Meeting Summary – Industry Representatives, State & Local Government
Financially Sustainable and Efficient End-of-Life Management of Packaging Materials
August 11-12, 2011
Kansas City, MO

On August 11 and 12, 2011, EPA hosted a discussion between state and local governments and representatives of industries that manufacture materials used in packaging (commodity industries). Appendix A provides a list of the meeting participants. The meeting was held in Kansas City, MO, immediately following the ASTSWMO Solid Waste Managers Conference. The discussions were focused on the financially sustainable and efficient end-of-life management of packaging materials, with an emphasis on identifying:

- Roles for EPA and stakeholder groups in increasing recovery of packaging materials, and sustainable financing of municipal recycling of packaging, and
- Opportunities and strategies for increasing recovery of packaging materials, and more sustainably financing municipal recycling of packaging

The meeting agenda is provided in Appendix B.

The meeting began with a review of the recent multi-stakeholder dialogue convened by EPA that focused on sustainable financing for municipal recycling of packaging in the U.S. The final report of that dialogue can be found at www.epa.gov/waste/conserve/smm/sfmr. The overview was followed by a presentation and discussion on the perspective of state and local governments on the status of recycling in the U.S., and the current system for financing municipal recycling. The presentation (provided in Appendix C) and discussion were led by representatives from North Carolina and Minnesota. The main points of the presentation were:

- While both the amount of packing entering the market place and the commodity value of the recovered packaging material are increasing, recycling rates have stagnated;
- Municipal recycling programs must compete with other local and state interests for budget resources;
- Local governments are generally not rewarded by increasing market values;
- There are no feedback loops between local recycling systems and commodity markets, so local decision-making often results in inconsistencies;
- Local recycling systems are in need of a fresh infusion of capital to close infrastructure gaps;
- Recovered materials are an important part of the supply chain, but local governments do not see themselves as supply chain actors;
- Industry needs to step in and help own the supply chain;
- It is time for a shift in responsibility for recovery of packaging materials and reintroduction into the supply chain.

Each of the commodity industries was provided an opportunity to give their perspectives on the status of recycling in the U.S., and information on their industry's activities to increase material recovery, specifically:

- what are their goals around recycling;
- what do they view as the key barriers to increasing recycling; and

- any initial recommendations for addressing those barriers.

The Glass Packaging Institute (GPI) led the discussion around the glass industry's perspectives and goals. GPI's presentation is provided in Appendix D. The main points of the presentation were:

- industry has established a goal of increasing the recycled content of new glass bottles and jars to 50% by 2013 to:
  - preserve U.S. jobs
  - improve global competitiveness
  - reduce foreign energy dependency
- meeting these goals will conserve energy and raw materials in manufacturing, and reduce air pollution from operations

The glass industry discussed barriers to achieving their recovery goals, including:

- demand side/supply side materials management challenges, and the need to understand economic models around collection strategies
- glass quality issues, which they linked to single-source recycling strategies

The presentation closed with recommendations around education, Material Recovery Facility (MRF) improvements, and expansion/improvement of collection.

The aluminum industry's presentation echoed the barriers to increased recovery that had been presented by the state and local government representatives, citing consumer motivation as a critical factor. According to the presentation, the U.S. produces more secondary than primary aluminum, with 85% - 90% recycling rates for construction and automotive aluminum. In contrast, the recycling rate for used aluminum beverage containers (UBCs) is 58%, down from 62% in 1997. The presentation stressed the energy conservation benefits of recycling aluminum (95% less energy to make a beverage can out of recycled aluminum rather than virgin feedstock), and discussed the industry's goal of recovery of 75% of UBCs by 2015. The industry discussed concerns about recovery strategies such as Extended Producer Responsibility (EPR) that do not have a strong consumer education component, or that may reduce the recovery of aluminum from the municipal solid waste stream because of the impact on deposit legislation. They also highlighted the difficulty of recycling at apartment buildings and other multi-family residences, which currently comprise about 25% of the market.

The aluminum industry is putting resources into the Curbside Value Partnership (CVP). CVP is designed to work with municipalities to re-invigorate the education around recycling. On average, recycling rates increase 18% to 20% in communities working with CVP. Currently, CVP has a waiting list of communities seeking their involvement. As of June 1, 2011, CVP is an independent organization with 501(c)(3) tax status, and will soon be seeking funding and participation from other packaging commodities.

The steel industry presentation pointed out that, as with aluminum, they make more than just containers, recycling more than 100 million tons of steel per year. In 1989, about 15% of steel cans were recovered for recycling, and now, about 2 out of every 3 steel cans is recovered for

recycling. There was discussion around market resiliency – currently, the scrap value of steel is about $400/ton, however, recovered steel cans will still find markets when scrap values are as low as $20/ton. The presenter pointed out that he is not anticipating a down market for scrap steel anytime soon. Consumer apathy was highlighted as a barrier to increasing recycling rates. The Steel Recycling Institute (SRI) is working on a variety of promotional materials to assist local recycling coordinators with education initiatives, including getting steel packaging other than food cans included in curbside collection programs (currently, about 50% of programs includes aerosol cans, and 25% of programs include empty paint cans). Contamination is not really an issue with steel recycling because of the high temperatures used in processing. Taking advantage of efficiencies in municipal collection strategies, like collection frequency, was identified as an opportunity for increasing recycling rates.

