitz@nrdc.org

* Martha Hirst  
New York Department of Sanitation (DOS), Bureau of  
Waste Prevention, Reuse and Recycling  
44 Beaver St.  
New York, NY  10004  
212 837-8001

* Ulf Jaekel  
Product Responsibility Division,  
Federal Ministry for the Environment  
(Bundesministerium für Umwelt, Naturschutz und  
Reaktorsicherheit)  
Referat WA II 3,  
Ahrstr. 20  
53175 Bonn, Germany  
49 228 305 2572  
fax: 305 2398  
wa236002@wp-gate.bmu.de

* David Kleckner  
New York Department of Sanitation (DOS), Bureau of  
Waste Prevention, Reuse and Recycling  
44 Beaver St.  
New York, NY  10004  
212 837-8175  
fax: 837-8162  
bwprr@cnct.com

* Andriana Kontovrakis  
New York Department of Sanitation (DOS)  
44 Beaver St.  
New York, NY  10004  
212 837-8166

* Pablo Lacayo  
New York Department of Sanitation (DOS)  
44 Beaver St.  
New York, NY  10004  
212 837-8257

Jerry LaMura  
Queens Borough President’s Office  
Room 219, Queens Borough Hall, 12055 Queens  
Blvd.  
Kew Gardens, NY 11424

Robert Lange  
New York Department of Sanitation (DOS), Bureau of  
Waste Prevention, Reuse and Recycling  
44 Beaver St.  
New York, NY  10004  
212 837-8156

Clare Lindsay  
USEPA, Municipal and Industrial Solid waste Division  
401 M St SW, mail 5306W  
Washington, DC  20460  
703 308 7266  
FAX 703 308 8686  
LINDSAY.CLARE@epamail.epa.gov

* Julia Maceda-Willebrand  
Chair, Manhattan Citizen’s Solid Waste Advisory  
Board  
225 West 84th Street, 1B  
New York City, NY 10024  
212 877-5088  
jmw255@interport.net

* Joseph Malki  
US EPA, Region 2, Solid Waste  
290 Broadway  
New York, NY 10007  
212-637-4161
David Stitzhal  
Full Circle Environmental Consulting  
2955 36th Ave S  
Seattle, WA 98118  
206 723 0528  
fax: 206 723-2452  
fullcirc@halcyon.com

* Tom Terracino  
M and M Mars, Envir Affairs and Safety.  
800 High St.  
Hackettstown, NJ 07840  
908 850 2230  
Fax: 908 850 2734  
thomas.terracino@effem.com

Jim Tripp  
Environmental Defense Fund  
257 Park Avenue South  
New York, NY 10010  
212 505-2100

* Hans van Bochove  
Coca-Cola Beverages Nederland B.V., External Affairs Department  
P.O. Box 181  
3100 AD Schiedam, The Netherlands  
31 10 24 55 400  
hvanbochove@ge.cokecce.com

Nancy Walby  
Chair, Brooklyn Solid Waste Advisory Board  
2163 East 34th Street  
Brooklyn, NY 11234  
718 258 –2701

Barbara Warren  
Chair, Staten Island Solid Waste Advisory Board  
199 Thornycraft Avenue  
Staten Island, NY 10312  
718 984-6446

Mark Wheeler  
Representing NYSAR3  
Millbrook, New York 12545  
mwheeler@cce.cornell.edu

* Keith Zook  
Procter and Gamble  
2 P&G Plaza, TN-2, Box 28  
Cincinnati, OH 45202  
513 983-9390  
fax 513 983-5226  
zook.km@pg.com
APPENDIX B

Agenda

Packaging Waste: Whose Responsibility is it Anyway?

Sponsored by U. S. EPA, Region 2 and
The Cornell Waste Management Institute
on behalf of the NYC Department of Sanitation

November 6, 1998 8:30 am - 5 PM
U.S. EPA, Room A, 27th floor
290 Broadway, New York, NY

NOTE: with the exception of a short presentation summarizing existing international programs, the roundtable
will be a focused discussion among participants and not a series of talks.

8:30
Registration, coffee and pastry

9-9:45
Introductions
Welcome
EPA, Region 2
NYC Dept. of Sanitation
Overview of the Roundtable
CWMI
Participants briefly introduce themselves

9:45-10:45
Summary of Initiatives in Europe, Canada, Asia and US
   Short presentation by SAIC followed by participant contribution

10:45-12
Lessons Learned from Existing Initiatives
   Documentation of waste reduction
   Comparison of packaging in Europe and US
   Benefits to government, industry
   Problems/costs/obstacles
   Current issues and what’s next
Afternoon:
Making the Link between Package Design and Waste Reduction and Management

1-3
What are the Goals?
- Source reduction
  - quantity
  - toxicity
- Recycling
  - recyclability
  - recycled content
- Economic efficiency
- Who Pays for What?

Implications for jobs and economic competitiveness of producers and of localities

How can progress be tracked?

3-3:15
Break

3:15-5
What would be Effective Strategies for Achieving Goals?
- In the US, NYS and NYC?
- What are the roles of the various players (government, producers, retailers, NGOs, others?)
- Procurement guidelines
- Promote industry understanding of European, Canadian and Asian requirements

Local and state initiatives
Consumer education
Partnerships
Packaging guidelines, awards
APPENDIX C
Excerpts from “Extended Producer Responsibility: A New Principle for a New Generation of Pollution Prevention”

WHAT IS EXTENDED PRODUCER RESPONSIBILITY?

The traditional focus of environmental regulation has been the abatement of emissions and effluents from factories and related industrial facilities. Implicitly, this has meant a regulation of pollutants on a facility-basis. With the growing use of a life cycle perspective in environmental policy, where environmental impacts are assessed from cradle-to-grave, the role of producers has increasingly been seen to be key. Rather than limiting producer responsibility to the life cycle stage in which the materials processor, manufacturer, fabricator, or distributor individually operates, EPR looks to the actor with the greatest leverage over environmental improvement - and requests or mandates this producer to increase the scope of its responsibility. Thus, the notion of extended producer responsibility implies that the conventional responsibilities for facility-based pollution are to be broadened. Davis provides a useful definition of EPR.

EPR is the principle that producers bear a degree of responsibility for the environmental impacts of their products throughout the products' life cycles, including upstream impacts arising from the choice of materials, and from the manufacturing process and downstream impacts from the use and disposal of the products (Davis, 1994 [paraphrase])

A diagram of product life cycle makes this extension of producer responsibility clearer:

FIGURE 1
Extended Producer Responsibility and the Product Life Cycle

Corporate or Industry-Wide Product Stewardship Programs: Voluntary measures that generally deal with the downstream environmental and safety aspects of product use. An example is the chemical industry's Responsible Care Program.

Voluntary Take-Back or Buy-Back Systems: The producer voluntarily takes back or buys back products or waste materials for recycling or proper management in order to mitigate downstream environmental impacts from product disposal and to recover valuable materials. An example is the collection and recycling of aluminum beverage cans by aluminum producers.

Leasing Systems: Voluntary systems in which ownership of durable materials and products is never transferred down the product chain. Instead, the function of the materials or products is leased to the user, at least theoretically encouraging the producer to close material loops and extend product life. Extension of product life can reduce resource and energy use and lifecycle pollution significantly.

Environmental Management and Auditing Systems: Internal environmental compliance systems that can be extended upstream to provide assistance to suppliers and downstream to provide assistance to product users in reducing pollution and complying with regulations.

Voluntary Product Environmental Information Approaches: Voluntary approaches in which producers provide information on the significant environmental attributes of products so that purchasers can reflect environmental preferences in their purchasing decisions. Voluntary environmental labeling programs, such as the EU Eco-Label, which gives a seal of approval based upon preset criteria, have been the most widely implemented form of information approach.

Government Subsidies and Tax Credits: Direct subsidies or tax credits can be utilized to encourage production and use of cleaner products. The federal government in the United States provides some direct subsidies to firms for the development and demonstration of cleaner products. Some states, such as California, provide tax credits for purchase of energy efficient products. A national priority is usually the justification for a subsidy or tax credit, and they apply to selected links in the product chain.

