Increasing recycling of beverage containers in Minnesota:

Recommendations for a statewide recycling refund program

Minnesota Pollution Control Agency

February 2014

lrp-rrr-1sy14

Legislative charge

The commissioner shall prepare and submit a report to the chairs and ranking minority members of the senate and house of representatives committees and divisions with jurisdiction over the environment and natural resources by January 15, 2014, with recommendations for a statewide recycling refund program for beverage containers that achieves an 80 percent recycling rate. In preparing the report, the commissioner shall consult with stakeholders, including retailers, collectors, recyclers, local governments, and consumers on options to increase the current recycling rate. An assessment of the financial impact of any recommended program shall be included in the report. (Laws 2013, chapter 114, article 3, section 3, subd. 5)

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Introduction

This report fulfills the legislative requirement for the Minnesota Pollution Control Agency (MPCA) to develop recommendations for a statewide recycling refund program for beverage containers that achieves an 80 percent recycling rate for beverage containers.

The report provides a description of the recommended program and a summary of the process for developing the recommendations, including a cost-benefit analysis that examines the financial impacts of the program and feedback from the public.

More information on the study is posted on the MPCA website: http://www.pca.state.mn.us/apfc83w

Recommendations to the Legislature

The Minnesota Pollution Control Agency (MPCA) offers this recommended program design for a statewide recycling refund program for beverage containers. The elements of the program achieve a recycling rate of 80 percent for beverage containers, as well as mechanisms for maintaining that rate.

The complete program design is Appendix A. The cost-benefit analysis is Appendix B.

Summary of the program design for a statewide recycling refund program

- Recycling refund/deposit of $0.10 (ten cents) will apply to beverage containers up to one gallon to be paid at time of sale
- Beverage containers subject to a deposit include all containers for alcoholic or non-alcoholic drinks intended for human consumption and packaged for sale in a redeemable beverage container: beer and other malt beverages, wine, distilled spirits regardless of dairy-derived content, carbonated and noncarbonated soft drinks, flavored and unflavored bottled water, fruit juice, milk, and tea and coffee drinks regardless of dairy-derived content
- A non-profit beverage container recycling organization (BCRO) to manage the program will be created by statute
- The Board of Directors of the BCRO will be appointed by the MPCA commissioner
- Development of the Beverage Container Recycling Plan
- Minimum of one redemption site per county up to 15,000 population and one additional site for each additional 15,000 population
- Unredeemed deposits will be managed by the BCRO and be used to offset program costs
- Redemption center handling fees necessary will not be specified by legislation but will be determined by the BCRO
- Redemption centers may be operated by retailers (on a voluntary basis), local government, charitable/non-profit organizations, and solid waste facilities
- Centers can be either staffed or served with a reverse vending machine
- The beverage container recycling organization will own and market all beverage containers returned for refund of the deposit
- MPCA will be the primary oversight agency with responsibilities for reviewing and approving the beverage container recycling plan, ensuring compliance, providing technical assistance, conducting program evaluation, reporting to the Legislature, and conducting criminal investigations and enforcement actions related to fraud.

Process for developing recommendations

In developing the recommendations for a statewide recycling refund program for beverage containers, the MPCA examined other jurisdictions in North America with beverage container deposit refund programs and consulted with manufacturers, retailers, recyclers, environmental advocacy organizations, local units of government, and other interested parties. The program design was then modeled to assess the costs and impacts of the program.

Program design

A program design was drafted to scope a "recycling refund" approach for beverage containers in Minnesota. The approach was meant to achieve a high redemption rate, provide means for maintaining and sustaining that rate, and be inclusive in terms of container types and materials.

Some of the notable elements:

- Deposit of $0.10 to be collected at point of sale
- Applied to redeemable containers of one gallon and smaller for all beverages, alcoholic and non-alcoholic
- A redemption system based on a convenience standard that includes population density
- A non-profit beverage container recycling organization (BCRO) will be created by statute to manage the program and develop a recycling plan that will achieve and maintain an 80 percent recycling rate for beverage containers.
- Oversight from state government

The draft program design was published on September 17, 2013. Public review and feedback on the design were sought and accepted through a public meeting and comment period.

The final program design is Appendix A.

Cost-benefit analysis

To assess the financial impact of the draft program design, an external vendor was hired through a competitive request for proposals process. Reclay StewardEdge, Inc. modeled the program design provided.

The draft cost-benefit analysis was released January 9, 2014. A second public meeting was held on January 14, 2014, to present the findings of the analysis and allow for public comment and feedback on the work presented.

Public comments on the draft analysis were accepted through January 22. (Appendix E)

The completed analysis was received January 31, 2014. (Appendix B)

Public meetings

In preparing the report, the Minnesota Pollution Control agency sought to share information with the public and take feedback from interested stakeholders. Two open meetings were planned to allow for presentations on work completed and provide a forum for discussion and feedback.

September 2013

Following the release of the draft program design, an open meeting was held on September 30 to review the draft and allow the public to provide input in a facilitated forum. More than 75 interested parties attended, representing a wide range of stakeholders from retail, beverage, waste and recycling, and local government. The forum sought to direct input and feedback by posing a series of broad questions for group discussion.

- Are there responsibilities for the Beverage Container Recycling Organization that should be added to facilitate overall program functioning?
- Is the proposed balance of stakeholders on the Board of Directors for the Beverage Container Recycling Organization adequate? If not, who else should be represented?
- Is the proposed scope of beverage containers too broad?
- Will the proposed scope create administrative complexity?
- Is the amount of the deposit appropriate to ensure an 80 percent redemption rate?
- Should the unredeemed deposits remain with the Beverage Container Recycling Organization?
- Is there an operational argument as to why the handling fees should be specified in statute and not addressed in the recycling plan?
- Is the proposed convenience metric for redemption centers adequate? If not, please propose an alternative measure.
- Should the Beverage Container Recycling Organization have the responsibility to determine/approve redemption centers? If not, is there a preferred entity/process to do so?
- The draft program design does not state what entity or entities owns redeemed containers; should it?

Public comments on the draft program design were solicited through November 4. The agency sought comments on specific provisions of the draft and how those provisions can be improved to promote ease of implementation and program efficiency, as well as data and research that would contribute to overall program functionality. Comments received are in Appendix D.

January 2014

The draft cost-benefit analysis was published in January 9, 2014. A second public meeting was held on January 14 to present the findings and allow for public comment and feedback on the work presented by the lead author, Tim Buwulda, Reclay StewardEdge. More than 80 interested parties registered to attend the meeting.

Public comments on the analysis were accepted through January 22. (Appendix E)

Appendices

Appendix A: Program design

Program design for a recycling refund program for beverage containers in Minnesota

Recycling refund/deposit amount

A required deposit of $0.10 will apply to beverage containers of one gallon and smaller to be paid at time of sale.

Scope of beverage containers with deposit

All containers for alcoholic or non-alcoholic drinks intended for human consumption and packaged for sale in a redeemable beverage container: beer and other malt beverages, wine, distilled spirits regardless of dairy-derived content, carbonated and noncarbonated soft drinks, flavored and unflavored bottled water, fruit juice, milk, and tea and coffee drinks regardless of dairy-derived content.

Specified exclusions

Exclusions to the program include the following:

- a syrup, a liquid concentrate, a condiment, or any other additive intended primarily as a flavoring ingredient in food or beverage
- a liquid that is a drug, a medical food, or an infant formula as defined by the federal Food, Drug, and Cosmetic Act
- a liquid that is a dietary supplement as defined as a dietary supplement
- a product frozen at the time of sale to the consumer

Beverage container recycling organization

A non-profit organization to manage the program will be created by statute.

Responsibilities for the organization include:

- overall program management
- development of the Beverage Container Recycling Plan
- financial management of the program including determination of handling fees (if any)
- maintenance of brand registry
- selection/approval of redemption centers to ensure their capability to meet convenience requirements
- annual reporting to the MPCA and the public
- annual financial audit of program finances

Governance structure of beverage container recycling organization

The Board of Directors of the organization will be appointed by the Commissioner of the Minnesota Pollution Control Agency and include representatives of the following:

- brand owners
- distributors of beverages
- local government
- redemption centers

Unredeemed deposits

Unredeemed deposits will remain with the beverage container recycling organization.

Handling fees

Any fees necessary to support the operation of redemption centers will not be specified by legislation but will be determined by the beverage container recycling organization.

Redemption centers

Redemption centers will serve as collection agents on a voluntary basis. Retailers that sell containers that carry a deposit are not required to serve as redemption centers.

- Centers must be approved by the beverage container recycling organization to ensure adequate convenience, adherence to the redemption requirements and reporting.
- Operators may include retailers, local government, and solid waste facilities (such as materials recovery facilities or transfer stations).
- Centers can be either staffed or consist of a reverse vending machine.

Distribution/convenience of redemption centers

At least one redemption center per county is required, with at least one additional center for each 15,000 residents per county.

Containers collected through municipal recycling programs

Containers that are deposited in curbside/drop-off recycling containers can be redeemed.

Ownership of redeemed containers

The beverage container recycling organization will own and market all beverage containers returned for refund of the deposit.

Performance goal

The beverage container recycling organization will be responsible for achieving and maintaining an 80 percent recycling rate.