The American Forest & Paper Association (AF&PA) led the discussion on behalf of the paper industry, with participation from a number of company representatives. They pointed out that in 2010 paper recovery for recycling was at 63.5%, about 344 lbs/person. The industry recycling goal in 1990 was 40%, and in March of 2011, the industry established a goal of 70% recovery by 2020. AF&PA works to raise awareness, and to create and deliver educational materials, especially to children. AF&PA recognizes and awards outstanding recycling programs with cash prizes and publicity, and prepares case studies that can be used as the basis for best practices. The industry supports voluntary programs and believes that market forces should guide the flow of materials, pointing out that it is important that recycling initiatives not present artificial barriers to trade. Citing an industry-funded study conducted by RW Beck, 87% of the U.S. population has access to either curbside or drop off recycling programs for paper. Given this high degree of access, increasing public education and outreach is a significant opportunity to increasing recovery rates.

There was discussion about commodity markets and how pricing signals directly influence the amount of material that is recycled. Currently, demand for recovered fiber has outstripped supply, but the industry needs not just more supply, but supply at a price they can pay – no mill will run recycled fiber when virgin fiber is cheaper. It is important that we have aligned incentives along the entirety of the supply chain.

The Association of Postconsumer Plastic Recyclers (APR) and the National Association for PET Container Resources (NAPCOR) led the discussion for the plastics industry, pointing out that all of the commodity groups present were in agreement that the goal is to increase supply, and that barriers to increasing supply include:

- Disposal in the U.S. is inexpensive
- The public is confused over recycling – what to recycle, why recycling is important
- Commodity groups – including plastics – have not taken advantage of the energy conservation movement, and missed messaging opportunities
- Concerns of local government officials are not always in line with what industry has to offer
- Lack of public policy

They suggested that the national agenda for recycling is quite different from the state agenda, and that the states don't share the same agenda across states. They suggested that we need

coordinated public policy to achieve recovery rates similar to those seen in other countries. They applauded U.S. Senate Resolution 251 (introduced August 2011, passed November 2011) which expresses support for (1) improvement in the collection, processing, and consumption of recyclable material; (2) strengthening the U.S. manufacturing; (3) a competitive marketplace for recyclable materials; (4) the trade of recyclable commodities; (5) U.S. policies that promote recycling; (6) research and development of new technologies to more efficiently and effectively recycle materials; (7) Design for Recycling and (8) the participation of U.S. households, businesses, and governmental entities in recycling programs.

One industry representative in attendance noted that "everyone knows how to recycle a bottle, so education is not what's needed, but we need investment in infrastructure." They went on to note that the quality of PET bottles collected for recycling has dropped precipitously with the advent of single stream recycling, limiting the value of the recycled material. One industry representative in attendance pointed out the importance of three critical, intrinsically related elements: capital investment, security of supply, and stability of demand. Others noted that consumer behavior is not keeping up with education, and that we need to put appropriate incentives in place to increase recovery and quality, pointing out that European landfill bans and high landfill costs have incentivized increased recycling rates, as has Pay-as-You-Throw (PAYT) in the U.S.

It was noted that "instead of doing more of what we've been doing, maybe we need to do things differently." To that end, NAPCOR is planning to announce the availability of grant funds of up to $100,000 to support model programs for PET thermoform recycling – more than just the PET bottles that have been the traditional focus of municipal recycling programs.

The Carton Council (CC) was introduced as an industry initiated and funded, voluntary program to address end-of-life (EOL) for cartons in an efficient and effective manner. The CC works with communities, MRFs and paper mills to make sure that there is an economically viable path for cartons by providing floor prices, tolling arrangements and financial guarantees, ensuring constancy of supply and demand. The manufacturers of cartons are providing the capital investment, installing 15 optical sorters in MRFs in 2010, with plans to install 20 optical sorters in 2011. States and local governments were especially appreciative of intervention at the MRF level.

During the discussion, missed opportunities and barriers were identified, including:

- away from home collection opportunities
- un-optimized single stream collection (trucks aren't full)
- small, private haulers are disconnected from MRFs and markets

During a discussion of financing strategies, several participants made the point that several revenue-generating strategies (PAYT, landfill taxes) are self-defeating, in that the behavior that you are trying to encourage (recycling) by definition reduces the revenue-generating action (disposal). Therefore, these strategies are not a sustainable solution. Recycling is a more complex system than trash disposal, and as the complexity of products being recycled increases, costs go up. Because local governments are not in the commodity trading business (and don't want to be), contracts tend to be written on a long term basis, causing disconnects from the

market place. As a result, communities are rarely benefitted by rising market values, and often bear the costs of declines in commodity value. Average costs in NC were offered as an example:

- Landfill disposal: $100 - $130/ton
- Recycling: $120/ton in a high performing system, $300/ton in a low performing system

There was agreement among the local governments in attendance that local governments do not make money on their recyclables. It was suggested that those communities that are making money on their recycling program are not performing well, and are only collecting a few high value products (like aluminum cans). Others saw that strategy as a good thing – don't collect those materials that it is not cost effective to recover.

During a discussion of roles and responsibilities, several points were made:

- Citizens should pay for the services that they demand
- It is irrational to pretend that we don't have an existing recycling system, and that local governments have no role – we need to intervene in the existing system, improve it and transform the system in place
- The focus should be cost driven, emphasizing system efficiency and optimization
- We need to acknowledge the investments that have already been made, and not walk away from them
- The private sector has exhibited a superior ability to influence consumer behavior
- We could change the outcome if we spent $1 - $1.25/person/year in communication about recycling
- One of the reasons that outreach is so expensive is that the rules (what you are trying to communicate) are so fragmented – a harmonized system would make communication more efficient

The state representatives asserted that, in order to ensure continued supply, industry needs to make investments in the supply chain. Those investments could take the form of capital (financial) or political investments. Some of the private sector participants asserted that their investments are not generating additional supply, and that the player who "does not have skin in the game" is the citizen – that's the place that investments need to be made, in the form of incentives to recycle. Some local government representatives contended that they have no control over what packages are coming into the market place and that they are being expected to recycle, making the point that the consumer packaged goods companies (CPGs) need to have "skin in the game," since they are in control of what materials and package designs will need to be recycled. There was generalized agreement that all participants in the supply chain, from the CPG, through the consumer, to local government and the MRF, and finally to the producer, have, and need to recognize, a vested interest in success.