Government Procurement of Environmentally Preferable Products and Materials: In addition to price and quality, government purchasing is directed at products that are considered "environmentally preferable." The U.S. EPA and the General Services Administration are currently collaborating on "environmentally preferable" guidelines for federal purchasing to implement Executive Order 12873 (October 20, 1993).

Mandatory Disclosure of Environmental Information: Requirements that producers or distributors provide information about the environmental attributes of a product. One example includes appliance energy efficiency labeling, which has been very successful in encouraging manufacturers to increase energy efficiency of large appliances. The Dutch have recently begun a program of mandatory life-cycle
environmental information labeling that will exist side-by-side with a voluntary seal-of-approval eco-labeling program.

**Mandatory Labeling of Product Contents:** Labeling that provides the user with information about the product contents, which can take two forms: (1) a simple listing of product ingredients; or (2) statements concerning the potential environmental or health impacts of those ingredients. An example of the second type is the labeling required by California Proposition 65 for products that contain potential carcinogens and reproductive toxins.

**Deposit-Refund Systems:** Mandatory systems in which a deposit is charged to the purchaser at the time of purchase to encourage the return of the product (or packaging) at the end of its useful life, at which time the deposit is refunded. These have been implemented in a number of jurisdictions for beverage containers.

**Product Taxes to Fund Waste Management Systems:** Taxes that are used to shift economic responsibility for waste management to the producer of the product that generates the waste. Examples include taxes on new automobile tires or batteries used to set up recycling or disposal systems. The German Packaging Ordinance has a packaging tax that differs for different materials that is used to fund a separate collection and waste management system.

**Materials or Product Taxes:** Mandatory taxes on polluting materials or products to discourage their use and to generate revenues, with the revenue not necessarily earmarked. Examples include virgin material taxes, gasoline taxes, or carbon taxes.

**Mandatory Return Requirements for Consumers:** Consumers are required to return products at the end of their useful life without a deposit-refund system as incentive.

**Mandatory Take-Back Requirements:** Producers or distributors are required to accept products or packaging back from consumers at the end of their useful life.

**Materials Regulations/Prohibitions:** Regulations on materials use, such as bans of toxic chemicals, restrictions on the use of certain plastics in packaging, or recycled-content requirements.

The fact that many of these policy options are voluntary or market-driven, encourages a more cooperative, outcome-oriented relationship between government and the actors along the product chain than traditional command-and-control regulations. These options also allow more flexibility for producers in achieving environmental goals and encouraging innovation, since they do not necessarily prescribe technologies.

Policies based upon Extended Producer Responsibility necessarily involve addressing the life-cycle environmental impacts of product systems and whether the policies reduce those impacts. Although the quantitative tool of life-cycle assessment is still being refined, particularly for the evaluation and comparison of impacts, some form of life-cycle approach is better than ignoring the links between life-cycle stages. Of course, political and cultural values come into play.
differ in the particular producer upon which the primary responsibility is placed.

It is impossible to generalize about whether voluntary or mandatory approaches to EPR are most suitable. Ideally, governments can define an appropriate level of recycling activity, for instance, and leave the decision to implement take-back to the actors in the marketplace. Despite the controversy surrounding the mandatory take-back of the German Packaging Ordinance, it has been effective in promoting voluntary EPR in other sectors in anticipation of the imposition of mandatory measures.

Policies for durable goods may be different than policies for packaging. Some suggested that take-back may actually be more suitable for durable goods than for packaging, because the relatively few distributors of durables reduce collection and transportation costs and because durables have a higher value at the end of their useful lives. Packaging and other non-durables are much more regional in nature and have high collection and transportation costs in comparison to their value.

In selecting the policy instrument for application of the EPR principle we must understand the goal or outcome we are looking for and how that influences the choice of instruments and the placement of responsibility. Is the goal to encourage the producer to alter the design of products? Is it to tap the expertise of the producer in managing the product after its useful life? Is it to generate funds for waste management as a means of cost shifting? For instance, with the explicit goals of reducing solid waste disposal and
increasing recycling of packaging, the Germans chose a combination of mandatory take-back and ambitious recycling goals. The primary responsibility was placed upon distributors of packaged products and upon packaging manufacturers. Virgin materials taxes have been proposed in some countries with goals of reducing the use of non-renewable resources and increasing use of secondary materials. The onus of such a tax would initially fall on materials suppliers.

There are several ways that policies embodying the principle of EPR can be categorized. One useful way is to speak of policy instruments as being regulatory, financial, or informational. Another way is to look at the portion of the product lifecycle upon which the primary responsibility is placed.

Regulatory instruments that embody the principle can include:

- mandatory take back;
- minimum recycled content standards;
- secondary materials utilization rate requirements;
- energy efficiency standards;
- disposal bans and restrictions;
- materials bans and restrictions; and
- product bans and restrictions.

There was some discussion about whether bans and restrictions on materials, products or waste disposal are EPR. In one sense they are EPR, because they usually address environmental impacts that occur at stages of the life-cycle other than the production facility. They drive changes in environmental impacts throughout the life-cycle of the material or product regulated in a very direct way.

Economic instruments that embody the principle include:

- advance disposal fees;
- virgin materials taxes;
- removing subsidies for virgin materials;
- deposit/refund; and
- environmentally preferable products procurement.

Deposit/refund systems place primary responsibility on different links in the product chain than advance disposal fees, since deposit/refund relies heavily on distributors and requires involvement of the consumer while advance disposal fees place a hidden cost on the product to fund a management system that is often the responsibility of the producers. A key question for these types of waste management or recycling systems is, "who manages the system and determines waste management priorities and standards?"

Information instruments that embody the principle include:

- seal-of-approval types of environmental labeling (Green Seal, Energy Star);
- environmental information labeling (energy efficiency labeling, CFC use);
- product environmental profiles that pass from one link in the chain to the next;
• product hazard warnings (California Proposition 65, Consumer Product Safety Commission); and

• product durability labeling.

Most information approaches place the primary responsibility on the producer to develop and provide the information, either voluntarily for market advantage or as a regulatory requirement. Of course, consumers are also involved in responding to the information and must demand cleaner products in order for information instruments to succeed. The Dutch, for instance, are basing their Product Policy on mandatory life-cycle environmental information to be shared among producers in the life-cycle and summarized in some form on product labels for the benefit of consumers.
APPENDIX D
Excerpts from OECD Phase 2 Extended and Shared Producer Responsibility Report

Unclassified

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

ENVIRONMENT DIRECTORATE
ENVIRONMENT POLICY COMMITTEE

Cancels & replaces the same document:
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Group on Pollution Prevention and Control

Extended and Shared Producer Responsibility

Phase 2

EXECUTIVE SUMMARY

Contact: Fabio Vancini, Tel (33-1)45 24 76 95, Fax (33-1)45 24 78 76
E-mail: fabio.vancini@oecd.org

65385

Document complet disponible sur OLIS dans son format d'origine
FOREWORD

Many OECD countries -- in accordance with the Polluter Pays Principle (PPP) -- are taking measures to expand private sector responsibility for conserving resources and energy and reducing the quantity of pollutants released and waste destined for final disposal. This approach of Extended Producer Responsibility (EPR) is aimed at making the private sector responsible for efforts to reduce environmental impacts from both the use and disposal of their products and to use and benefit from recycling, recovered resources and reclaimed materials in doing so.

In 1994, an OECD project on EPR was initiated, focusing particularly on programmes to address what many regard as the “weakest link” in the product responsibility chain: the final disposal of products after their sale to and use by consumers. The overall themes of each phase under the EPR Project are:

- **Phase 1**: Review of legal and administrative approaches in OECD Member countries and development of initial policy options for EPR programmes (1994-1995);
- **Phase 2**: Analysis of economic efficiency and environmental effectiveness of various approaches to EPR (1996-1997); and
- **Phase 3**: Examination of EPR approaches and issues through a series of multi-stakeholder workshops, culminating with a joint workshop combining efforts under EPR and Waste Minimisation OECD work programmes. Synergies are expected and the workshop results will serve as a basis for the development of comprehensive policy options in the form of guidance manual for governments (1998-1999).