Utilization of unredeemed deposits

Unredeemed deposits will be managed by the beverage container recycling organization to ensure achievement of program performance.

The program will create a fund for statewide market development activities related to redeemable containers, to be managed by the beverage container recycling organization. Determinations as to necessary investments will reside with the beverage container recycling organization and must be addressed in the Beverage Container Recycling Plan.

Impact on county recycling rates

Each county's recycling rate will be credited with the containers redeemed in that county.

Components of the beverage container recycling plan

- identify collection centers to ensure convenience requirement is met
- determine amount for handling fees, if any, to be paid to redemption centers
- develop strategy to ensure opportunity for recycling at public events
- market development activities that may be needed to support end markets for redeemed containers
- outline strategy to prevent fraud
- communications/media plan

Role of state government

MPCA will be the primary oversight agency with responsibilities for reviewing and approving the beverage container recycling plan, ensuring compliance, providing technical assistance, conducting program evaluation and reporting to the Legislature.

Appendix B: Cost-Benefit Analysis of a Recycling Refund System in Minnesota (Reclay StewardEdge, Inc.)

Reclay StewardEdge

Product Stewardship Solutions

Minnesota Pollution Control Agency

Cost-Benefit Analysis of a Recycling Refund System in Minnesota

PREPARED BY: Reclay StewardEdge Inc.

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Executive Summary

This report presents the results of an evaluation of the costs and benefits of a recycling refund (commonly referred to as "bottle bill") policy approach to beverage container recycling in Minnesota. The recycling refund system that was investigated is different from any other like system operating in North America, especially U.S. deposit-return systems in the ten states with deposit-return programs. In particular, a key differentiator from other U.S. programs is the value of the deposit at ten cents, and the vision that the retail industry would have no obligation to accept returns or support redemption sites in the vicinity of retail establishments. These differences have had material impacts on the results of the analysis in this report, so that the costs and benefits results are not directly comparable to that of other deposit-return systems.

This study found that the recycling refund system described by the Minnesota Pollution Control Agency (MPCA) would result in increased recycling of approximately 107,000 tons of beverage containers in the state, or approximately 1.9 billion container units. In addition to the increase in quantity of beverage containers recycled, the quality of the collected commodities would be improved over that of the existing recycling systems.

The annual cost of the recycling refund system is estimated to be $179 million, which would be financed by:

- $76 million in proceeds from the sale of the recyclable materials that are collected;
- $74 million from unredeemed deposits; and
- $29 million from beverage distributors.

In addition to the cost of the recycling refund system itself, the State of Minnesota will incur than $1 million in regulatory and enforcement costs related to the recycling refund system, and consumers will incur undetermined costs in transporting beverage containers to redemption sites.

The following annual savings are also projected to result:

- $5.6 million realized by local authorities and individual single-family home waste and recycling service subscribers;[1] and
- Undetermined savings to state and local authorities for reduced litter cleanup.

Table 1 summarizes the primary revenue and cost line items associated with the $29 million net annual cost of operating the recycling redemption system.

Table 1 Beverage Container Recycling Organization Financial Statement

	$ millions
Revenues	
Beverage Container Deposits Received	469
Sale of Processed Materials	76
Subtotal Revenues	*545*

[1] Although impacts to industrial, commercial, institutional, and multi-family residential establishments could not be estimated in this study, it is reasonable to assume that the collective savings to these establishments would be marginally smaller than, although similar in magnitude to, that of single-family homes.

	$ millions
Expenses	
Deposits Refunded	395
Redemption Center Payments	141
Collection Contractor Payments	17
Processor Payments	14
Materials (Pallets, Crates, Sacks)	1
Administration	4
Promotion and Education	2
Subtotal Expenses	*574*
Operating Result (annual deficit to be funded by beverage distributors)	**(29)**

The recycling refund system is estimated to have the following Minnesota jobs impacts:

- Increases of:
  - 1,438 recycling refund system jobs;
  - 15 glass beneficiation jobs;
  - 4 state law enforcement and regulatory agency jobs; and
  - Undetermined potential for in-state recycling manufacturing jobs.
- Decreases of:
  - 214 supermarket and grocery jobs;
  - 39 beverage industry production and distribution jobs (note, jobs will be shifted to other states but are not forecasted to be actually lost);
  - 136 residential recycling collection jobs;
  - 6 waste collection and landfilling jobs.

The total job impact is forecasted to be a net gain of 1,062 jobs directly related to or impacted by the recycling refund system. Additional indirect jobs will be gained from spending by employees who fill these jobs and spending by the businesses that employ them.

In addition to the above benefits, energy savings and environmental quality benefits would occur from the recycling redemption program. It was beyond the scope of this report to estimate these benefits.

1. Introduction

In its 2007 Solid Waste Policy Report, the MPCA recommended the establishment of a goal to recycle 80 percent of beverage containers by January 1, 2012. Estimates made by Reclay StewardEdge (RSE), the contractor for this study, indicate that approximately 45 percent of beverage containers may be recycled in the state. Clearly, the 80 percent goal has not been achieved through the existing approach to recycling in Minnesota; therefore, MPCA commissioned this report to investigate the costs and benefits of a recycling refund policy approach to beverage container recycling.

This report provides estimates for the:

- Increase in the beverage container recycling rate if a recycling refund system were implemented in Minnesota in parallel to the existing infrastructure for packaging recycling in the state;
- Additional costs associated with a recycling refund system;
- Financial impact to local authorities and individual household subscribers from diverting beverage containers from the existing single-family residential waste and recycling infrastructure to the recycling redemption system;
- Employment impacts to sectors of the state's economy that may be directly affected by a recycling refund system, including: beverage producers and distributors; grocery stores; waste and recycling collection, processing, and disposal establishments, and new recycling refund establishments; and
- Litter reduction.

1.1. Methodology and Approach

A consultative approach was used for preparing the estimates found in this final report. This approach included:

1) MPCA preparation of "Draft Program Design for a Recycling Refund Program for Beverage Containers in Minnesota," and a public meeting convened by MPCA for stakeholder comments on the document as well as the concept of a recycling refund system in Minnesota;
2) RSE review of comments submitted in response to the public meeting, with additional one-on-one follow-up interviews with selected stakeholders;
3) RSE review of an extensive number of existing data and reports with respect to recycling refund system cost and benefits;
4) RSE development of estimates for the costs and impacts of a recycling refund system in Minnesota, and preparation of a draft report;
5) MPCA release of the draft report for public review and comment, and a second public meeting at which stakeholders could ask questions and provide comments;
6) RSE preparation of a final report based on comments received;
7) MPCA preparation of a report and recommendations to the Minnesota State Legislature in January, 2014.

1.2. Summary of Existing Recycling Systems

Existing recycling systems in Minnesota do not target beverage containers for collection through beverage container-specific infrastructures. Instead they are managed through broad-based approaches to recycling discards, including:

- Municipally-provided or contracted residential recycling collection programs for household packaging and paper;
- Residential recycling collection services offered by private haulers to individual households in subscription locations;
- Residential recycling collection services offered by private haulers to property managers of multi-family residential properties, and to managers of industrial, commercial, and institutional (ICI) properties;
- Recovery of metal cans from municipal solid waste delivered to waste-to-energy facilities;
- Public spaces recycling collection programs provided by local authorities; and
- A beverage container recycling collection program sponsored by the Recycling Association of Minnesota (RAM) at selected venues in the state.

1.3. Description of Recycling Refund System

Estimates of the impacts of a recycling refund system in Minnesota that are provided in this report are highly sensitive to the details of how such a system may be structured and operate. Such details would depend on what may be authorized in prospective enabling legislation, and on decisions that may be made by the organization that would oversee the prospective recycling refund system. The details assumed in this report for how a prospective recycling refund system could be structured and operate are based on an MPCA document "Draft Program Design for a Recycling Refund Program for Beverage Containers in Minnesota," stakeholder comments, and RSE assumptions needed to model the cost, effectiveness, and impacts of one recycling refund system approach. Appendix A presents an evaluation of how sensitive the results reported in the main body of this report are if changes are made to one or more of several key assumptions made in this study.