It was suggested that most appropriate role for EPA in the future of recycling is 1) as a convener, bringing together different parts of the value chain for structured conversation, and 2) as a collector of data, recognizing that future actions need to be based on more complete and accurate data. Topics suggested by the participants for future conversations include:

- Dialogue to include haulers, MRFs, and the waste-to-energy (WTE) industry
- Framework for national policy to avoid a patchwork system
- Business Incubation – market development and sustainability, especially as related to packaging
- Messaging around benefits of recycling: saving oil, conserving energy, job creation, perhaps involving the AD Council and KAB

Identification of areas by the participants for possible collaboration included partnerships between commodity groups on common education/communication campaigns, focusing on messaging to MRFs, local and state governments (spending that political capital). Other suggestions by the participants included:

- Financial analysis of barriers to increasing recycling rates
- Developing common terminology on measurement (recycling rate) across commodities
- Developing model EPR legislation
- Developing message for the House and Senate around energy conservation and green jobs and implications of exports of materials recovered for recycling
- Raising literacy rates for decision makers
- Identification of impacts of legislative approaches (e.g., recycled content legislation)
- Identification of additional environmental impacts and ways to measure (e.g., air quality impacts)
- Advocating for a national recycling policy

Appendix A
Participants

Glass

1. **O-I**
   Ryan N. Modlin
   Vice President
   North American Government Relations

2. **Saint-Gobain Containers, Inc.**
   Steve Segebarth

3. **Owens Corning**
   Chris Schanze
   Director
   Government and Public Affairs

4. **Glass Packaging Institute**
   Lynn Bragg
   President

Paper

5. **Mead Westvaco**
   Andrew H. Luke
   Vice President, Business Development
   Global Packaging Solutions

6. **AF&PA**
   Brian P. Hawkinson
   Executive Director, Recovered Fiber

7. **Recycled Paperboard Alliance**
   Fran McPoland
   Colling Swift & Hynes

8. **SONOCO**
   Mike Schock
   Director of Rigid Paper Technology Consumer Packaging

9. **Carton Council**
   Marty Seaman
   Vice President
   Resource Recycling Systems

10. **GP/Harmon Recycling**
    Marc Forman
    President Harmon Recycling

11. **GP/Harmon Recycling**
    Ted Gloeckler

Metal

12. **Novelis**
    Derek Prichett
    VP of Global Recycling

13. **Alcoa**
    Sally R. Lambert
    Director of Government Affairs/Communications.

14. **Aluminum Association**
    Steve Gardner
    Vice President, Communications

15. **Steel Recycling Institute**
    Greg Crawford
    President
    Steel Recycling Institute

16. **Can Manufacturers Institute**
    Megan Daum
    Director, Sustainability

Plastics

17. **Amcor**
    David Clark
    Director, Sustainability

18. **SONOCO Recycling**
    Lane Cook

19. **NAPCOR**
    Dennis Sabourin
    Executive Director

20. **Association of Postconsumer Plastics Recyclers**
    Keefe Harrison

21. **American Chemistry Council**
    Keith Christman
    Managing Director, Plastic Markets

States

22. **Washington**
    Shannon McClelland
    Sustainability Specialist
    WA DOE

23. **Iowa**
    Theresa Stiner
    Department of Natural Resources

24. **NewYork**
    Peter Pettit, NY DEC
    Bureau Director,
    NY DEC

25. **North Carolina**
    Scott Mouw
    State Recycling Director
    NC DEHNR

26. **Minnesota**
    Garth Hickle
    Product Stewardship Team Leader
    MN Pollution Control Agency

27. **Wisconsin**
    Brad Wolbert
    Chief, Recycling and Solid Waste Section
    WI DEQ

Local Governments

28. **Onondaga County Resource Recovery Agency**
    Andrew Radin
    Director of Recycling

29. **City of Tacoma Solid Waste Management**
    Bill Smith
    Senior Environmental Specialist

30. **Plymouth, MN**
    Sarah Hellekson,
    Transit/Solid Waste Manager

31. **MidAmerica Regional Council**
    Lisa Danbury
    Solid Waste Program Manager

NGOs

32. **Sustainable Packaging Coalition**
    Anne Bedarf
    Project Manager
    GreenBlue

33. **Product Stewardship Institute**
    Scott Cassell
    Executive Director, Product Stewardship Institute

Conveners - EPA

34. **Region 4**
    Jay Bassett
    Chief, Materials Management
    USEPA Region 4

35. **Region 7**
    Jim Callier
    Chief, Resource Conservation and Pollution Prevention Section
    USEPA Region 7

36. **Office of Resource Conservation and Recovery**
    Suzanne Rudzinski
    Director, ORCR

37. **Office of Resource Conservation and Recovery**
    Sandra Connors
    Acting Deputy Director, ORCR

38. **Office of Resource Conservation and Recovery**
    Kent Foerster

39. **Office of Resource Conservation and Recovery**
    Sara Hartwell

Appendix B

Agenda
Multi-Stakeholder Discussion on Increasing Recycling of Packaging Materials