The *Phase 1* Report was based on extensive interviews and information gathered across the OECD area and was published in 1996 (OECD Environment Monographs No. 114, OCDE/GD(96)48).

*Phase 2* consists of four areas: *a*) in-depth case studies on existing EPR systems, *b*) possible trade implications, *c*) economic analysis of EPR options, and *d*) development of an overall ‘Phase 2 Framework Report’ for implementing EPR programmes with a particular focus on the policy and legal considerations for sharing responsibility.

This document on “Extended and Shared Producer Responsibility” is the Executive Summary of all the work undertaken under *Phase 2* of the EPR Project. It is meant to serve as a self-standing brief for policy makers and other interested parties. The conclusions reflected in this Executive Summary are subject to further development and refinement as this Project progresses through *Phase 3*. This document has been produced within the OECD Secretariat by Fabio Vancini.

Delegates to the OECD Pollution Prevention and Control Group have had the opportunity to peer review this document and have agreed that it should be de-classified.

This document is published under the authority of the Secretary-General of the OECD.
Many Member countries of the Organisation for Economic Co-operation and Development (OECD) are placing increasing importance on a promising new public policy tool commonly referred to as Extended Producer Responsibility (EPR). Considerable work on this tool has already been undertaken by OECD under Phase 1 of the EPR Project. In Phase 2, the OECD undertook further evaluation of EPR approaches taken in selected Member countries, and developed a detailed assessment of design and implementation factors for extending and sharing responsibility to achieve equitable and efficient EPR programmes.

This work, funded by the Government of Japan, takes a focused look at ways to minimise wastes by transferring substantial or complete financial responsibility to private enterprises for managing their products at the post-consumption phase. When properly undertaken, EPR’s strength lies in its ability to simultaneously operationalise life-cycle thinking, the waste minimisation hierarchy, and the Polluter Pays Principle. OECD analysis to date confirms that EPR is a promising tool in support of sustainable development.

Context

Within the context of developing systematic approaches toward waste minimisation, closed material cycles and a reduced dependence on natural resources, the relatively new approach embodied by “Extended Producer Responsibility” (EPR) addresses, in a tangible way, some key environmental sustainability challenges. EPR can help address such challenges under at least three broad thematic areas:

1. **economic support measures**: a historic over-reliance on certain government subsidies that may stifle technical change, block a fuller internalisation of externalities, and possibly cause sub-optimal ecological and economic outcomes,

2. **consumer behaviour**: the challenge of enlisting the consumer to act in accordance with certain environmental objectives, and

3. **waste generation trends**: annual waste generation rates that continue to rise in concert with Gross Domestic Product.

Though EPR is but one approach in support of environmental sustainability, it has the potential, when properly undertaken, to act as an important driver stimulating continuous improvement in overall public and corporate environmental governance.
"... it injects a new business and competitive dynamic", "... it can promote innovative advancement and resource efficiency", "... it is a way to concurrently actualise waste prevention and closed material loops...", "... it can embody a link between product policy and waste policy, and build life-cycle materials management systems", "... it is a means toward the elimination of government subsidies that do not favour a fuller internalisation of externalities associated with waste management", "... as a favourably looked upon evolving instrument, it represents the future for an increasing number of industries that produce or import products within and outside the OECD area...", and "... in view of the broad participatory process and chain management necessary for achieving best overall results, one might appropriately describe EPR as "Extended and SHARED Producer Responsibility."

The statements in the box above illustrate views expressed by different OECD Member countries in the context of this EPR project. These observations reflect the multi-objective nature of the EPR approach, and the positive opportunities it provides. Clearly, however, opportunities, and particularly the benefits thereof, do not come automatically. The realisation of EPR's benefits requires strategic planning, oversight and leadership by governments, appropriate stakeholder input in the setting of performance requirements, and the active involvement of all relevant societal actors for the actual attainment of established objectives. A rich mix of other considerations must also be taken into account, such as changing the legal concept of "ownership", preventing and controlling free-riding of all sorts, minimising problems associated with potential monopolistic positions of corporate "Producer Responsibility Organisations", and attending to international trade matters. In short, the likelihood of realising the fruits of an EPR approach significantly increases when a range of programme design factors are provided for, implemented, and subsequently refined.

Project Background

Many OECD countries are presently taking measures to expand corporate responsibility for conserving resources and energy, and reducing the quantity of wastes destined for final disposal. The EPR approach is broadly aimed at making the private sector responsible for efforts to reduce environmental impacts from the disposal of their products by using modified industrial processes, waste prevention, product reuse, and the recycling and recovery of materials. Whether embodied in negotiated agreements, legislation, or industry-led voluntary initiatives, successful EPR programmes tend to change the conventional balance of responsibilities among manufacturers and distributors, the consumer, and the government. This change in dynamics would occur perhaps most tangibly with respect to the post-consumption stage of the product's life-cycle. Such programmes extend the responsibilities assigned to producers and to distributors in the past, i.e., worker safety, prevention and treatment of environmental releases from production, financial and legal responsibility for sound management of production or
industrial wastes, and civil responsibility for dangerous products, to include financial and possibly also physical responsibilities for the management of products at the post-consumption stage.

By doing so, EPR leverages life-cycle thinking and encourages producers to re-evaluate key upstream design decisions that only they can make to minimise the waste and pollution potential of products. Therefore, a number of factors become increasingly important strategic matters for private enterprises. These include, but are not limited to, product conception, design for reuse and recyclability, materials selection, production processes, packaging, distribution/reverse distribution and marketing approaches.

In 1994, the OECD began its EPR Project to document and support the development of this promising new instrument. In 1995, the OECD Washington Waste Minimisation Workshop explored ways to achieve these strategic goals using EPR. In 1996, the OECD Phase 1 Report presented the results of an extensive survey of EPR developments in many Member countries. That report offered initial recommendations for the basic design of EPR programmes and steps by which governments may support such programmes. These recommendations all have been subsequently reaffirmed as part of OECD’s current EPR work reflected herein.

The concept of EPR as articulated under Phases 1 and 2 of this work -- that producers should take more responsibility for the cradle-to-grave environmental impacts of their products (particularly with respect to product end-of-life impacts), and that there is a need to internalise externalities to a greater extent in the price of products -- reflects one approach for reducing the environmental impacts of products. A key focus of OECD analysis to date is on the role that producers, acting independently or jointly, can play in improving the environmental attributes of products. The focus on producers does not mean that other actors in the product chain will have no role in achieving desired objectives. Moreover, as explained in the Phase 2 work, there are considerable opportunities, which some Member countries are pursuing, to design EPR programmes that extend and share post-consumer product responsibility throughout society.

Because the bulk of EPR experiences to date are associated with post-consumption packaging, OECD’s analysis has mostly, though not exclusively, used the lessons learned from packaging programmes as the analytical backdrop for undertaking its work. Nevertheless, the principles and interim policy recommendations that have been developed during this phase of work are constructed to have broader applicability also to other products, including those of a long-life and complex nature. The outcome to date is not definitive. During Phase 3 of this EPR Project, a series of multi-stakeholder, multi-sectoral workshops will be undertaken to further evaluate EPR (1998-1999). To achieve efficiencies and set the stage for developing comprehensive policy guidance, OECD Member countries have decided to combine the culminating workshop under the EPR Programme with the culminating workshop under the Waste Minimisation Programme. The conclusions reflected in this Executive Summary are therefore subject to further refinement and development during the culminating phase of work.

The Core of EPR

The essence of EPR is who pays for, not who physically operates, the waste management system. EPR provides producers with incentives to reduce operational costs for which they now have

become responsible as their products reach the post-consumption phase. The new financial incentives encourage producers to acquire new skills and increasingly act in accordance with the life-cycle approach to product systems. Producers’ actions, coupled with consumers’ support, would be expected to result in the fullest possible achievement of many goals shared by OECD governments:

- waste prevention and reduction;
- product reuse;
- increased use of recycled materials in production;
- reduced natural resource consumption;
- internalisation of environmental costs into product prices; and
- energy recovery when incineration is considered appropriate.