The recycling refund program evaluated in this report is assumed to have the following attributes:

- Recycling refund/deposit amount of $0.10 will apply to beverage containers up to one gallon to be paid at time of sale.
- Beverage containers subject to a deposit includes all alcoholic or a nonalcoholic drink containers intended for human consumption and packaged for sale in a redeemable beverage container including beer and other malt beverages, wine, distilled spirits regardless of dairy-derived content, carbonated and noncarbonated soft drinks, flavored and unflavored bottled water, fruit juice, milk, and tea and coffee drinks regardless of dairy-derived content.
- Exclusions to the program include the following:
  - A syrup, a liquid concentrate, a condiment, or any other additive intended primarily as a flavoring ingredient in food or beverage;
  - A liquid that is a drug, a medical food, or an infant formula as defined by the federal food, drug, and cosmetic act;
  - A liquid that is a dietary supplement as defined as a dietary supplement; and
  - A product frozen at the time of sale to the consumer.
- A non-profit beverage container recycling organization (BCRO) to manage the program will be created by statute. Responsibilities for the organization include:
  - Overall program management;
  - Development of the Beverage Container Recycling Plan;
  - Financial management of the program including determination of handling fees required to compensate independent operators of the system;

  - Maintenance of brand registry;
  - Selection, approval, and contracting with:
    - Operators of redemption locations to ensure their capability to meet convenience requirements, service standards, reporting requirements, and economies of scale for efficient operations;
    - Collection service providers to transport beverage containers redeemed at redemption locations to redemption container processors and glass container beneficiaries;
    - Redemption container processors who sort and bale redemption containers.
  - Marketing of redeemed beverage containers;
  - Annual reporting to the MPCA and the public; and
  - Annual third party financial audit of program finances.
- The Board of Directors of the BCRO will be appointed by the MPCA Commissioner and include representatives of the following:
  - Brand owners;
  - Distributors of beverages;
  - Local government; and
  - Redemption centers.
- The Beverage Container Recycling Plan will:
  - Identify collection centers to ensure the convenience requirement is met;
  - Determine amount for handling fees, to be paid to redemption centers;
  - Develop a strategy to ensure opportunity for recycling at public events;
  - Identify market development activities that may be needed to support end markets for redeemed containers;
  - Outline a strategy to prevent fraud; and
  - Include a communications/media plan.
- There will be a minimum of one redemption site per county up to 15,000 people, and one additional site for each additional 15,000 people or fraction thereof.
- Unredeemed deposits will remain with the beverage container recycling organization.
- Any redemption center handling fees necessary to support the operation of redemption centers will not be specified by legislation but will be determined by the beverage container recycling organization.
- Redemption centers may be operated by retailers (on a voluntary basis), local government, charitable/non-profit organizations, and solid waste facilities (such as materials recovery facilities or transfer stations). Centers can be either staffed or consist of a reverse vending machine. Retailers that sell containers that carry a deposit are not required to serve as redemption centers.
- Containers that are deposited in curbside/drop-off recycling containers, industrial, commercial, or Institutional (ICI) recycling containers, or disposed in solid waste can be separated from non-beverage container materials and redeemed by private haulers, materials recovery facilities, waste-to-energy facilities, and/or sponsoring local governments – individual and whole containers collected in such manner must be separated from other recyclables collected and delivered to a redemption system processor. Such containers delivered will receive a full ten cent per container refund – redemption center handling fees, transportation cost reimbursement, or additional processing fees in excess of the deposit refund value will not be paid.
- The beverage container recycling organization will own and market all beverage containers returned for refund of the deposit.
- The beverage container recycling organization will be responsible for achieving and maintaining an 80 percent recycling rate.
- Unredeemed deposits will be managed by the beverage container recycling organization and be used to offset program costs.
- The program will create a fund for state market development activities to be managed by the beverage container recycling organization related to redeemable containers. Determinations as to necessary investments will reside with the beverage container recycling organization and must be addressed in the Beverage Container Recycling Plan.

- MPCA will be the primary oversight agency with responsibilities for reviewing and approving the beverage container recycling plan, ensuring compliance, providing technical assistance, conducting program evaluation, reporting to the Legislature, and conducting criminal investigations and enforcement actions related to fraud.

2. Existing Recycling Systems Performance

2.1. Beverage Container Generation and Recycling Data Availability

The amount of beverage containers generated can be estimated in one of two general ways: through annual surveys of distributors to gather sales data on a units or fluid volume basis, or by summing annual reported values for recycling and disposal quantities to arrive at a generation estimate. Table 2 summarizes data sources that were reviewed for use in this study, both in terms of estimating beverage container generation, as well as for estimating beverage container recycling quantities:

Table 2 Data Sources for Existing Generation and Recycling Data

Data Source	Data Type	Notes
Governor's Select Committee on Recycling and Environment (SCORE), 2012	Recycling	· Annual recycling tonnage estimates reported by county governments for all municipal and private sector recycling within the boundaries of the county · Recycled quantities reported in broad categories – i.e., beverage container-specific quantities are not reported, including estimates by generating sector · Counties may estimate quantities recycled by establishments that do not report their activities to the county
MPCA materials recovery facilities annual permit reporting, 2012	Recycling	· Annual tonnages of recyclables shipped to market reported by materials recovery facilities · Does not identify county of origin or generating sector · Paper stock dealers and scrap metal processors are not required to report recycling quantities
"2013 Statewide Waste Characterization Study," Burns & McDonnell, Oct. 2013	Disposal	· Tonnages of beverage containers sent to disposal facilities (landfills and waste-to-energy facilities
"Beverage Sales Market Data Analysis," Container Recycling Institute, 2010	Generation	· Estimated beverage container sales in number of containers and tons, based on data from numerous sources, some of which provide state-level sales data
Alcoholic beverage sales data, Minnesota Department of Revenue	Generation	· Minnesota imposes excise taxes on beer, wine, and distilled spirits based on the volumes of beverage sold · Volume data must be converted to units and tons of packaging using estimating factors in order to be of use · Data is only available for alcoholic beverages
"Beverage Containers," MPCA, 2009	Recycling, Generation	· Analyzed quality of data from various sources (including those listed in this table), included one-time estimate (2007/2008) of beverage container generation by Northbridge Environmental Management Consultants

The last resource listed in Table 2 provided an evaluation of the various data sources, with the finding that each of the data sources has strengths and weaknesses, and further concluding that none of them by themselves adequately track beverage container recovery in Minnesota. While a one-time survey of industry sales data suggested a lower generation rate of beverage containers than Container Recycling Institute (CRI) estimates, inconsistencies in recycling and disposal quantity estimates over time and the fact that annual industry sales surveys are not performed, resulted in a decision to use CRI data, which are updated annually, as the basis of generation estimates used for this study.

CRI generation estimates were not used by this study exactly as provided. RSE adjusted the CRI estimate for gable top and aseptic cartons (i.e., milk and juice cartons) upward by 12 percent based on recycling and disposal quantity estimates from the other data sources that indicated higher generation rates in Minnesota than CRI's approach of apportioning national data based on state population. RSE also added an estimate for flavored and enhanced still water containers based on information supplied by CRI, which otherwise were not included in their estimates. Finally, RSE increased CRI's 2010 estimates by 1.4 percent to produce 2012 calendar year estimates, the most recent year that state recycling data was available.

2.2. Beverage Containers Collected for Recycling

As mentioned above, none of the recycling data reporting systems used in Minnesota gathers data on the amount of beverage containers recycled – beverage containers are grouped with non-beverage containers in the recycling data sets (e.g., PET recycling statistics include shampoo, dish soap, and salad dressing bottles in addition to beverage bottles, and glass recycling statistics include food jars in addition to beverage bottles). For most materials RSE estimated beverage container recycling quantities by subtracting 2012 disposal estimates from the Statewide Waste Characterization Study, which are generally beverage container specific, from the generation estimates for 2012, as discussed above.

This approach provided recycling estimates for aluminum and glass that were considered far too high by markets for those materials. For this reason, an alternative approach to estimate recycling quantities for those materials. This alternative approach included using reported recycling quantities from 2012 county SCORE reports, with adjustments to estimate the subset of reported quantities expected to be beverage containers versus other products or containers that are not beverage containers. Furthermore, for glass, an additional 15 percent reduction factor was applied to account for non-glass materials in loads shipped from materials recovery facilities to glass beneficiation facilities.

According to the Minnesota 2012 SCORE data, 22 percent of generated municipal solid waste (39 percent of non-recycled waste) goes to waste-to-energy and refuse-derived fuel plants located in the state. RSE reviewed information on these plants and identified the extent to which aluminum and steel cans are separated from the waste. The waste composition disposal estimates were adjusted by RSE to reflect additional recycling of metal beverage containers that results from the percentage of waste processed for energy production in the state. RSE's estimate of the existing level of beverage container recycling in Minnesota, both through source separated collection and separation from waste is shown in Table 3 below.

Table 3 Estimates of Existing Beverage Container Generation and Recycling

Container Type	Generation (tons)	Collected in Recycling Programs[1] (tons)	Source Separated Recycling Rate	Separated From Waste[2] (tons)	Total Recycling (tons)	Total Recycling Rate
PET Bottles	41,700	18,500	44%	0	18,500	44%
HDPE Bottles	9,900	4,700	48%	0	4,700	48%
Other Plastic Bottles	2,700	500	20%	0	500	20%
Aluminum Cans	32,100	14,700	46%	2,200	17,000	53%
Steel Cans	100	<100	49%	<100	<100	60%
Glass Bottles	155,100	73,100	47%	0	73,100	47%
Aseptic/Gable-top Cartons	9,300	400	4%	0	400	4%
Foil Pouches	300	0	0%	0	0	0%
TOTAL	**251,100**	**112,000**	**45%**	**2,300**	**114,200**	**45%**

Figures are rounded and may not sum precisely.
1 Includes residential, private ICI, and public spaces recycling collection programs.
2 Recovered from municipal solid waste sent to refuse-derived fuel and waste-to-energy plants.

2.3. Sector Generation and Recycling Estimates

An analysis of the impact of a recycling redemption program on local authorities was required in this report. In order to estimate this impact, it was necessary for RSE to prepare estimates of the quantities of beverage containers collected through municipally-funded residential recycling and waste collection/disposal programs, which are most commonly limited to waste and recyclables discarded by single-family homes, as opposed to beverage containers generated in industrial, commercial, and institutional (ICI) establishments and multi-family residences, where services for the management of discards are normally privately contracted.