August 11 - 12, 2011 ***Kansas City, Missouri***

Meeting Objectives

Discuss perspectives on the financially sustainable and efficient end-of-life management of packaging materials. Identify:

- Roles for EPA and stakeholder groups in increasing recovery of packaging materials, and sustainable financing of municipal recycling of packaging
- Opportunities and strategies for increasing recovery of packaging materials, and more sustainably financing municipal recycling of packaging

Meeting Agenda

Day 1

1:00 p.m. Opening
- Welcome and introductions
- Greeting from EPA/ORCR
- Review of meeting objectives and agenda, logistics, and discussion principles

1:30 Overview of recent EPA dialogue
- Framework of the meetings, who participated, dialogue outputs

2:00 State and local perspective on the status of recycling in U.S, and the current financing system

2:30 Break

2:45 Commodity industry perspective on status of recycling and overview of their activities to increase material recovery

Commodity participants will be asked to address the following points: 1) what goals do they have around recycling 2) what they view as the key barriers to increased recycling and 3) initial recommendations for addressing those barriers

- Glass Industry
- Aluminum Industry
- Steel Industry
- Paper Industry
- Plastics Industry

5:00 Adjourn for day *Evening plans:* Dinner on your own.

Day 2

8:30 a.m. Opening
- Recap of Day 1
- Preview of Day 2

8:45 Continuation of previous day's discussion

9:15 Identification of common themes from government and industry

10:00 Break

10:30 Discussion: What is needed to optimize the U.S. recycling system?
- Collection
- Processing
- Use of materials
- Public awareness and participation
- Policy changes to support optimization

12:00 Lunch

1:00 Discussion: Allocation of costs and management responsibilities/control
- Who should bear what percentage of the costs of managing end-of-life consumer packaging and printed materials?
- Generally, what roles should the entities that are bearing these costs (e.g. municipalities, brand owners, producers others) play in managing these materials and controlling these costs/expenditures?
- What should EPA's role be in increasing recycling of packaging materials?

2:30 Actions going forward
- Identification of areas for possible collaboration
- Identification of next steps

3:30 Wrap-up

3:45 Adjourn

Appendix C
State and Local Government Presentation

Current Challenges in the US Recycling System

Garth Hickle and Scott Mouw
On Behalf of
State and Local Government Stakeholders

(Portions of this presentation by Resa Dimino, NY, for the EPA Dialogue on Sustainable Financing for Recycling of Packaging Materials Meeting #3, January 27-28, 2011)

Unsustainable Status Quo

- Stagnant recycling rates ~30% for the last decade.
- Local program growth incremental and constrained
- Commodity industries and recycled material users unable to get adequate supplies.
- Material value inflation
- Volumes of packaging increasing
  - Containers and Packaging generation increased by 13 million tons since 1990- $1.56 billion in added cost to government (@$120/ton-NC)
- Falling short of the full benefits of optimized recycling
  - Capturing material value creates jobs, conserves energy, reduces GHG, enhances sustainability
  - "There is no sustainability without recycling" Mike Schedler, NAPCOR

Why Can't Gov't Solve The Problem?

- Government Budget Pressures
  - No New Taxes & Fees
  - Unfunded Mandates
  - Competition with critical services (schools, libraries, police, fire, etc)

- Government Budgeting Process Constraints
  - Annual budgeting; conditions vary each year
  - Long-term planning and consistent implementation challenging
  - Unresponsive to commodity pricing and supply demands

Why Can't Gov't Solve The Problem?

- Increased Complexity of Materials to Manage

- Market Disconnects
  - Local governments have no ability to influence volume or composition of materials.
  - Local governments not generally rewarded by recycling markets but occasionally punished.
  - Local governments not equipped to interact with global commodity markets - why would put them in charge of the material supply chain?

Why Can't Gov't Solve The Problem?

- Service Limitations
  - Local program focus largely on just one source of materials: single family homes.
  - Limited service in multi-family, commercial, away-from-home settings.
  - Limited resources to expand services
- Non-municipal Service Providers (e.g., solid waste haulers)
  - Public policy goals can conflict with business interests
  - Variability of recycling markets can clash with business models
  - Mandates and incentives difficult to establish

Local Responsibility = Variability

- System based on local decision-making:
  - Inherently inconsistent & patchworked
  - Constrained to short-term thinking
  - Fails to address large sources of material generation

- Result - lack of consistency in:
  - Materials collected
  - Collection systems
  - Education & outreach investments
  - Program implementation
  - Rules and policies

Resource Recycling Survey of Recycling Coordinators (e.g., your suppliers)

- Survey conducted Sept/Oct 2010.
- Results reported in December issue of *Resource Recycling* magazine.
- Survey included responses from 991 local coordinators from around the country, with broad spectrum of community profiles represented (rural, urban, suburban, small town).

Coordinator Survey Responses

- 70% rated recycling in the US as "Somewhat Poor" to "Very Poor," on a five-point sliding scale
- Common descriptors on the state of recycling: "inadequate" "lacking" "apathetic" "stagnant" "underfunded"
- More than 70 % said their agency or program has suffered budget cuts due to the ongoing recession
  - Of those, 61 % said cuts included staff reductions
- Reported across the board declines in the volume of nearly every recyclable commodity, mostly due to the recession's effects on consumption

Coordinator Survey Responses (cont'd)

- 55% believe the average national recycling rate over the next decade will either stay the same or decline.
- Many expressed frustration re: lack of coherent national recycling policy.
- Many view federal standards as a way to ensure funding and reduce expenses by sharing program outreach and education materials.
- Article author's "final thoughts":
  - "Essentially, recycling coordinators now find themselves in the unenviable position of having to do more with less, without a clear definition of what 'more' is.... Recycling Coordinators often find themselves operating autonomously and relatively unsupported."