Even in those cases where financing is fully internalised by producers, local authorities can continue their traditional role as handlers in waste collection, though now as contractors.

Municipal waste is the only substantial part of the total waste stream that in most countries is not managed by the industries that are generators of the waste, but is managed by governments at the expense of taxpayers. EPR recognises that producers are most able to design cleaner products so as to prevent waste, minimise downstream pollution control costs, and incorporate unavoidable costs into product pricing.

Thus EPR is a means to reducing the need for government subsidies associated with waste management, i.e. costs linked to the management of products in the post-consumption phase. This would in principle be done by shifting such costs from the taxpayers to final producers for internalisation into product pricing. Furthermore, consistent with the results usually seen from better waste minimisation, well-managed EPR systems can be expected to be accompanied by increased production efficiency and competitiveness, for both the industries and the nations involved.

Material and Capital Flows

For many products, EPR programmes will establish new or modified systems of material and capital flows. In order to illustrate the nature of such flows throughout a product’s life cycle, the generic figure below has been developed. The figure also introduces the corporate “Producer Responsibility Organisation” (PRO), the important new social institution that is emerging as a key means, in many countries, to the success of the individual producers in meeting their collective EPR responsibilities. The figure, which is fully explained in the Phase 2 Framework Report [ENV/EPOC/PPC(97)20/REV2], is not intended to provide an exhaustive representation of EPR systems, since there are a host of other fundamental activities especially involving governments that are not indicated, including target setting, monitoring, and sanctions.

A Continuum of Approaches

A continuum of possible approaches exists for establishing EPR systems, ranging from industry-led voluntary initiatives, to government/industry negotiated agreements, to legislated approaches. OECD research to date indicates that the partial failure of voluntary EPR programmes has usually occurred because such efforts have been limited to a few producers of readily recoverable products, and because of the inherent difficulty in dealing with non-participants, commonly referred to as free riders. Within an
industry sector, some companies will, given an opportunity, opt to remain outside of an EPR programme in order to receive an (unfair) economic advantage over competitors that voluntarily participate.

Where negotiated or mandatory programmes have been instituted, it is often because fully voluntary programmes have proved insufficient for the fulfilment of EPR objectives. Therefore, in order to establish a far-reaching, widely effective EPR programme with a level playing field, government action will likely be needed. This may be either (a) by a law outlining necessary programme elements and authorising a responsible government agency to provide additional details by regulation, which could be negotiated with industry, or (b) by a law requiring a government-industry negotiated agreement or “covenant” to establish programme elements.

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*Material and Capital Flows in an EPR System*

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Negotiated approaches between government and industry can provide significant opportunities for all stakeholders to be involved in a process of consensus building. A transparent, inclusive process will facilitate more creative, lower-cost, and quicker solutions. The government could allow the private sector the possibility to devise the self-regulating means and solutions to achieve the performance objectives that have been set. Detailed governmental regulations should probably be avoided as much as possible except as necessary to empower the corporate Producer Responsibility Organisation to achieve EPR goals.
APPENDIX E

Summary of the Netherlands Program, SVM-PACT

Part 1

From the first Packaging Covenant to Directive

Packaging in perspective

(1) To talk about packaging one first has to determine what packaging is.

- Packaging are products, used for
  - containment
  - protection
  - loading
  - delivering and
  - offering
  of raw materials to endproducts,

- regardless of their use in
  - domestic or
  - business-to-business applications,

- and regardless of the material(s) they are made off

(2) Packaging has functional qualities but nevertheless requires raw materials and is usually being disposed of after use.

- size of the packaging waste problem
  - packaging is a modest part of total waste stream (1-2% in kilos)
  - but is voluminous

- packaging is recognizable and tangible
  - 50/50 division household and b-to-b-waste

- is not only an environmental problem but also a societal problem

(3) In striving for prevention and reuse of waste a (rigid) priority order emerged in the late eighties/begin nineties; also applicable on packaging waste.

- prevention (quantitative and qualitative)

- packaging reuse

- material reuse (recycling)

- incineration (with energy recovery)

SVM-PACT in brief

SVM-PACT is the Dutch packaging chain organisation which coordinates the implementation of Packaging Covenant II and which promotes the interests of trade and industry in the field of packaging and environment.

In dialogue with Dutch government a.o. and according to the agreements of the first Packaging Covenant, members of SVM-PACT’s predecessor SVM and their trade-organisations have made considerable environmental efforts. After the introduction of the EU Directive and the Ministerial Order on Packaging and Packaging Waste Dutch trade and industry maintains the policy of self-activation through Packaging Covenant II.

Most important starting point in this regard is that ecology and economy ought to go hand in hand.

- Environmental measures should meet the following conditions
  - clear and proven environmental benefit
  - sound economical basis
  - technical feasibility within a reasonable timespan

Dealing effectively with environmental challenges for packaging

- From the first Packaging Covenant to EU Directive
- From EU Directive to Dutch Ministerial Order
- Packaging Covenant II next to the Ministerial Order

Hans van Bochove
Projectmanager Business Activities
Organisation for Packaging and Environment
(SVM-PACT)
Three major challenges

To reduce the volume of packaging waste, the Dutch packaging chain is focusing on three activities.

- closing the recycling loop at the lowest possible costs
- making more economical use of packaging material and energy
- seriously considering a change to refillable packaging wherever it is of clear and proven environmental benefit and economically feasible

From threat...

1. In striving for prevention and reuse of packaging waste governments have a broad range of severe measures available to them. To name just a few:

- levies on materials
- eco-taxes on one-way packaging
- forced deposit money systems
- compelled take back systems
- banning certain materials and forms of packaging
- common secondary objective: a shift of municipal packaging waste handling costs to trade and industry

2. Late eighties/begin nineties in both The Netherlands and neighbouring countries a worrisome situation emerged for trade and industry as a result of a screaming environmental discussion on packaging and packaging waste and the (legal) measures which came along.

- consideration by Dutch government to introduce a dual system
- introduction of a resolution on a deposit money system
- attitude of environmental organisations and consumers to packaging
Part 2

From EU Directive to Dutch Ministerial Order

National arrangements

Following the European Directive every member state should already have a national law on packaging and packaging waste. In The Netherlands the Ministerial Order on Packaging and Packaging Waste has been introduced on August 1st 1997 thereby replacing the first Packaging Covenant.

In the Netherlands on a national level the maximum targets of the EU Directive have already been reached years ago. After a year of talks the Ministerial Order was nevertheless kept a direct translation of the EU Directive and therefore based on its maximum targets. However, the targets were transposed to the level of the individual producer/importer. Next to the Ministerial Order government and trade and industry agreed and signed the Packaging Covenant II on December 15th 1997. This Covenant contains targets and obligations that exceed those of the Ministerial Order, but is again based on chain responsibility and market forces. Each company that signs the Packaging Covenant II is exempted from the most important individual obligations of the Ministerial Order.

Ministerial Order

(1) The Ministerial Order states obligations for different parties, but most obligations are for producer/importers.

- for a producer/importer
  - quantitative and qualitative prevention
  - monitoring (packaging data)
  - recovery (65%) en recycling (45%) with a minimum per material (15%)
  - reporting once every three years

- for a non-producer/importer
  - measures to help the producer/importer to fulfill his obligations

- for a disposer of b-to-b packaging waste
  - separation, disposal and recycling on his costs

(2)

- municipalities stay (financially) responsible for the collection of household packaging waste, including the separate collection of glass, paper/cardboard and textiles

- stipulations regarding:
  - essential requirements for packaging
  - monitoring
  - marking and material identification

definit stipulations from Brussels and proposals of CEN are still being prepared (lose ends!)

(3) Who is the producer/importer?