RSE created a generation and recycling flow model for beverage containers in Minnesota for estimating generating sector quantities and impacts. The flow model is based on numerous inputs, including:

- CRI beverage container generation data (all sectors);
- Aluminum industry estimates of the amounts of aluminum cans generated in homes, in public spaces, and in ICI sectors;
- Glass Packaging Institute estimates of the quantities of glass generated in residences compared to on-premises (bars and restaurants);
- Recent waste composition studies from Hennepin County Minnesota, Wisconsin, and Illinois that had data on the relative disposal quantities of beverage containers in residential and ICI waste streams;
- RSE estimates of the relative split of beverage containers in residences between single-family and multi-family homes based on the percent of population in each type of residence, and assuming equivalent per capita consumption rates in each type of residence; and
- Additional estimates by RSE based on professional experience.

Table 4 shows the generation estimates by sector.

Table 4 Estimates of Beverage Container Generation by Sector

Container Type	Single-family Residential (tons)	Multi-family Residential (tons)	Industrial/ Commercial/ Institutional (tons)	Public Spaces (tons)
PET Bottles	20,800	4,300	15,000	1,700
HDPE Bottles	5,300	1,100	1,700	1,700
Other Plastic Bottles	1,100	200	1,200	100
Aluminum Cans	14,600	3,000	13,000	1,400
Steel Cans	<100	<100	<100	<100
Glass Bottles	104,300	21,400	28,000	1,500
Aseptic/Gable-top Cartons	4,400	900	600	3,400
Foil Pouches	<100	<100	200	<100
TOTAL	**150,600**	**30,800**	**59,800**	**9,900**
Sector portion of generation	**60%**	**12%**	**24%**	**4%**

Figures are rounded and may not sum precisely.

Table 5 shows existing recycling estimates by generating sector.

Table 5 Estimates of Existing Beverage Container Collection for Recycling[1]

Container Type	Single-family Residential (tons)	Multi-family Residential (tons)	Industrial/ Commercial/ Institutional (tons)	Public Spaces (tons)
PET Bottles	10,200	2,100	5,600	700
HDPE Bottles	3,000	600	300	700
Other Plastic Bottles	400	100	100	<100
Aluminum Cans	7,400	1,500	5,200	600
Steel Cans	<100	<100	<100	<100
Glass Bottles	52,900	10,800	8,700	600
Aseptic/Gable-top Cartons	200	<100	<100	100
Foil Pouches	0	0	0	0
TOTAL	**74,200**	**15,200**	**19,900**	**2,700**
Sector portion of collection	**66%**	**14%**	**18%**	**2%**

Figures are rounded and may not sum precisely.

1 Recycling tonnages are from source-separated recycling collection programs, and do not include additional recycling quantities of metal cans from waste sent to refuse-derived fuel and waste-to-energy plants.

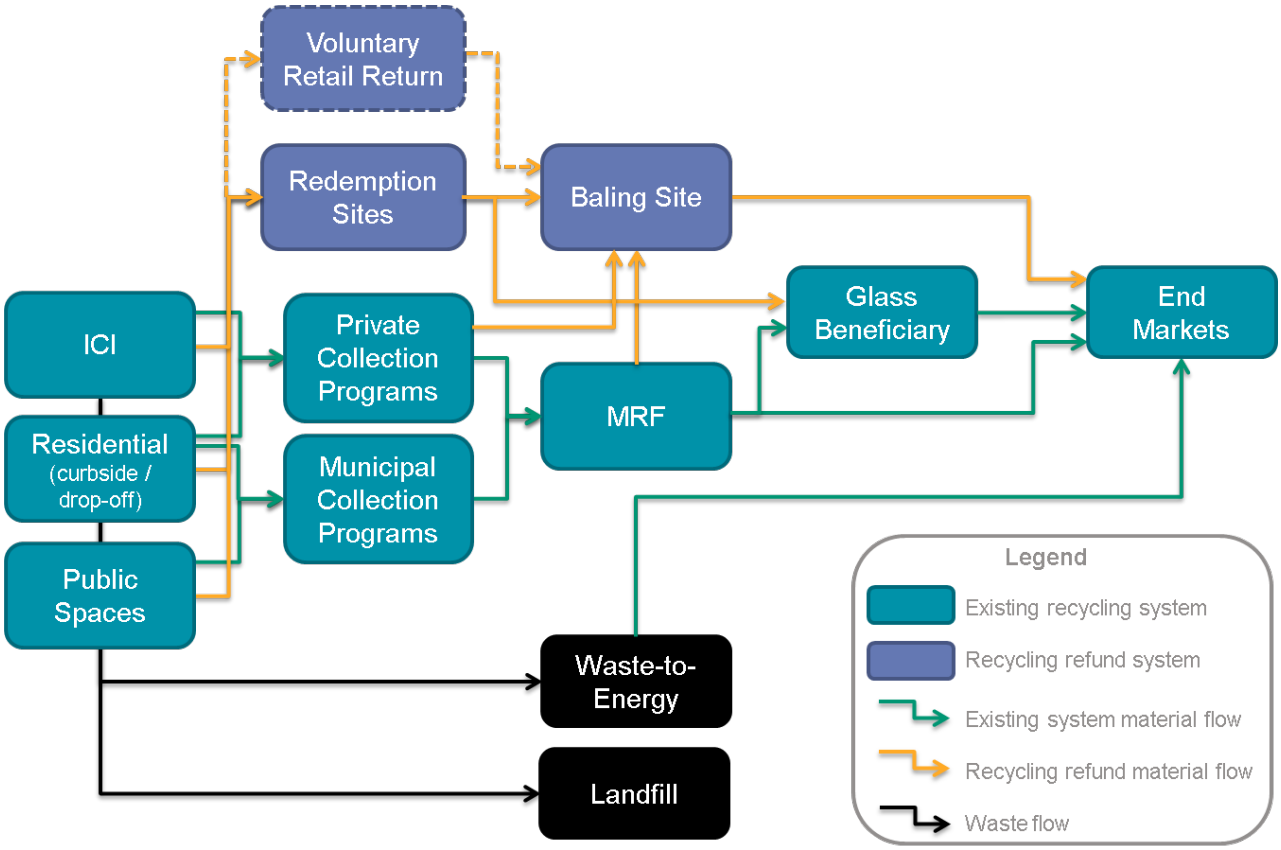
Based on the recycling and generation estimates of Table 4 and Table 5, our analysis indicates that enhancements to only the residential recycling collection infrastructure, such as expanding residential collection access or making participation more convenient through single-stream recycling, will not result in an 80 percent beverage container recycling rate. Either investments in an extensive expansion of beverage container recycling collection in all generating locations including public buildings and spaces; industrial, commercial, and institutional properties; and comprehensive residential collection, supported by other policies and promotion and education, would be required, or direct incentives such as are offered through a recycling refund program would be needed. The following section presents estimates for the performance and costs of a recycling refund system in Minnesota.

3. Recycling Refund System Performance and Costs

3.1. Materials and Financial Flows

Figure 1 shows the flow of beverage containers to recycling and disposal facilities, with the recycling refund system as the primary mechanism for beverage container collection, supplemented by municipal and private recycling collection programs, with some final recovery of metal cans at waste-to-energy facilities.