Optimizing the System Means Changing the System

- Optimization of the recycling system will require large scale shifts in activities and roles of current players.
- Optimization will require a more holistic approach that addresses long-term, strategic issues re:
  - Global competition for materials
  - Commodity inflation
  - Sustainability
- And that achieve:
  - Deeper and permanent public commitment to recycling
  - Collection of materials at all points of generation
  - The right alignment of policies, incentives, assignments, and goals that drive continual improvement

Financing and Investment: Critical to the Next Leap Forward

- Constraints in government funded systems are inherent.
- Need for resources is recurring theme.
- Closing infrastructure gaps will require large infusions of capital and business conditions that motivate and sustain those investments.
- Cost internalization into the value chain of products would help address constraints in system.

Financial Issues in the System

- Coverage of points of generation – who will finance and operate expanded collection infrastructure and services?
- Collection system performance – what mechanisms can ensure/motivate collection actors to maximize efficiency?
- Processing – who will finance needed expansions and improvements to the U.S. MRF and secondary processing infrastructure? Who will finance technology and investments to improve material quality?
- Public Participation – how will we meet the ongoing needs to motivate and educate the public?

Encouraging Trend: Consumer Packaged Good (CPG) Company Sustainable Packaging Goals

- **Proctor & Gamble**: 100% renewable or recycled materials for all products and packaging and making sure packaging materials end up in a "valued waste stream"
- **Unilever**: average increase in packaging recovery rates of 15% by 2020.
- **Coca Cola**: 100% recycling rate for its packaging by 2020.
- **Nestle**: 60% recycling rate for PET by 2018
- **Kraft**: ensure that 70% of packaging material is recyclable in North America.
- **Pepsi**: create partnerships that increase the container recycling rate to 50% by 2018.

- Commitments to use recycled content in packaging helps CPGs "own" the recycling issue.
- Twin pressures of commodity and energy scarcity will keep driving these kinds of commitments.

Another Encouraging Trend: Commodity Industry Recycling Goals

- American Forest & Paper Association setting successive annual goals for paper recycling.
- Glass Packaging Institute: 50% recycled glass in new glass bottles and jars by 2013.
- Aluminum Association: increase recycling rate for used beverage containers to 75% by 2015
- Association of Post-Consumer Plastics Recyclers: Open-ended core goal to "increase the amount of plastic material that is recycled in North America."

Additional Important Initiatives

- Wal-Mart Packaging Scorecard
  - Aimed at driving packaging source reduction
- AMERIPEN
  - Industry consortium formed to address packaging issues, including end-of-life management.
- Carton Council
  - Targeted intervention to build markets, processing, and collection of gable-top and aseptic containers.
- NAPCOR
  - Funding for pilot collection and processing of PET thermoforms
- Curbside Value Partnership
- SPC Labeling Project
  - Project aimed at simplifying recyclability messages to the public.

Barriers to Achievement of Industry Goals

- Severe lack of coordination
- Scale of initiatives and activities not adequate to truly and permanently change the system.
- Goals seemingly unsupported by strategic analysis and planning.
- No indication that a wholesale evaluation of the constraints of the current system has been made.
- No indication of the consideration of alternative models that would fundamentally change the current system.

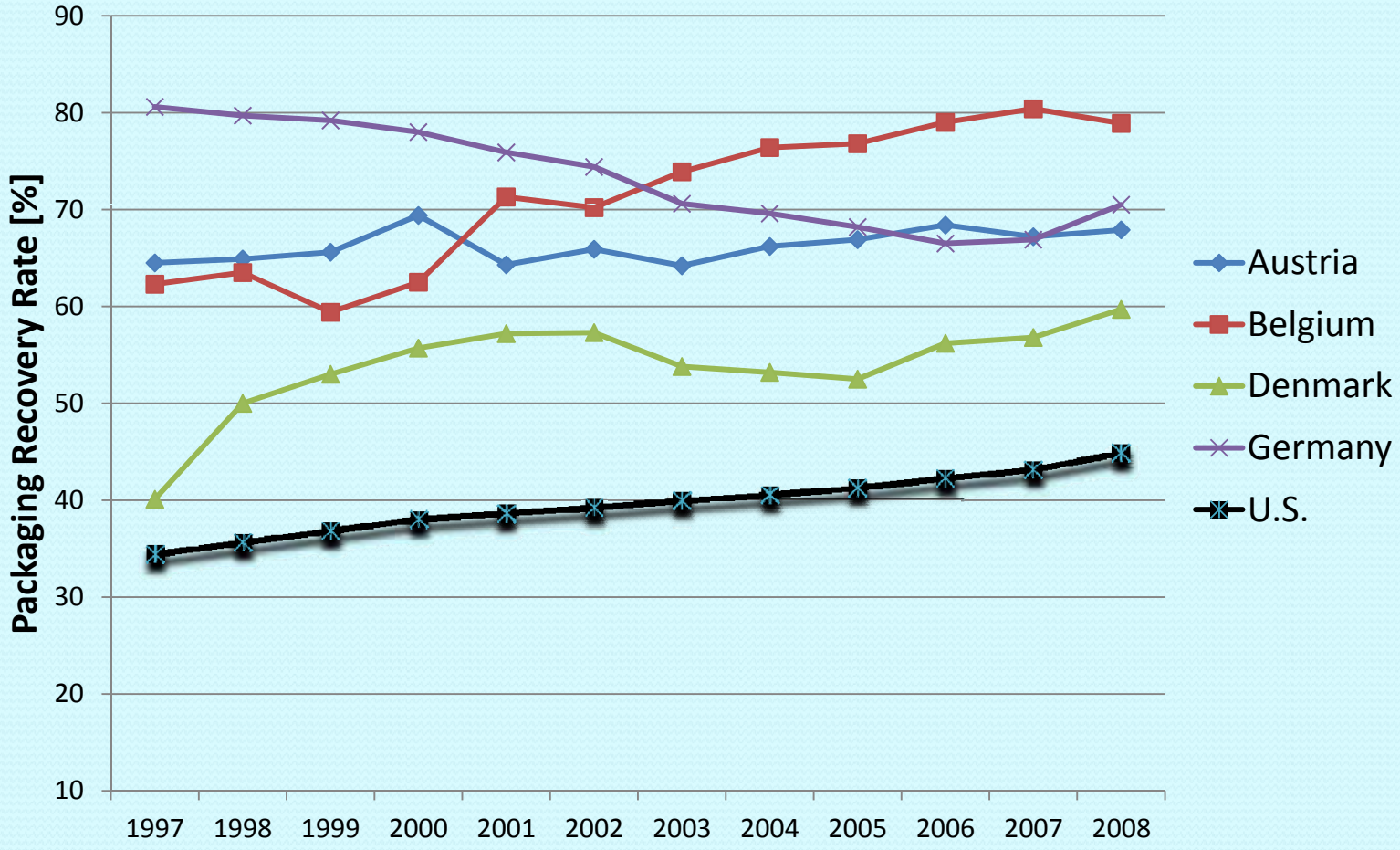
Time for a Shift in Responsibility?