- the company that places a packed product for the first time on the Dutch market
  - adding packaging to a product
  - having a product packed
  - repacking products
  - importing packed products

- private label owner

- producer/importer of point-of-sale packaging

(4) The Ministerial Order can be executed by producers/importers in three ways.

- agreement on a Covenant (effected)

- individual implementation
  - company falls directly under the Order and reports directly to the government

- cooperation with other producers/importers
  - companies form a collective; collective takes over responsibilities and falls directly under the Order and reports directly to the government
  - companies keep their individual obligations
First Packaging Covenant

(1) Document in which clear obligations were stated for both trade and industry and government; each with its own responsibilities.

(2) Based on chain responsibility and chain management; prevention of waste and as much as possible reuse of packaging and packaging material.

(3) The first Packaging Covenant has been a great success. Time has given trade and industry the possibility to look for effective and efficient solutions.

- companies have developed and implemented business embedded environmental policies on packaging
- pilot projects
- targets for prevention and recycling

European Directive

(2) The European Directive also contains stipulations regarding enforcement, stimulation en standardization. These are currently still being developed in a European context and can have far-reaching consequences.

- enforcement
  - reporting
  - databases

- stimulation
  - marking (separate concept European Directive)
  - material identification

- standardization
  - definitions, scope etc. (Article 21 Committee)
  - standardization (CEN)

First Packaging Covenant

(4) The results of the Covenant are significant.

- prevention
  - as from 1993 an increasing gap between total added packaging and Gross Domestic Product

- product reuse
  - no forced switch to reusable packaging as a result of Life Cycle and Market Economic Analyses

- material reuse (recycling)
  - more than 50% recycling rate in 1996
  - recycling loop which is unique in the world
  - no separate curbside collection of household packaging waste but tailor-made solutions for each material
  - municipalities stay responsible for the collection

European Directive

(1) The European Directive is formally meant for harmonization, but does everything except that. It contains specific targets for recovery and recycling only.

- prevention/packaging reuse
  - vague provisions

- recovery
  - composting + recycling + incineration (with energy recovery)
  - 45% - 65%

- recycling
  - 25% - 45%
  - minimum 15% per material
Part 3
Packaging Covenant II next to the Ministerial Order

Packaging Covenant II

(1) Dutch trade and industry wanted a new Covenant.

- macro (Dutch society)
  - enormous cost avoidance / save buying power

- meso (trade organization) and micro (individual company)
  - exemption of legal individual obligations
  - fair sharing of responsibilities
  - time for realization up until 2001 instead of direct
  - addition of recycling percentages of all materials
  - collective channeling of recovery/recycling
  - collectieve reporting and monitoring
  - lowering chain costs by enabling trade and industry to pack according to functional requirements and assuring market forces

(2) Packaging Covenant II consists of several sub-covenants; first sub-covenants per material.

- sub-covenants material reuse
  - glass
  - paper/cardboard
  - metals (ferro and non-ferro)
  - plastics
  - wood

- between
  - central government and municipalities on one hand and
  - (usually) raw material producers on the other

(3)

- general contents of sub-covenants material reuse
  - municipalities responsible for collection
  - delivery of separate collected materials according to specifications
  - guarantee from industry to take over the materials delivered accordingly for at least zero guilders and to recycle it
  - recycling targets
  - monitoring

(4) Producers/importers have their own sub-covenant with regard to prevention, reporting etc.

- general contents sub-covenant producers/importers
  - quantitative and qualitative prevention
  - monitoring
  - reporting

- but also
  - promoting the use of secondary raw materials in new packaging
  - separation of packaging waste
  - co-financing recycling projects if necessary

(5) Across the sub-covenants there is an Integration Covenant between representatives of Dutch trade and industry as a whole and the government.

- general contents Integration Covenant
  - national overall target of sub-covenants
    - in 2001 a maximum of 940 Kton of packaging waste is allowed to be incinerated/dumped
  - to be reached by individual measures in the light of the following collective obligations:
    - prevention
      - in 2001 use 10% less material than in 1986, corrected for development in GDP!
      - recycling
        - in 2001 recycle 65% of all packaging!
  - general conditions under which environmental measures should be implemented
  - general lay-out for monitoring
  - installation and tasks of Packaging Committee

Win-win-win situation

- advantages for the packaging chain
  - no more free-riders
  - flexibility
  - no taxes on oneway packaging and deposit money
  - a very cost effective recycling loop

- advantages for the government
  - government gets more than EU Directive
  - concrete prevention target / reuse effort / much higher recycling target (65%)
  - easier enforcement of Ministerial Order

- advantages for the civilians
  - no unnecessary loss of consumer buying power and no unnecessary separation at home
APPENDIX F
Summary of Canadian Program

STEWARDSHIP AND PRODUCER RESPONSIBILITY

Duncan R.W. Bury
National Office of Pollution Prevention,
Environment Canada

Packaging Waste: Who's Responsibility Is It Anyway?
New York, November 6, 1998

INTRODUCTION AND OVERVIEW

- Stewardship origins
- What's driving stewardship and producer responsibility initiatives?
- A national overview
- International perspective - OECD
- Linkages to other environmental policies
- Issues and challenges

DEFINITIONS AND SCOPE

- A variety of terms: "stewardship", "user/producer responsibility", "extended producer responsibility"
- Common themes of responsibility for environmental impacts, upstream and downstream
- Key questions:
  - who pays, when and how much?
  - producer or product responsibility?
  - shared or producer responsibility?

POLICY DEBATE

- CCME Guiding Principles for Packaging Stewardship May 1996 "industry, governments, and consumers assume a greater responsibility for ensuring that the manufacture, use, reuse, recycling and disposal of packaging has a minimum impact on the environment"
- OECD EPR 1996 "manufacturers and importers of products should bear a significant degree of responsibility for the environmental impacts of their products throughout the products life cycle"

FIRST VOLUNTARY CANADIAN INITIATIVES

- Canadian Chemical Producers Association (CCPA) Responsible Care - started 1985
- National Packaging Protocol (NaPP) 1990 CCME voluntary multistakeholder covenant with diversion targets and policies (eg. minimal impact)
- Crop Protection Institute container management program - objectives set 1989
- CIPSI proposal 1993 - 1995 - partial funding through industry levy for municipal recycling

REGULATORY DEVELOPMENTS IN EUROPE

- Producer responsibility first focused on packaging
  - German Packaging Ordinance - 1991
  - France Eco-Emballage - 1992
  - Belgium Fost Plus - 1993
- European Community Packaging Directive - December 1994 - set EC wide requirements
- Progressive expansion of approach to other products nationally and across the EC - eg. tires, end of life vehicles, electronics
STEWARDSHIP AND PRODUCER RESPONSIBILITY DRIVERS

- Taxpayer fatigue with financial burden for disposal and recycling - municipalities
- Search for alternatives to prescriptive "end of pipe" regulatory approaches
- Concerns over resource scarcity and environmental impacts of extraction/production
- Concerns about poor incentives to change consumption habits or to reformulate products/packaging
- Increasing focus on pollution prevention

STEWARDSHIP AND PRODUCER RESPONSIBILITY OBJECTIVES

- Shift from "taxpayer pay" to "user/producer pay"
- Waste minimization - prevention/reduction
- Stabilization of and creation of secondary materials markets
- Increased use of recycled materials in production
- Reduced natural resource consumption
- Internalization of environmental costs into product prices

CURRENT PROVINCIAL INITIATIVES

**British Columbia**

- Post Consumer Residuals Stewardship Program Regulations March 1997
- Option of voluntary industry self directed programs - prescriptive option of take back depots
- Deposit return on liquor and wine April 1998
- Stewardship programs or plans - paint, used oil, solventsflammable liquids, pesticides, pharmaceuticals

**Alberta**

- Beverage Container Management Board - regulated collection and recycling
- Scrap tires - regulated industry responsibility
- Alberta Used Oil Management Association - 1997 industry take back - back drop regulation
- EnviRx - pharmacy run take back of "dead drugs"
- Discussions underway with paint industry