Figure 1 Recycling Refund System and Existing System Materials Flows

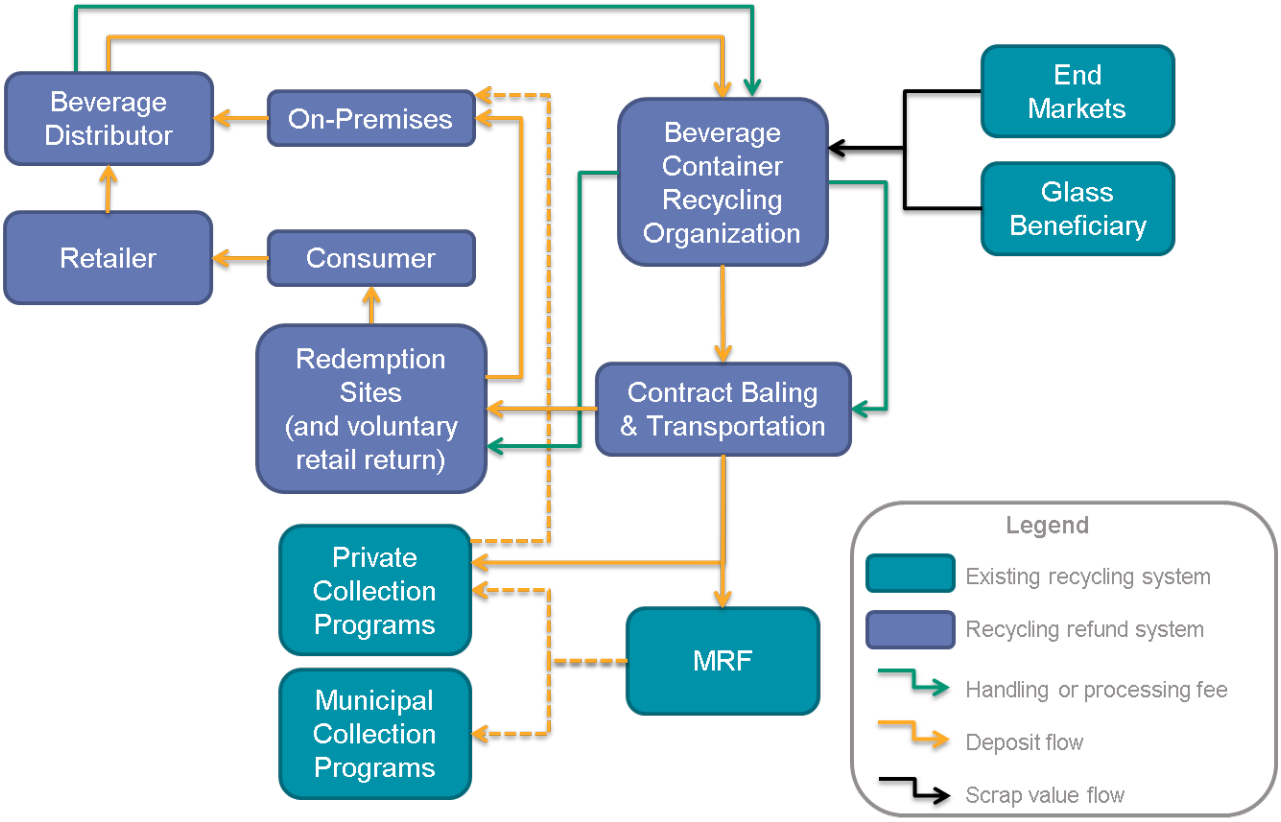


The analysis conducted for this study has assumed that recycling refund system operations – redemption centers, sorting/baling sites, and transporters of redeemed beverage containers between redemption centers and sorting/baling sites (omitted from Figure 1 to allow a clearer portrayal of the main system participants) – will be performed by third-party licensees who will receive sufficient compensation to achieve an operating surplus, or profit. Licensees may include for-profit enterprises, non-profit entities, or local authorities. An allowance for this operating surplus or profit has been included in the financial analysis in this report.

As Figure 1 shows, the existing recycling system will connect to the recycling refund system in that materials recovery facilities (MRFs) will be allowed to separate out beverage containers from mixed recyclables and deliver them to contract recycling refund system baling facilities for a full deposit refund – beverage

containers delivered must be sorted by material type and delivered loose for inspection by recycling refund baling sites to ensure the containers are beverage containers only. In return, they will be provided with a full refund of the deposit collected; however, they will not be entitled to payment of handling fees, which only redemption sites and voluntary retail return locations will be entitled to receive. Like materials recovery facilities, private collectors such as non-profit groups will be allowed to register with the beverage container recycling organization, accept donations of beverage containers, and deliver loose beverage containers sorted by material type with the same compensation arrangement provided to materials recovery facilities (full deposit value, no handling fee payment). These financial flows are illustrated in Figure 2.

Figure 2 Recycling Refund System Financial Flows



The dotted lines shown in Figure 2 represent negotiated sharing of refunded deposits between materials recovery facilities, municipal collection programs, and private collectors who may deliver loads of mixed recyclables (including beverage containers) to materials recovery facilities for sorting. The beverage container recycling organization will finance the cost of operating the recycling refund system from unredeemed deposits, the sale of beverage containers processed by contract baling establishments operating on its behalf, and by collecting supplemental fees as necessary from beverage distributors to the extent that supplemental fees are needed to ensure the recycling refund system does not operate at a permanent year-over-year deficit. Because redemption sites will be eligible for receiving payments of handling fees, whereas private materials recovery facilities and collectors will not, we estimate that large redemption sites will collect beverage containers generated on-premises at bars, restaurants, and schools (e.g., school milk cartons) as part of the service that they provide to residents and businesses in the vicinity

of their sites. The cost of providing this collection service to on-premisis establishments has been included in the cost estimates for operating the redemption centers that is described later in this report.

3.2. Beverage Container Recycling Quantities

3.2.1. Recycling Refund System Returns

RSE created a model for the operation of the recycling refund system in Minnesota in parallel to the existing recycling infrastructure described previously in Section 3. The model includes separate return rates for beverage containers generated in residential, ICI, and public spaces generating sectors, with the highest return rated coming from the residential generating sector. Because of the ten cent deposit, however, the majority of beverage containers collected for recycling from all generating sectors are estimated to be collected through the recycling refund system rather than the existing recycling systems. The model also includes estimates of the quantities of beverage containers that may be separated by materials recovery facilities, whether from residential or private ICI collection programs, for the value of the deposit.

Table 6 presents estimates of the quantities of beverage containers managed by the recycling refund system, broken into collection by redemption centers (including voluntary retail return) and collection/separation from other recyclables by materials recovery facilities and other recyclers or non-profits. All the beverage containers listed in Table 6 will result in a full ten cent per container deposit return.

Table 6 Estimates of Beverage Containers Managed by the Recycling Refund System

Container Type	Collected by Redemption Centers			Collected by MRFs/Others		Total Marketed by Recycling Refund System		
	tons	million units	redemption rate[1]	tons	million units	tons	million units	refund total[1]
PET Bottles	29,200	910	70%	4,800	150	34,100	1,060	82%
HDPE Bottles	7,100	100	72%	1,100	10	8,200	110	83%
Other Plastic Bottles	300	<10	13%	400	10	700	10	28%
Aluminum Cans	26,500	1,820	82%	2,400	170	28,900	1,980	90%
Steel Cans	<100	<10	72%	0	0	<100	<100	72%
Glass Bottles	130,000	460	84%	1,700	10	131,800	470	85%
Aseptic/Gable-top Cartons	6,600	280	71%	100	<10	6,700	280	72%
Foil Pouches	100	30	45%	0	0	100	30	45%
TOTAL	**200,000**	**3,600**	**77%**	**10,600**	**350**	**210,600**	**3,950**	**84%**

Figures are rounded and may not sum precisely.
1 Redemption rates are based on number of units returned. Calculations on a weight basis may yield different percentages.

Table 6 shows that an estimated 77 percent of beverage containers will be returned to redemption centers or will be collected by redemption centers from bars, restaurants, and schools. Redemption centers will receive handling fees for these estimated recovery quantities. An additional 7 percent of beverage containers will be separated from other recyclables by materials recovery facilities, private recyclers, or non-profits and delivered to recycling refund system materials recovery facilities, The total percentage of beverage containers that the recycling refund system is forecasted to take possession of and market is 84 percent of beverage containers generated. It should be noted that the relative quantity of beverage collected through redemption centers compared to multi-material recycling collection programs shown in

Table 6 is similar to that of California's recycling redemption program, where approximately 8 percent of beverage containers were "returned" through curbside recycling programs in 2012.[2]

3.2.2. Recycling of Beverage Containers by Other Infrastructures

The estimated 77 percent of beverage containers that will be redeemed will be diverted from their existing flows, including disposal and recycling flows. Section 3 estimated that 45 percent of beverage containers are currently being recycled through municipal recycling collection programs, private recycling collection programs, and recovery of steel and aluminum cans from municipal solid waste sent to refuse-derived fuel and waste-to-energy plants. Table 7 shows estimates of beverage containers forecasted to be collected and recycled based on existing flows and the diversion of beverage containers from those flows through by the recycling refund system and the ability of materials recovery facilities to separate out beverage containers for the deposit value.

Table 7 Estimates of Beverage Containers Managed by Other Recycling Infrastructures

Container Type	Received by MRFs/Others			Processed by RDF/WTE Plants		Redemption Center	Total Statewide Recycling – All Infrastructures	
	received tons	redeemed tons	recycled tons	received tons	recycled tons	tons	tons	rate[1]
PET Bottles	5,400	4,800	500	1,500	0	29,200	34,600	83%
HDPE Bottles	1,200	1,100	100	300	0	7,100	8,400	85%
Other Plastic Bottles	500	400	100	400	0	300	800	30%
Aluminum Cans	2,800	2,400	<100	700	400	26,500	29,300	91%
Steel Cans	<100	0	<100	<100	<100	<100	100	87%
Glass Bottles	11,500	1,700	9,800	2,900	0	130,000	141,600	91%
Aseptic/Gable-top Cartons	100	100	<100	600	0	6,600	6,700	72%
Foil Pouches	0	0	0	<100	0	100	100	45%
TOTAL	**21,200**	**10,600**	**10,600**	**6,500**	**400**	**200,000**	**221,600**	**88%**

Figures are rounded and may not sum precisely.
1 Calculated on a weight basis – calculation based on units may yield different percentages.

As Table 7 shows, RSE has estimated that in most cases materials recovery facilities and other recyclers or non-profits will attempt and successfully be able to separate most beverage containers received for delivery to recycling refund materials recovery facilities for their deposit value. As an example, the ten cent deposit received for each aluminum can, the most valuable commodity handled by materials recovery facilities, will be approximately four times the scrap value received. However, exceptions to this are for:

- Steel cans, because there are very few steel beverage cans, the vast majority of steel cans received by materials recovery facilities are food cans, and sorting systems for steel cans separate them magnetically; and
- Glass bottles, because approximately half of glass containers are broken by time they reach a materials recovery facility sorting belt, and because single stream materials recovery facilities are designed to break glass bottles as early in the sorting process as possible, not making it possible to separate appreciable quantities of glass beverage bottles for their deposit value.