- Who has the most to gain/lose in the recovery of discarded materials?
- Who can best make decisions about the necessary investments and next steps in recycling?
- Does the current responsibility model promise the kind of progress needed by all parties?

How are our Peers Doing?

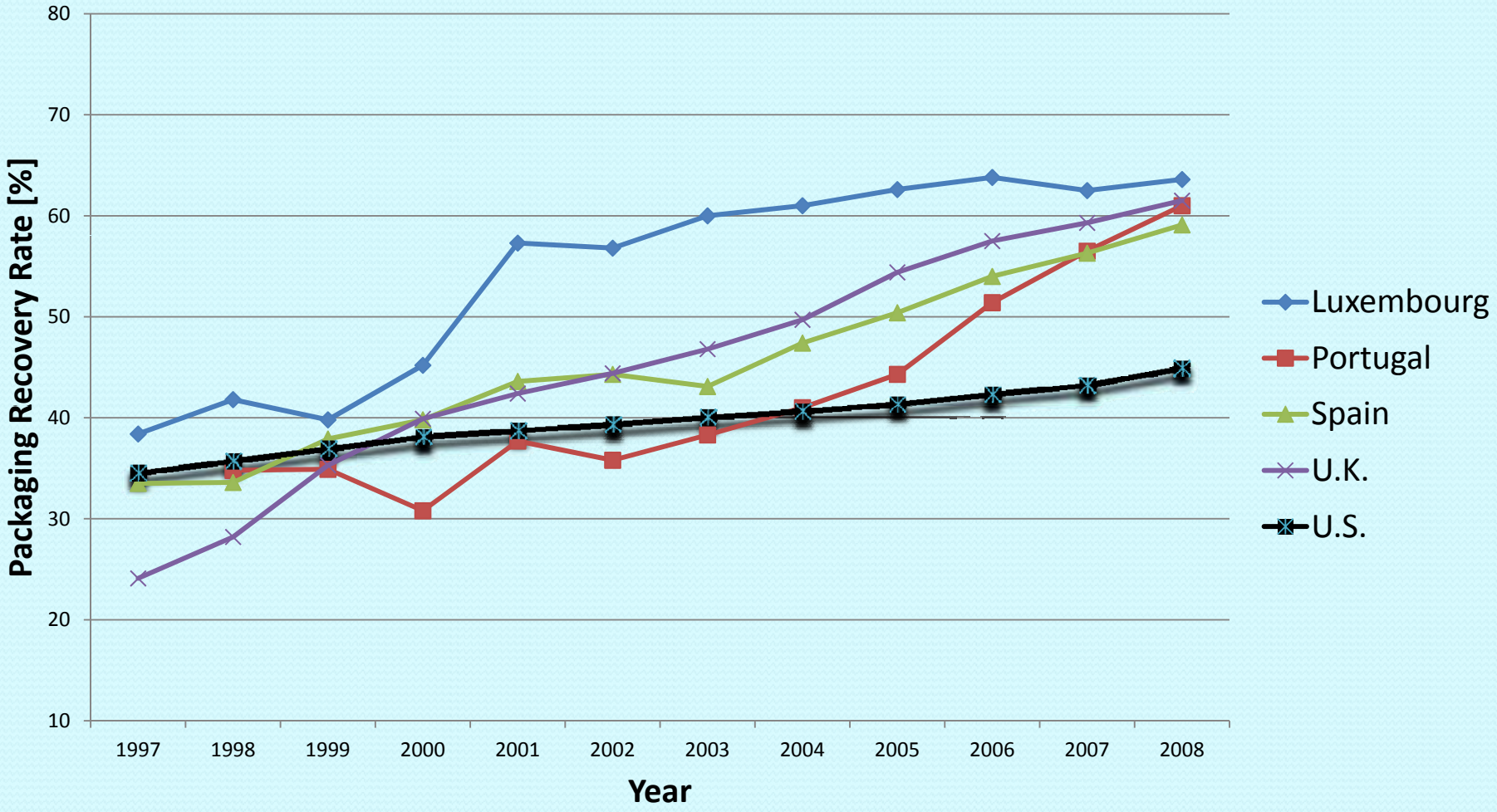
- Europe and Canada use different management and financing models: extended producer responsibility (EPR)
- Recycling track records suggest that EPR systems are performing better.
  - Packaging recycling rates for Ontario and Manitoba: 63%
- What could EPR do to address disconnects and shortcomings in the U.S. system?
  - Removes constraints of local government financing and decision-making in the system.
  - Ties packaging design and use more closely to end-of-life management, establishing a feedback loop in the system
  - Incorporates the full cost of a material through end-of-life into the value chain/business model/cost of the material.