**Saskatchewan**

- Used oil take back regulations - product management industry association
- Scrap tires - voluntary industry run
- Beverage collection - deposit return SARCAN
- Legislative provisions in place to add other products to industry responsibility approach

**Manitoba**

- Multi-Material Stewardship Regulation, 1995
- Established multi-stakeholder Manitoba Product Stewardship Corporation - funds raised through levy to support municipal 3Rs programs
- Designated materials - beverages(levy in place) newspapers, phone books, ad mail, magazines under discussion
- Used oil take back program
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<th>CURRENT PROVINCIAL INITIATIVES</th>
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<tr>
<td><strong>Ontario</strong></td>
<td><strong>Quebec</strong></td>
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<tr>
<td>• Environment regulatory reform project 1996 - included proposal for &quot;manufacturer controlled networks&quot; to promote product stewardship</td>
<td>• Plan d’Action - Responsible and Sustainable Waste Management program - initiated 1996</td>
</tr>
<tr>
<td>• RCO Recycling Roles and Responsibilities report submitted to Minister April 1998 - based on multi-stakeholder consultation - 3 funding options</td>
<td>• Consultation program - report supports producer responsibility approach</td>
</tr>
<tr>
<td>• Minister call for voluntary industry contribution ($20m+) to municipal recycling including threat of regulation - October 1998</td>
<td>• Plan d’Action - September 1998 - industry to pay difference between landfill and recycling ($22m)</td>
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<td>• Discussions underway with industry sectors</td>
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<th>CURRENT PROVINCIAL INITIATIVES</th>
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<tr>
<td><strong>Nova Scotia</strong></td>
<td><strong>New Brunswick</strong></td>
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<tr>
<td>• Solid Waste Management Strategy, Nov 1995 - industry stewardship programs for designated materials, landfill bans</td>
<td>• Half back deposit in place for beverages</td>
</tr>
<tr>
<td>• Establishment of Nova Scotia Resource Recovery Fund Board - to manage new waste/resource and stewardship regulations</td>
<td>• Tire Stewardship Regulation 1996 - take back managed by industry board</td>
</tr>
<tr>
<td>• Beverage deposit/refund system 1996 - depots</td>
<td>• Draft regulation for waste oil</td>
</tr>
<tr>
<td>• Stewardship/take back for used oil, tires, lead acid batteries</td>
<td>• Waste diversion discussion paper being prepared - some focus on stewardship/producer responsibility</td>
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<tr>
<th>CURRENT PROVINCIAL INITIATIVES</th>
<th>OECD EXTENDED PRODUCER RESPONSIBILITY (EPR)</th>
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<tr>
<td><strong>Newfoundland</strong></td>
<td>• Response to growth of voluntary and mandatory producer responsibility schemes - more focus on “producer” than “shared product” responsibility</td>
</tr>
<tr>
<td>• Multi Material Stewardship Board to manage beverage deposit system 1996</td>
<td>• Considerable program development in northern and central Europe - moving beyond packaging</td>
</tr>
<tr>
<td>• Discussions being initiated with industry sectors for stewardship proposals</td>
<td>• Work program reviewing legal/administrative, trade, economic/environmental effectiveness</td>
</tr>
<tr>
<td><strong>Prince Edward Island</strong></td>
<td>• Series of workshops (first held Ottawa Dec 1997) leading to a Guidance Manual - complete fall ‘99</td>
</tr>
<tr>
<td>• Refillable regulation for soft drinks and beer, deposit return wine and liquor</td>
<td>• Tire recovery tax, voluntary used oil take back</td>
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NEW DIRECTIONS: LINKAGES TO OTHER POLICIES

- Shift in thinking from “downstream” waste towards “upstream” design for the environment
- Stewardship/producer responsibility link with and support for other emerging environmental policies
  - eco efficiency
  - sustainable consumption and production
  - product policy
  - pollution prevention
  - environmental sustainability

WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT

- Innovations to extend product life, reuse and diversion from disposal are a means of progressively reducing ecological impacts and resource intensity throughout the life cycle to a level at least in line with the earth’s estimated carrying capacity
- Eco efficiency objectives - minimize material/energy intensity and toxic dispersion, enhance recyclability, maximize renewable resource use, extend durability, increase service intensity

ISSUES AND CHALLENGES

- Balancing regional flexibility with provincial and national harmony
- Linking and supporting stewardship/producer initiatives with other environmental objectives
- Monitoring and measuring performance
- Avoiding anti-competitive behaviour by stewardship/producer boards
- Avoiding “free riders”, leveling the playing field
- Being aware of international trade rules

ISSUES AND CHALLENGES

- Anticipating employment impacts - upstream shifts, materials shifts
- Matching material capture with secondary materials markets
- Linking authority with responsibility
- Engaging consumers/generators - both residential and ICI

SUMMARY AND CONCLUSIONS

- Stewardship/producer responsibility will continue as a means of shifting costs from the taxpayer to the producer and consumer
- Increasingly seen as an alternative to regulation
- Provincial initiatives will continue to expand beyond packaging and hazardous wastes
- Proof of effectiveness/“de-mystification” of approach as programs grow in Canada and in OECD

SUMMARY AND CONCLUSIONS

- Implementation approaches will become clearer as program experience grows
- Approach will increasingly be seen as means to drive pollution prevention, eco efficiency, life cycle thinking, and sustainable development
- Lack of compatibility of provincial/regional approaches will cause problems for industry
- Markets will reward those industries/businesses which moved first to adopt eco efficiency and producer responsibility
APPENDIX G

Packaging Tax Law Pertaining to NYC

(1) Taxes on the sale of containers made in whole or in part of rigid or semi-rigid plastic, fiberboard, glass, metal, or any material that is a derivative of either material, including paper containers made of paperboard.

(2) Any local law enacted pursuant to this subdivision may provide for the incorporation of the provisions of any container made of paperboard into the container.
(iii) Provided that the credits for each container during any taxable period shall not exceed the amount of taxes due on such container for such period.

(5) The fiscal officer of any such city in charge of the administration of any tax imposed pursuant to this subdivision, may be authorized by any local law enacted pursuant to this subdivision, to prescribe by regulation, upon the joint recommendation of the chief officer in charge of the department or agency of such city dealing with the interests of consumers and the chief officer in charge of the department or agency of such city charged with the duty of waste collection and disposal:

(i) additional exemptions from and credits against the tax imposed by such local law; and

(ii) an additional surtax of no more than one cent per container, to be imposed upon containers made of any of the taxable components dealt with by this subdivision or any combination thereof.

In granting such exemption or credit or providing for such additional surtax, the above mentioned officers shall take into consideration the following qualities and characteristics of the container in question:

(A) the difficulty the container’s material poses to the process of making recycled material.

(B) the difficulty of its manufacture from recycled materials.

(C) the difficulty and relative cost of its disposal.

(D) any obstacle it poses to consumer protection.

(E) the degree to which the container can or cannot be reused.

(F) the slowness, difficulty, and incompleteness with which the container degrades in the natural environment, either chemically or biologically.

Any such exemption, credit or surtax may be revoked by joint action of such officers, or by local law.

(6) There shall be exempted from any tax imposed pursuant to the authority of this subdivision, containers used as receptacles for food, food products, beverages, dietary foods and health supplements, sold for human consumption but not including (i) candy and confectionery, (ii) fruit drinks with 1 per cent of natural fruit juice, (iii) soft drinks, sodas and beverages such as are ordinarily dispensed at soda fountains or in connection therewith (other than coffee, tea and cocoa) and (iv) beer, wine or other alcoholic beverages.