[2] "California's Beverage Container Recycling & Litter Reduction Program Fact Sheet," California Environmental Protection Agency Department of Resources Recycling & Recovery, June 2013.

As Table 7 shows, the combined impact of a recycling refund system and existing recycling infrastructures are projected to result in an 88 percent overall weight-based recycling rate for beverage containers in Minnesota.

3.3. Recycling Refund System Costs

3.3.1. Overview of System Cost Analysis

This cost analysis of this section is based on estimated costs and revenues once the recycling refund system parameters described by MPCA reaches steady state performance. The example provided by Hawaii, the most recent state to implement a deposit-return program, shows that it can take several years for a new program to achieve steady state performance.

This report also accounts for costs on a transactional basis – that is, costs are estimated where payments are made from one party to another for goods, services, rents, labor, etc. A result of analyzing costs in this manner is that certain costs are not estimated by this report. Such costs include the value of consumers' time spent in redeeming containers and the transportation costs they may incur if redemption centers are not on their way or combined with other trips. While other recycling refund cost benefit analysis reports may have attempted to estimate costs like these, little reliable data exists that could be considered applicable or transferrable to a Minnesota recycling refund system. Likewise, while beverage distributors will need to collect and remit deposits, file reports, and participate in audits related to deposits, these activities are normal and routine business functions similar to those already being performed by beverage distributors on a daily basis. The additional cost of performing these functions for the recycling refund program has been considered to be minor and incidental and has not been estimated in this report.

Other stakeholders who are not directly involved in operating the recycling refund system will experience financial impacts as a result of the system. Examples of these stakeholders include existing recyclers of beverage containers, municipalities who finance recycling programs, state regulatory and law enforcement personnel, and operators of waste disposal facilities. A discussion of the financial impacts to these stakeholders will be provided in Section 5 Costs and Benefits Resulting from the Recycling Refund System, rather than in this report Section 4, which is focused directly on the recycling refund system itself.

The recycling refund system envisioned by MPCA as described in Section 2.3 is unlike any other operating in North America because:

- All beverage containers are covered;
- A ten cent refund value applies for all sizes and for all materials;
- Returns go to privately owned and operated redemption centers with no regulated requirement for retailers to take back containers;
- Specific redemption center convenience standards are established; and
- An industry operated BCRO with ownership of unredeemed deposits.

As a result, there are no directly comparable systems operating in either the US or Canada, although the system operating in the Canadian province of Alberta most resembles the system proposed by MPCA; furthermore, almost all other recycling refund systems were in place prior to the development of comprehensive residential and private beverage collection infrastructure. Although information from other systems is useful and has been referred to, that information cannot be used directly for the Minnesota-specific analysis required by this study. For these reasons, the cost and effectiveness of this idealized system can only be determined by a model created by RSE, which has been built up from reference data and recovery and cost operating characteristics using clear and transparent assumptions described in this

report section. It should be noted that applying different assumptions may produce a materially different result from the outcomes described in this report.

Figure 1 and Figure 2 at the beginning of this section depict a number of recycling refund system participants who would incur costs, including:

- Redemption centers, including on-site handling costs and collection costs associated with collecting beverage containers from bars, restaurants, and schools in the vicinity of the redemption centers;
- Transporters of redeemed containers from redemption centers to baling and glass beneficiation processors;
- Recycling refund baling facilities;
- Voluntary retail deposit-return locations; and the
- Beverage container recycling organization.

The costs incurred by each of these participants, and the key operating characteristics and assumptions that result in the cost estimates follow.

3.3.2. Redemption Centers

Convenience

Convenience requirements for redemption centers both in terms of location/distance and operating hours has a material effect on the scale and operating efficiency of the centers. This study has identified convenience criteria of at least one redemption site in every Minnesota County and one additional site for each additional 15,000 people or fraction thereof. These criteria result in the need for 402 redemption sites for the state, with an average population base of 13,264 people per site.[3] Not all sites are alike, however – sites in urban counties would average a population base of 14,202 people per site, sites in suburban counties would average a population base of 12,123 per site, and sites in rural counties would average a population base of 9,147 people per site (because each county would have a minimum of one site, regardless of population, the site in Minnesota's least populous county would service approximately 3,500 people).[4] Other points of comparison include:

- California's redemption system, which has 2,578 buy-back sites (redemption centers), or 14,740 people per redemption center;
- Hawaii's redemption system, which has one return site for each 12,000 population; and
- British Columbia, which has 26,300 people on average per redemption site.[5]

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[3] As a point of comparison, there were 933 supermarkets in Minnesota in 2011 according to U.S. Census Bureau, 2011 County Business Patterns, which means there will be approximately one redemption center for every two supermarkets in the state.

[4] The terms urban, suburban, and rural as used in this study are defined based on the Rural-Urban Continuum (RUC) codes developed by the U.S. Department of Agriculture. See Appendix B for a list of counties and their classification in this study.

[5] British Columbia, with a population of 4.6 million, has 175 Return-It redemption sites that collect 90 percent of the returns (225 grocery stores collect the remaining 10 percent, but they only collect non-alcohol containers). The Return-It sites serve on average 26,300 people – if the limited service grocery stores are included in the convenience count, each return point serves a population base of 11,500 on average. The sizes of the Return-It redemption centers are segmented – there are approximately 65,000 people per Return-It site in the Vancouver metro region; approximately 35,000 people per Return-It site in other urban areas, and 10,000 people per Return-it site in rural areas.

In terms of operating hours, Minnesota redemption sites have been modeled as being open for 70 hours per week in urban and suburban counties, and 44 hours per week in rural counties.

Redemption Center Handling Fees and Cost Profiles

The BCRO will compensate redemption centers on the basis of per-container handling fees that will be determined by the BCRO and will not be fixed by legislation or a state regulatory agency. Handling fees may be adjusted as frequently as the BCRO believes is warranted. Ultimately the BCRO and its board of directors will determine the precise payment schedule to be used, which may include the following:

- Competitive bids and/or negotiations between the BCRO and prospective redemption site operators;
- Different compensation scales based on economies of scale (based on population served); or
- Different per container fees for different container material types (e.g., glass bottles compensated at a higher rate than aluminum cans).

In this report, redemption center costs are presented on an average per container basis, understanding that it is likely that different container material types will have different handling fee levels because of the different handling costs associated with each type.

RSE prepared an operating pro forma for three sizes of redemption sites as identified above in the convenience discussion (urban, suburban, and rural). Key assumptions include:

- The BCRO will competitively contract with independent licensees who will own and operate each site – licensees will earn a profit from each site's operations;
- Sites will be located in leased space similar to that found in strip centers and other commercial and/or industrial locations that meet the required convenience standards, with annual lease costs ranging from $8 per square foot on average in rural areas to $14 on average in urban areas, not including insurance, common area maintenance, and taxes – leased space will average 3,500 square feet per site;
- Participants who redeem containers at the redemption centers must sort containers into crates or trays by container material type (glass color sorting will be performed by redemption center operators and plastics sorting will be performed by baling sites);
- Redemption center employees will count containers and load redeemed containers into large reusable "big bag" sacks or large reusable crates that can be moved with floor jacks so that fork lifts are not required by redemption site operators;
- Redemption centers will lease a box truck with lift gate or similar equipment, and collect beverage containers generated on-premises from bars, restaurants, and schools in their vicinities; and
- Rural redemption centers will not be stand-alone enterprises – redemption operations will be added to some other enterprise, such as a rural municipal recycling center, so that staff can be utilized and productive throughout the day.[6]

[6] All redemption center costs, including full time equivalent labor and space costs, have been modeled on an average cost basis rather than an incremental cost basis, conservatively not presuming that undue savings from paired businesses will result.

Table 8 provides a summary of modeled costs for urban, suburban, and rural redemption centers in the state.

Table 8 Redemption Center Modeled Annual Financial and Operating Results per Site

	Urban	Suburban	Rural[7]
Redemption Site Metrics			
Number of redemption sites	288	67	47
Average container units returned per site per year (millions)	9.6	8.2	6.2
Redemption Site Costs			
Labor and proprietor's profit	$273,000	$237,000	$126,000
Space lease	$65,000	$51,000	$44,000
General and administration	$27,000	$26,000	$25,000
On-premises collection expenses	$15,000	$13,000	$5,000
Total	***$380,000***	***$327,000***	***$200,000***
Average Cost per Container Returned	**$0.0396**	**$0.0399**	**$0.0324**

The average cost per unit figures shown in Table 8 are average costs per container redeemed. The weighted average cost, based on number of redemption centers of each type, is $0.0391.

As discussed previously, the costs presented in this section are dependent on economies of scale related to convenience, the fact that redemption sites must lease convenient commercial property and not operate out of supermarket parking lots or scrap metal yards, and must handle the diversity of materials specified for Minnesota's program.