Comparative Packaging Recycling Rates



Courtesy: Product Stewardship Institute

Experience of European Countries When Packaging Directive Took Effect



Courtesy: Product Stewardship Institute

Issues and Challenges

- Sense of scale
  - Can we move past incremental and token efforts?
- Internal industry collaboration
  - Can/will commodity groups find ways to collaborate on a common purpose?
  - Can AMERIPEN or other mechanisms be a source of substantive initiatives?
- Communication
  - How do we build and maintain collaboration between the public and private sector?
- If EPR happens, how will it look? How will it overlay an existing infrastructure? How long will it take and where will it be implemented?
- If not EPR (or until EPR), what are the alternatives and what do we do in the immediate term?

Questions/Discussion

Appendix D
Glass Industry presentation

U.S. EPA Multi-Stakeholder Meeting on Increasing Recycling of Packaging Materials

Lynn Bragg,
President, Glass Packaging Institute

August 11, 2011
Kansas City, Missouri

Glass is ENDLESSLY Recyclable

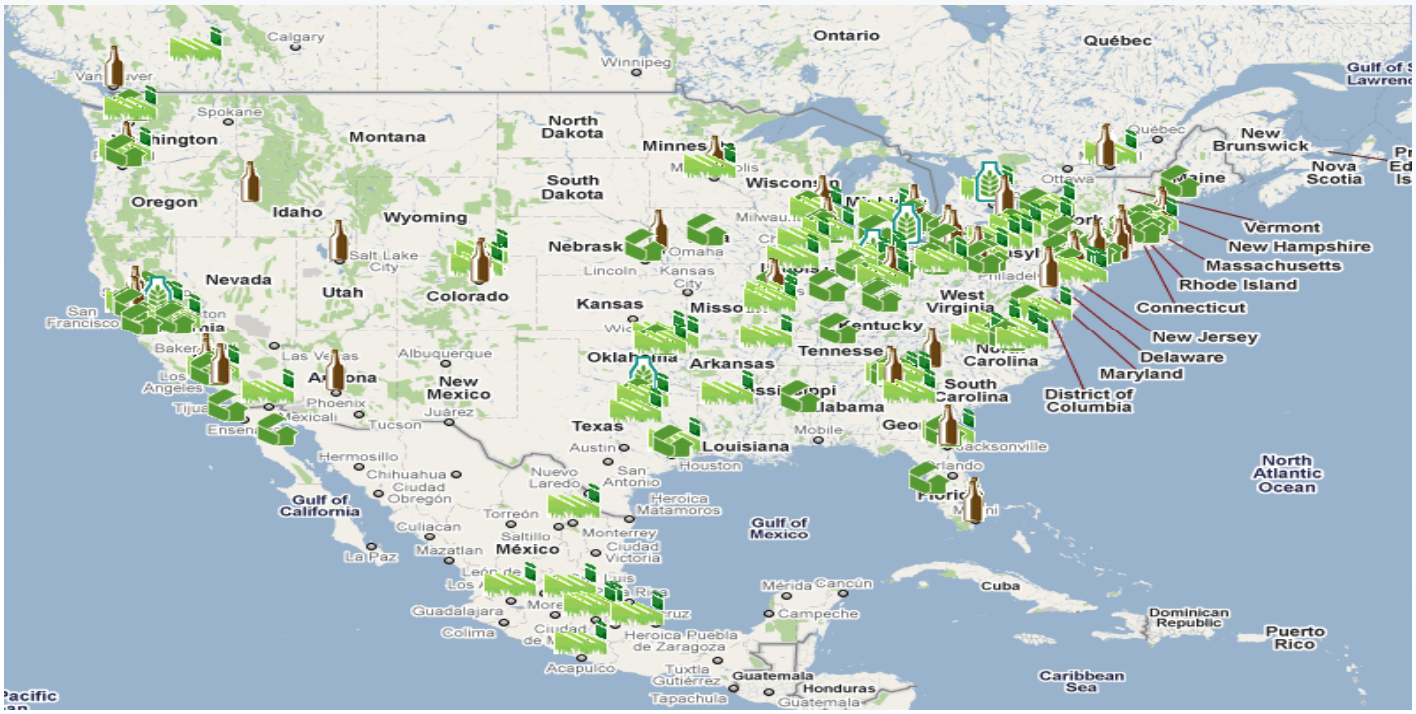
glass packaging institute

About the GPI

The **Glass Packaging Institute** represents the North American glass container industry:

- 10 member glass container producers
- 35 associate member supplier companies

Through GPI, glass container manufacturers advocate job preservation and industry standards; provide education; and promote sound energy, environmental, and recycling policies.



glass packaging institute

About the GPI

- 48 glass container plants in 22 states comprise a **$5.5 billion dollar industry**
- 102 glass container furnaces produce approximately **30 billion glass food, beverage, cosmetic, spirits, wine, and beer containers annually**
- The industry employs approximately **8,000 salaried and represented hourly employees** in our glass container plants, warehouses, sales forces … along with thousands more in our supplier companies across the U.S.