(7) When used in this subdivision the words (i) “recycled material” mean component materials which have been derived from previously used material or from new or old scrap material, (ii) “retail sale” or “sale at retail” means a sale to any person for any purpose other than for resale as such or as a physical component part of tangible personal property, (iii) “taxable period” means each calendar month or such other periods as the official administering any tax enacted pursuant to this subdivision may provide for by regulation, (iv) “one metal only” means metal with such minimum amounts of alloys as the officer charged with the administration of any local law enacted pursuant to this subdivision shall provide by regulation, but shall not include metal which has been plated or lined with another metal. In formulating such regulations such officer shall consult with the chief officer in charge of the department or agency of such city dealing with the interests of consumers and the chief officer in charge of the department or agency of such city charged with the duty of waste collection and disposal and shall consider the difficulty of using the metal in the making of recycled material and the availability of or technical feasibility of manufacturing other metals for the same purpose and use as the metal in question but with a lower alloy content.
APPENDIX H
US Conference of Mayors Resolution on Shared Responsibility

USCM RESOLUTION
ADOPTED IN PORTLAND, OR
JUNE 1994

SHARED RESPONSIBILITY FOR WASTE REDUCTION

WHEREAS, America's cities and local governments now bear the enormous financial burden to recycle huge amounts of waste produced by American consumers and producers; and

WHEREAS, cities must also spend billions of dollars annually to dispose of non-recycled trash through landfilled and combustion; and

WHEREAS, incentives to reduce waste and recycle a variety of packages may foster the development of new technologies, create jobs, and result in the emergence of entire new industries, thus bringing economic benefits to our communities; and

WHEREAS, many Western industrialized nations have established systems of manufacturer's responsibility which 1) require companies to take back and reuse, or recycle, large containers in which products are shipped, 2) provide shoppers the opportunity to leave excess packaging at stores, where manufacturers can collect them for recycling, or 3) provide for the private sector to create privately-funded consortia to directly recycle and manage waste, or to reimburse local governments for their cost in doing so; and

WHEREAS, the Canadian provinces are currently developing in cooperation with the Canadian consumer products industry a system of "shared responsibility" which would reimburse local governments for the added cost of recycling, and many Asian countries have begun to explore the same; and

WHEREAS, dozens of American companies are already participating successfully in these various manufacturer responsibility systems implemented in other countries; and

WHEREAS, the American consumer products industry -- including manufacturers, distributors, shippers and retailers -- has significantly increased its cooperation with local governments in the promotion of recycling programs, source reduction efforts, and consumer education; and has made significant strides in its own operations to reduce, reuse and recycle, with more progress expected; and

WHEREAS, an American style manufacturer's responsibility system could make local funds now spent on solid waste management available for higher priorities such as public safety, crime prevention, education, homelessness, and employment and training.

NOW, THEREFORE, BE IT RESOLVED that The U.S. Conference of Mayors calls on the Administration and the Congress to study the development of a U.S. manufacturer's responsibility system that would be tailored to the uniqueness of the U.S. solid waste management system and industry; and

BE IT FURTHER RESOLVED that The U.S. Conference of Mayors directs its Solid Waste Task Force and its affiliate, The Municipal Waste Management Association, to begin discussions with industry trade associations to explore the joint and cooperative development of an American manufacturer's responsibility system; and

BE IT FURTHER RESOLVED that such discussions explore ways to encourage the consumer to reduce waste through their purchasing practices; and

BE IT FURTHER RESOLVED that The U.S. Conference of Mayors continue to consult Western industrialized nations to monitor and evaluate the implementation of their various "manufacturer responsibility" systems; and

BE IT FURTHER RESOLVED that The U.S. Conference of Mayors supports proposals that provide financial incentives for consumers and manufacturers to reduce the amount of packaging and the use of virgin materials in products, and to recycle more packaging and products without adding financial burdens on local governments.
APPENDIX I
Packaging Waste Management in Germany

Dr. Ulf D. Jäckel
(Federal Ministry for the Environment, Germany)

Packaging Waste Management in Germany - Key Elements

1. EPR as an instrument for Environmental Policy in Germany

The politics of Extended Producer Responsibility are one cornerstone of the closed loop economy we are trying to reach. The aim is to increase resource productivity which shall be going along with the reduction of pollution and of waste production.

The starting point, the prototype and the model example for the "new product responsibility" and the start of an economy based on product recycling in Germany was the Packaging Ordinance of 12 June 1991. When we are talking about policy experience with EPR in Germany, this Ordinance is the most important measure in the waste management field.

2. EPR System of the Packaging Ordinance

2.1 The Principle

In the meantime the Ordinance has been revised and the new Packaging Ordinance has entered into force in August 1998. One of the aims of the amended Ordinance is to create a balance between those who participate in a dual system and those who want to organise the return and recycling of their packaging themselves. Now there are recycling quotas for the latter. This shall solve the free-rider problem. Also, the amended Ordinance is to encourage competition in the field of waste management to reduce costs. The new Packaging Ordinance therefore does not contain any substantive changes to the overall approach.

The Ordinance contains the main following individual stipulations:

- Manufacturers and distributors have to take back packaging and arrange for their reuse or substance recycling (basic principle for all packaging)
- Manufacturers and distributors of sales packaging have the choice between organising take and recycling by themselves or to join a take_back system which operates all over Germany and near private households
- Consumers are able to leave secondary packaging behind in the shops. Distributors have to arrange for this so-called secondary packaging to be reused or recycled.

Trade and industry was given the option of organising collection systems - independently of municipal waste disposal - which operate in the direct vicinity of the consumers themselves. This possibility was provided by the option of a so-called dual system. It was called dual because it is a scheme which operates side-by-side with traditional waste disposal provided by the local authorities.
Trade and industry seized this opportunity and established the Duales System Deutschland (DSD) GmbH. The Packaging Ordinance provides specific quotas for collection, sorting and recycling for a scheme such as this. These quotas were changed a little bit in the amended Packaging Ordinance. From 1999 on the obligations are that in the fields of plastics, aluminium and compounds 60%, in the fields of tinplate, paper/cardboard 70%, and in the field of glass 75% of the used sales packaging which is brought into the system has to be recycled. If these requirements are not met, the licence for this private enterprise collection system is revoked. Companies which have not joined a dual system have to take back the packaging by themselves and meet the same recycling quotas as dual systems.

The costs which are met by DSD play an important role concerning the control of material flows. These costs are divided amongst the participants of the dual system. Therefore, licence fees are charged by DSD dependent on the kind of material and on weight (with an additional fee per item). The licence fee range from 0.15 DM/kg for glass packaging to 2.95 DM/kg for plastics. The fees will be an equivalent to the actual costs for collecting, sorting and recycling/disposal. With these licence fees some external costs can be internalised.

2.2 Benefits

Nearly seven years after the entry into force of the Packaging Ordinance this policy has proved successful in several fields:

- Manufacturers have changed their packaging habits. Environmentally friendly disposal of packaging is a factor which is indeed taken into account during the production process and is also increasingly used as an advertising argument in competition;

- Due to the differences in the licence fees for different materials and the fees themselves, changes in the packaging market can be seen. Packaging have become lighter and smaller. Some packaging with proportional higher licence fees (i.e. plastics, glass) have been replaced by packaging with lower fees (i.e. cardboard). Useless packaging have disappeared.

- As a result, the use of packaging has been considerably reduced in Germany. In 1997 there were 1.7 million tons less packaging p. a. than in 1991, the year the Packaging Ordinance entered into force (figure 1);

- In the field of transport packaging we are witnessing a trend towards reusable packaging. Examples here are packaging for furniture, food, pharmaceutical products and bicycles;

- Industry has set up a nationwide collection system for throw-away packaging and has increased its recycling capacities for all packaging material. In 1997 5.45 million tons of used packaging were recycled and recycling quotas from 64% of plastics to 87% of paper and cardboard (as seen in figure 2) were reached.

2.3 Problems
Nevertheless, there were a number of initial hurdles to overcome. Initially, a critical situation arose in the field of substance recycling of plastic packaging. Due to the collection zeal of the public, which was very much welcomed, the quantities collected were greater than the recycling capacities available. However, the situation is different now. New technologies emerged in areas where deficits were observed. In 1990 we had a recycling capacity of 20,000 tonnes. This capacity had increased to over 500,000 tons by 1998. Due to the Packaging Directive most of the packaging material collected will be recycled in Germany. The much criticised exports to far-away countries will be stopped. That’s also a sort of control of materials but criticised under aspects of liberty of trade.