3.3.3. Transporters

The following assumptions regarding transportation of beverage containers from redemption centers to processing locations were made:

- No crushing or densification is performed at redemption centers;
- Collection of redeemed containers from redemption centers is performed by independent contractors;
- Collection from urban and suburban redemption centers is performed using 26 foot box trucks with a lift gate – in rural areas, a tractor-trailer with lift gate and 45 foot van trailer will be used for collection;
- Redemption centers within 160 road miles of a glass beneficiary will be serviced by a dedicated glass collection box truck that will deliver the collected glass directly to the beneficiaries – a separate box truck will collect other beverage containers from these redemption centers and deliver those containers to the nearest recycling refund system baling facility; and
- Glass containers received by recycling refund system sorting/baling facilities located from 160 to 270 road miles from glass beneficiaries will be partially broken by those facilities and transported by roll-off truck and container once 20 ton loads of glass are accumulated (glass at sorting/baling facilities more than 270 miles from glass beneficiaries will be crushed for local fill/drainage medium uses).

[7] Every county regardless of size has at least redemption center in it. The terms urban, suburban, and rural as used in this study are defined based on the Rural-Urban Continuum (RUC) codes developed by the U.S. Department of Agriculture. See Appendix B for a list of counties and their classification in this study, and the number of redemption sites per county assumed in this analysis.

RSE created a transportation model based on these parameters and truck lease and operating cost profiles to calculate the total transportation collection cost to the recycling refund system. The average transportation cost was found to be $0.0046 per container redeemed.

3.3.4. Recycling Refund Baling Facilities

The following assumptions regarding sorting and baling of beverage containers were made:

- The beverage container recycling organization owns and markets all processed material - sorting and baling is a competitively contracted service only;
- The average baling facility was assumed to bale collected recyclables from the nearest 20 redemption centers, or approximately 3,800 tons of non-glass plastic bottles, aluminum cans, steel cans, and aseptic and gable-top paper cartons per year;
- All baling facility costs have been modeled as if the facilities were dedicated facilities that only processed recycling refund containers under a long-term contract – the impact of this assumption is that processing costs are conservatively estimated, not presuming that undue savings from paired business operations will result – in reality existing processors of other materials, such as paper stock dealers or scrap metal yards, may receive processing contracts, especially in rural areas of the state;
- Baling facilities will sort plastic bottles by resin type (PET, HDPE Natural, HDPE Pigmented, mixed #3-#7) - all other materials arrive pre-sorted;
- Drink pouches are shredded and disposed because they lack markets; and
- Glass received at sorting/baling facilities more than 270 miles from glass beneficiaries will be processed on site with crushing and screening equipment for local uses such as fill/drainage medium with no material revenue assumed for such local glass uses (this will only occur with less than 3,000 tons of glass collected from nine counties in the extreme northwest part of the state, or two percent of the glass collected through the recycling refund system).

Based on these assumptions, handling, sorting, and baling costs were found to be on average:

- $200 per ton for non-glass materials;
- $21 per ton for glass crushing and screen in the northwest part of the state; and
- $5 per ton for glass handling at processors where it needs to be loaded into roll-off containers for long distance transportation to beneficiaries.

3.3.5. Voluntary Retail Deposit-Return Locations

Voluntary retail deposit-return sites have not been assumed to be a significant part of the recycling refund system. To the extent that there are such sites, it would be expected that retailers would insist that reverse vending machines be used for returns, and only conduct manual transactions for containers not able to be processed by the machines. In this study we have assumed that handling fees paid to voluntary retail deposit-return sites will not exceed the average handling fee compensation made to redemption centers.

3.3.6. Beverage Container Recycling Organization Costs

The beverage container recycling organization is responsible for the financial management of the recycling redemption program, including compensating the service providers discussed above. As discussed in Section 2.3, the BCRO will be able to keep unredeemed deposits to fund the operations of the system and will operate as a non-profit enterprise. To eliminate compensating sorting and baling facilities for taking on market price risk for processed recyclables, and to allow for premium market pricing for recyclables that comes from large quantities of materials marketed, it has been assumed that the BCRO will maintain ownership of and will market processed recyclables. To manage the impact of market price fluctuations on the net financial performance of the recycling refund system, it is assumed that the BCRO will establish a

reserve account for market stabilization that build up excess revenues to a prudent level in years of high market revenues, and will draw down the funds in that account when market revenues are below average.

Table 9 provides a *pro forma* financial statement for the beverage container recycling organization. This statement summarizes the costs associated with each of the system participants as described above, along with internal organizational costs associated with the BCRO.

Table 9 Beverage Container Recycling Organization Financial Statement

	$ millions
Revenues	
Beverage Container Deposits Received	469
Sale of Processed Materials	76
Subtotal Revenues	*545*
Expenses	
Deposits Refunded	395
Redemption Center Payments	141
Collection Contractor Payments	17
Processor Payments	14
Materials (Pallets, Crates, Sacks)	1
Administration	4
Promotion and Education	2
Subtotal Expenses	*574*
Net Revenues (Deficit)	**(29)**

As Table 9 shows, the BCRO is forecasted to operate at an average annual deficit of $29 million from its own sources of funds. To reduce this deficit to zero, beverage distributors will be required to provide supplemental payments to the BCRO. The method of apportionment of this deficit to distributors will be a decision that the board of directors of the BCRO will make – it is very likely that distributors who package their beverages in low net-cost materials such aluminum will pay low or no additional fees for their aluminum cans, whereas they will be assessed higher cost rates for materials such as glass. It is estimated that beverage distributors will need to provide supplemental funding to the recycling refund system of $0.0062 per container sold on average.

The amount of the deficit is significantly impacted by three line items – the percentage of deposits refunded, payments made to redemption centers, and average revenues from the sale of processed materials. Table 6 presented a return rate forecast that 84 percent of beverage containers sold would be redeemed. The assumptions around the handling cost payments to redemption centers (and voluntary retail collection) were discussed previously. Table 10 below presents average commodity market value and average annual revenues estimated to be received by the BCRO from the sale of marketed materials.

Table 10 Average Annual Materials Market Revenues

Container Type	Market Value[1] ($/ton)	Marketed Quantity (tons)	Revenues
PET Bottles	685	34,100	$ 23,300,000
HDPE Bottles	448	8,200	$ 3,700,000
Other Plastic Bottles	40	700	$ <100,000
Aluminum Cans	1,576	28,900	$ 45,500,000
Steel Cans	249	<100	$ <100,000
Glass Bottles	19	128,900[2]	$ 2,500,000
Aseptic/Gable-top Cartons	93	6,700	$ 600,000
Foil Pouches	-150[3]	100	$ (<100,000)
TOTAL		**207,600**	**$ 75,700,000**

Figures are rounded and may not sum precisely.

1 Based on average market pricing for deposit-quality recyclables over the three year period from 2010-2012. Prices are freight-on-board origin, except for color sorted glass, which is destination delivered.

2 Excludes quantity of glass crushed for local uses, which is assumed to have zero value.

3 Assumes statewide average disposal tip fees of $70 per ton plus average collection service costs of $80 per ton.

3.3.7. Fraud

Because of the value of the deposit at ten cents per container, and compensation for handling of redeemed beverage containers averaging approximately four cents per container, fraud will have the potential to have adverse financial effects to the BCRO and beverage distributors. Recycling refund system experts generally estimate fraud rates of two to five percent in U.S. deposit-return systems, which for the most part only collect five cent deposits on beverage containers.

There are a number of ways in which fraud can occur:

- Individual consumers can redeem containers on which a deposit has not been paid:[8]
  - Minnesota residents who live near the border of North Dakota, South Dakota, or Wisconsin may cross the border to shop, and return beverage containers purchased in those states to a Minnesota redemption center; and
  - Similarly, residents of North Dakota, South Dakota, or Wisconsin may cross the border into Minnesota to obtain deposits on beverage containers purchased in those states.
- Organized fraud;
  - In which large quantities of loose or potentially baled beverage containers can be acquired from recyclers in neighboring states and be trucked into Minnesota – this type of fraud would require a conspiracy between out-of-state recyclers and in-state recycling refund contract processors or redemption center operators to file a fraudulent claim for "reimbursement" to the beverage container recycling organization.
  - Falsified or inaccurate records by a redemption center operator or materials recovery facility who claims more tons of redeemed beverage containers shipped than are actually the case, or who claims more units redeemed than are borne out by bale weights.

[8] The extent of this type of fraud will depend on the relative populations who live within a certain distance (on both sides) of the state border. Because of an existing recycling redemption program in Iowa, we would expect less impact, although the lesser five cent deposit value in Iowa may result in some impacts.

- Fraud by distributors who fail to accurately report and remit deposits for the quantity of beverage containers they distribute in the state.

The potential for fraud will be higher in Minnesota than in other U.S. deposit states because the ten cent deposit is double that of the five cent deposits in those other states. The diversity of container sizes, material types, and per container weights under an expanded recycling refund system will make it harder to identify organized fraud because conversions of units to weight is more variable than is the case for deposit programs where only beer and carbonated soft drinks are covered.

Fraud can be minimized by:

- Limiting the number of beverage containers that individuals can return to redemption sites for a deposit refund – this will also help to minimize scavenging of deposit containers from residential and public spaces recycling containers;
- Only allowing in-state recycling centers, private recyclers, and non-profits to register with the BCRO and deliver separated beverage containers to recycling refund sorting/baling facilities for deposit refunds; and
- The BCRO implementing a robust audit and inspection program of its redemption center, transporter, and processor contractors and distributors.