glass packaging institute

Environmental Benefits of Glass Recycling

- Glass is 100% recyclable; it has an unlimited life and **can be recycled endlessly**
- Over a ton of **natural resources saved** for every ton of glass recycled
- **Energy costs drop** about 2-3% for every 10% recycled glass used in the manufacturing process
- Six tons of recycled container glass used equals one ton of **carbon dioxide reduced**

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Closed-Loop Glass Recycling

High-quality recycled glass =
New glass bottles and jars

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Overview

- GPI Industry Recycling Goals
- Key Barriers to Increasing Glass Recycling/ Recovery Rates
- Recommendations

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GPI Industry Recycling Goals: Achieve 50% Recycled Content by 2013

- **First Objective:**
  - Preserve U.S. jobs in an "Energy Intensive, Trade Exposed" environment:
    - Improve global competitiveness
    - Reduce foreign energy dependency
    - Support improved materials management models, many of which currently face serious economic and performance challenges

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GPI Industry Recycling Goals: Achieve 50% Recycled Content by 2013

- **Second Objective:**
  - Drive industry sustainability initiatives
    - Conserve energy
    - Save raw materials
    - Reduce air emissions … including NOx, SOx, PM, and greenhouse gases (e.g. CO_2)
    - "Reduce/Reuse" in all aspect of plant operations … water, cardboard, lubricants, electricity, etc.

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GPI Industry Recycling Goals: Achieve 50% Recycled Content by 2013

To achieve goal must improve the quantity and quality of recovered recycled glass by:

- Partnering with stakeholders to improve glass recycling/recovery rates
- Supporting improved local, state, and national data collection/analysis
- Supporting effective legislative initiatives at federal and state levels
- Conducting single-stream recycling best practices "SWOT" analysis, including processing technologies
- Supporting evolving customer and consumer commitment to sustainability/recycling "ethic"

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Key Barriers to Increasing Glass Recycling/Recovery Rates

- **Confusion about demand side/ supply side materials management challenges and opportunities**
  - Consumers expect what they take to the curb is actually recycled/recovered to same or similar product
  - Local and state governments under significant financial constraints … often consider their job done once recyclables are picked up
  - Haulers often don't consider end markets when collecting recyclables

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Key Barriers to Increasing Glass Recycling/Recovery Rates

- **Contamination and Recycled Glass Quality**
  - Supply of high-quality recycled glass to manufacturers limited by contamination issues
  - "Single stream" recycling collection and glass contamination
    - On average, 40% of recycled glass goes to new container glass
    - 20% for single use, low value "diversion" (landfill cover, road bed aggregate, etc.)
    - 40% goes to landfill*

*Source: Container Recycling Institute, 2009 Study

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Key Barriers to Increasing Glass Recycling/Recovery Rates

- **Recycled Glass Handling at Materials Recovery Facility (MRF)**
  - Recycled glass often becomes contaminated or becomes a contaminate during the collection process … especially in the single stream model
  - Challenges with process and equipment in handling recycled glass containers
  - Additional cost to sort at glass processing plant
  - Overall need to understand the economic models to improve handling and recovery of recycled glass

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Key Barriers to Increasing Glass Recycling/Recovery Rates

- **Initiatives that may limit collection and recycling of glass containers**
  - Repeal and challenges to existing container deposit laws
  - Removal of glass from established local and regional recycling programs
  - Any collection or recycling framework with inconsistent/unclear goals and objectives with respect to:
    - Materials and waste management in general
    - Economic feasibility/paybacks
    - Recycling
    - Sustainability

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Recommendations

- **Ensure "Recycling" Means Closing the Loop**
  - Adopt collection practices that support recycled product manufacturing
  - Ensure consumers have access to collection systems that allow for closing the loop
  - Consider specific recycling goals in contracts with haulers and processors that ensure closed-loop end markets
  - Educate consumers about the importance of improved recyclables recovery rates

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Recommendations

- **Improve handling of glass at MRFs**
  - Create partnerships to improve sorting and handling of recycled glass
  - Improve understanding of economic model
  - Establish direct connection with glass end markets

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Recommendations

- **Expand/improve collection systems for glass containers and other recyclables**
  - Explore new initiatives/partnerships
    - Focus on collection approaches that have the potential to improve recovery rates/increase access to high-quality recycled glass and other recyclables
  - Evaluate Container Deposit Programs with respect to sustainability…
    - 98% of the glass collected is recycled primarily for new containers
    - More than 50% of recycled glass is collected from the ten existing container deposit programs

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Recommendations

- **Expand/improve collection systems for glass containers and other recyclables**
  - Expand Bar, Restaurant, and Hotel Glass Recycling Programs
    - In North Carolina, over 75,000 tons of glass containers collected in 2010 for recycling (up from 45,000 tons/yr before the program was enacted in 2008)
  - Support Drop-Off Collection
    - Can supplement single stream curbside programs and supports rural recycling
    - Little loss of glass for closed-loop recycling

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Recommendations: Legislative

- Develop consensus legislative agenda
- Advocate for Federal Initiatives
  - Increase support for recycling
  - Improve recycling data collection/analysis
  - Improve recycling economics
  - Support recycling businesses
- Ensure legislation considers container glass recycling and end markets
  - Keep programs in place that generate high recycling rate for glass containers or other materials
- Improve glass recycling collection systems
- Encourage bar, restaurant, and hotel recycling
- Support state beverage container deposit programs

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