Talking about experience, it’s also necessary to mention some problems for the Duales System Deutschland GmbH. The initial phase has shown that there were some serious financial problems to be solved. The causes of the financial difficulties include:

- "Free riders", that are firms which, although they imprint the green dot on their packaging as a sign that they are members of the system, pay for far less packaging than they actually produce and than the system has to dispose of.

- Very often the public also disposes of non-packaging substances via the dual system. The figure here averages 20%, a fact which also contributes towards higher costs for which the system does not obtain any financial recompense. Given these problems, trade, the packaging industry and the disposal systems together have joined with a considerable number of local authorities to take measures to stabilise the dual system. Nowadays the situation seems to be stable and consolidation is progressing.

3. **Lessons we learned so far**

The experience especially of the Packaging Ordinance and also with some other different approaches has shown as a lot of general results concerning the creation, the preparation and the implementation of EPR-systems. In the following the main key elements to EPR are listed in 10 thesis:

1. **Clear targets**
   Governments have to set clear targets which are transparent enough and can be accepted by all the relevant social groups including industry, consumers, environmentalists and so on.

2. **Clear addressing of responsibilities**
   It must be made clear, who is responsible for the used product which has become waste. The German experience shows there shall be one part of the product chain who carries the main responsibility, who is responsible for meeting the goals. The best results can be seen when this is the part with the greatest influence on product specifications.

3. **Situation related approach**
   EPR systems may vary between „pure“ voluntary commitments and strong regulations by laws depending on different products, different market structure, different targets, prizes of secondary material and so on. E.g. there are distinctions necessary especially between short and long life products and between waste occurring in the industry or the private household sector. Obligations inside the industry sector can be reduced to a framework (i.e. monitoring of waste transport and recycling/incineration/landfill) especially if there are
market incentives like positive value of secondary material or high costs of landfill/incineration.

4. Financial incentives
   If there is a cost internalisation of waste management costs there are clear incentives given to change product design. There is not a fixed instrument for the internalisation but it should work along the polluter pays principle with the polluter as the one in the product chain who has the biggest influence on product design.

5. Neutral to competition
   Framework of the EPR-scheme should be designed to be neutral to competition as far as possible. Obligations should be addressed to all competitors and there should be no room for free riders. There can be different cost situations because of cost internalisation but there should not be a possibility to get rid of the duties.

6. Differentiation between materials
   Differentiation according to the polluter pays principle will cause welcomed changes. Incentives have to be given to change product design and material. Internalisation of waste management costs shall allow different solutions for the obliged. The different licence fees of the German Dual System has lead to changes from waste management cost intensive materials like plastics to less costly materials like paper.

7. Encouraging competition in the waste management sector
   This is necessary to control costs. A lack of competition in that field will lead to higher costs. The same effect will occur when there are unrealistic targets (i.e. recycling quotas) in the beginning. The ones who has to meet very high unrealistic obligations are in a bad position in the negotiations with waste management industry which offers solutions.

8. Consumer participation
   EPR-schemes for waste occurring at private households (i.e. packaging, batteries) strongly depending on participation of consumers. Therefore environmental awareness (long time process) and easy access to collecting and recycling systems (i.e. kerbside collection) are necessary. There shouldn’t be hurdles for the consumer to participate. Bring back obligations for consumers should only be chosen when there are urgent environmental problems i.e. through hazardous waste like batteries.

9. Use of LCA
   The use of LCA will increase acceptance and environmental benefits along the product chain. The use of LCA can lead to an environmental optimisation of products. Obligations should take this into account and government should react on LCA results.

10. Monitoring
    Monitoring is the key to the benefits. If there is no pressure to meet targets by monitoring things will run smoothly but without the wanted results. The experience in Germany is that if there often is a lack of control there often is a lack of results This has happened especially when there are „pure“ voluntary commitments (like in the fields of scrap cars and building rubble).
# Recycling Quotas for used packaging

Recycling figures achieved by Dual System in 1993 - 1997

<table>
<thead>
<tr>
<th>Material</th>
<th>Quota 93</th>
<th>Quota 94</th>
<th>Quota 95</th>
<th>Quota 96</th>
<th>Quota 97</th>
</tr>
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<tbody>
<tr>
<td>Glass</td>
<td>2.388.100</td>
<td>2.473.500</td>
<td>2.572.100</td>
<td>2.686.600</td>
<td>2.735.800</td>
</tr>
<tr>
<td>Paper / cardboard</td>
<td>965.500</td>
<td>1.177.400</td>
<td>1.255.800</td>
<td>1.318.600</td>
<td>1.372.200</td>
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<tr>
<td>Plastics *1</td>
<td></td>
<td>281.000</td>
<td>461.100</td>
<td>511.000</td>
<td>535.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tinplate *2</td>
<td>249.600</td>
<td>354.100</td>
<td>263.800</td>
<td>301.800</td>
<td>312.100</td>
</tr>
<tr>
<td>Beverage cartons *3</td>
<td></td>
<td>51.700</td>
<td>78.300</td>
<td>318.500</td>
<td>444.800</td>
</tr>
<tr>
<td>Aluminium</td>
<td>8.900</td>
<td>29.100</td>
<td>31.800</td>
<td>35.900</td>
<td>39.600</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3.944.800</td>
<td>4.573.400</td>
<td>4.953.000</td>
<td>5.322.700</td>
<td>5.446.700</td>
</tr>
</tbody>
</table>

*1 incl. plastic / plastic composites  
*2 from 1995 without beverage cans with aluminium cap  
*3 1993 + 1994 only beverage cartons composites; from 1995 including beverage cans of tinplate / aluminium
APPENDIX J
Manufacturers’ Responsibility for Packaging Wastes

MANUFACTURERS’ RESPONSIBILITY FOR PACKAGING WASTES

European approach: piecemeal, costly in environmental and economic terms, muddles two separate issues:
- the need to design good packaging systems that get goods from point of production to point of consumption with the minimum expenditure of energy and materials; and
- the need to invest in modern waste management techniques to reduce the environmental impact of all wastes, including used packaging.

European Packaging & Packaging Waste Directive: narrow focus on solid waste and recycling, takes no account of transport, energy use, consumer needs, demographics, wastage of the contents.

UK interpretation of Packaging Directive: complex system with obligation to meet recovery targets attributed at company level, 12 compliance schemes at present. Evidence of meeting recovery targets is by providing a Packaging Recovery Note obtained either directly from a reprocessor or by a compliance scheme on a company’s behalf.

Governments’ Agenda: move public sector expenditure to private sector; why packaging?, newsprint is single most homogenous material in household waste stream; who should pay for waste collection and disposal?, municipal waste management systems operate primarily for public health reasons - this should remain top priority.

Lessons learned: commercial & environmental drivers work to reduce packaging; waste analysis shows packaging quantities by weight stable or declining; cannot compare recycling rates because regions have different definitions, different waste management systems; quantity of packaging on market depends on number of goods and demographics - need to tackle overall consumption to reduce waste; packaging from household waste typically occupies 3% by weight or volume of a Northern European landfill site.

Shared Responsibility: manufacturers - design packaging to make rational use of resources throughout distribution chain and be safe to handle in any modern recovery or waste treatment process; consumers - choose goods wisely, dispose of waste thoughtfully.

Way Forward: identify environmental objective (reduce emissions of global climate change gases?); set Integrated Pollution Prevention Control standards but leave method of achieving them to local decision makers; focus recycling on easy items to keep environmental/economic costs down, give public confidence in all well managed waste treatment processes; manufacturers use Codes of Good Practice eg UK Responsible Packaging Code; Trade Associations broker packaging minimisation agreements eg all computer games manufacturers agree to move to smaller packs; give public clear guidance on reducing environmental impact of their actions eg Green Kitchen, recipes for a better planet.

Jane Bickerstaffe, 20 October 1998

The Industry Council for Packaging and the Environment
Tenterden House, 3 Tenterden Street, London W1R 9AH
Tel 0171 409 0949 Fax 0171 409 0161 email: j.bickerstaffe@dial.pipex.com