The financial effects of fraud are embedded in the estimated “return” rates assumed in this report, and so are fully reflected in the system costs, both in terms of refunds paid and handling fees paid. The impact of treating fraud in this manner is a marginally higher reported beverage container recycling rate than would be the case if fraud were backed out of the analysis.

3.4. Role of Reverse Vending and Emerging Redemption Technologies

3.4.1. Reverse Vending Machines

Reverse vending machines (RVMs) reduce the amount of manual counting and handling of beverage containers that are returned for refunds. These machines receive and spin individual containers to find and scan the bar code printed on each container, which identifies the product, brand, and container size. This information is used by the machines to verify that each container is subject to a deposit return. Once all the returns by an individual have been processed, the machine prints a voucher or provides a cash refund. Figure 3 shows a bank of reverse vending machines at a retail grocery chain.

Figure 3 Reverse Vending Machines

The reverse vending machines in use in North America are designed to process container sizes up to three liters. As described above, they also must be able to rotate containers so that bar codes can be located and scanned. RVM's would be able to process a large percentage, but not all, of beverage containers that would be subject to the envisioned universe of containers covered by Minnesota's recycling refund program. In particular, the machines on the market today would not be capable of or may have difficulty processing the following container types:

- One gallon high density polyethylene milk jugs;
- One gallon polypropylene tea bottles;
- Large size oblong juice bottles (over three liters);
- Jug-size glass wine bottles (three liters);
- Bag-in-box wine;
- Juice pouches;
- Beverage bottles smaller than six ounces (shot-size energy and liquor bottles).

RSE estimates that approximately five percent of beverage containers that would be subject to the prospective Minnesota recycling refund could not be processed by existing RVM designs. This could be an obstacle to widespread use of RVM in the state. In particular, it may limit the willingness of retailers to voluntarily take back beverage containers and offer deposit refunds since a fairly large percentage of individuals returning beverage containers would be expected to have at least one container type that could not be processed by existing machine designs, compelling that large percentage of consumers to request manual service rather than service by RVMs. For this reason, the calculations in this report are based on the assumption that voluntary retail return will be minimal, with virtually all returns occurring at independent

third-party redemption sites not located at large grocery locations.[9] Because retailers are where these machines are typically located, this also means that we have assumed that traditional RVMs will not be widely used in Minnesota. In any event, we would expect that RVM-based collection would attract the same payment obligations by the BCRO so that the use of RVM would not affect the overall system costs presented in this report.

3.4.2. Advanced Redemption Technologies

Advanced redemption technologies are being investigated in Oregon where beer, carbonated soft drinks, and water are covered by the state's deposit-return law. Until just a couple of years ago, all beverage containers were returned to retail. At the time of this report, the Oregon Beverage Recycling Cooperative (OBRC) had opened seven large redemption centers that are using and evaluating new and innovative approaches to redeeming beverage containers, ranging from 4,000 to 7,000-square-feet per site. Long range plans call for as many as 90 of these BottleDrop centers to open throughout the state. These BottleDrop redemption sites provide three ways to redeem beverage containers, all in one return site:

1) Reverse vending machines;
2) Manual customer service desk (limited to 50 containers); and
3) EZ Drop bags.

What is innovative about these sites is that they allow consumers to drop off up to two EZ Drop bags full of beverage bottles per day. The EZ Drop bags are available for purchase at the redemption sites for 20 cents each, and hold from 25 to 100 beverage containers depending on the size of the containers in the bags. Participants register with OBRC and then simply fill the bags, apply a bar code sticker with their individual account information, and drop the bags off. Drop-off chutes are available outside of normal redemption center operating, allowing participants to drop off returns 24 hours per day. The personal bar code sticker on an EZ bag is first scanned by an employee in a back processing room, after which he opens the bag and discharges the contents into a mini processing equipment setup. This equipment setup singulates the containers, scans and counts them (using technology related to RVMs), and sorts them into material types using a combination of equipment and conveyors. The deposit return amount based on the count of containers in each bag is credited to the participants account within 24 hours of being dropped off.[10] While financial data on the OBRC redemption centers was not available for this report, OBRC is hopeful that transitioning from a retail return system to redemption centers using advanced redemption technologies will reduce the cost of Oregon's redemption system.

Employees at the BottleDrop sites also use equipment to densify aluminum cans into briquettes, crush glass bottles, and flatten PET bottles for transportation to an in-state PET reclamation market, so that baling sites are not required as part of the redemption system. The limited number of beverage container types covered by Oregon's system (aluminum, PET, and glass) and the presence of an in-state PET reclamation market mean that the approach used in Oregon and system cost there is not directly transferrable to Minnesota.

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[9] There are no U.S. deposit-return laws where retail return is totally voluntary, as has been identified in the parameters of this study. U.S. deposit laws generally require large retailers to accept returns unless there is a redemption site within a specified convenient distance of those retailers. The Canadian province of British Columbia has a beverage container deposit return program for a similar diversity of beverage containers (except for milk) identified in this study – furthermore, retailers are required to accept returns. Notwithstanding this retail requirement, in British Columbia, only nine percent of returns are through grocery stores.

[10] A slide show of a BottleDrop site can be viewed at http://tinyurl.com/BottleDropTour.

4. Costs and Benefits Resulting from the Recycling Refund System

Recycling refund systems provide direct benefits such as an increase in the recovery of materials desired by industry as inputs into their manufacturing processes, and indirect benefits such as environmental quality improvements. Direct and indirect benefits provided by recycling refund systems include:

- Decreased litter;
- Energy savings;
- Reduced greenhouse gas emissions;
- Avoided acidification and eutrophication;
- Improvements to human and animal health;
- Decreased waste collection and disposal costs; and
- Net increases in employment, with some economic sectors realizing gains while others experience losses.

Costs include the cost of the recycling refund system as described above and employment losses that may result from the existing recycling system or reduced grocery sales that may result from increased product costs in the state.

RSE's scope of work was limited to materials recovery impacts, direct cost impacts, job impacts, and litter impacts – those impacts are discussed in the subsections below.

4.1. Recycling Refund System Impacts

Based on the figures presented earlier in Table 3 on estimated existing recycling quantities and in Table 7 for total beverage container recycling after a recycling redemption system would be implemented, beverage container materials recycled are projected to increase by approximately 107,000 tons, to an overall 88 percent recycling rate for beverage containers in the state.

The direct gross cost of the recycling refund system as reflected in Table 9, is $179 million per year, which is financed as follows:

- $76 million per year from revenues received from selling beverage containers to recycling markets;
- $74 million per year from consumers who choose to dispose beverage containers rather than return them or donate them to recyclers; and
- $29 million from beverage distributors.

Based on the labor requirements and cost model developed by RSE for this report, it is estimated that the redemption system will create 1,438 jobs, broken out as follows:

- 1,126 redemption center jobs;
- 136 collection/transporter jobs;
- 156 sorting/baling jobs; and
- 20 jobs with the beverage container recycling organization

4.2. Impacts to Existing Municipal and Private Waste and Recycling Systems

Beverage containers are currently being managed by municipalities and private service providers through existing recycling and waste collection and disposal infrastructures. The recycling refund system will have the effect of removing some portion of beverage containers from these existing recycling and disposal streams, resulting in some level of handling and disposal tip fee cost savings, as well as materials revenue

losses from recycling facilities. This Section 4.2 presents a statewide analysis of the economic impacts of the recycling refund system on individual household subscribers and local authorities who contract on behalf of their residential constituents for waste and recycling services. Because local authorities and individual subscribers generally only contract for single-family home waste and recycling service, the figures presented in this Section 4.2 are only for single-family home waste and recycling quantities and exclude the impact of the recycling refund system on beverage containers generated in multi-family homes or ICI establishments and therefore differ from the quantities presented elsewhere in this report.

In addition to the statewide average impacts presented in this section, case study examples are provided for the impact of a recycling refund system on three specific local authorities. These case studies are provided because specific financial arrangements between local authorities and waste and recycling service providers provide widely different outcomes.

4.2.1. Impacts to Waste and Recycling Collection, Processing, and Disposal from Single-family Homes

The analysis in this section is focused on the quantities of recyclables managed through residential single-family home collection programs as opposed to all waste and recycling programs statewide. The purpose of presenting the impacts analysis in this way is to clearly portray average impacts to local authorities, who are the ones that commonly finance single-family residential recycling systems, but otherwise don't finance waste management and recycling services provided to commercial businesses or apartment complexes. We expect that the general conclusions on the extent of financial impacts presented in this section can be extended to other generating sectors beyond single-family residential homes, even though precise cost estimates are not provided.

Based on a survey of 332 municipalities in Minnesota, it is estimated that 62 percent of households are provided with recycling service contracted by local authorities, whereas 38 percent of households are in subscription areas where individual households subscribe for waste and/or recycling collection service with a hauler of their own choosing. Because single-family home recycling quantities from subscription areas cannot be readily segregated from existing system data, the analysis of this section is based on all single-family residential homes, and similar impacts are expected regardless of whether an individual household directly subscribes for its own service or whether service is contracted on its behalf by a local authority.

Materials Recovery Facility Impacts

Under the recycling refund system envisioned for Minnesota, single-family residential recycling collection of beverage containers would fall from current levels of 74,200 to an estimated 12,400 tons; residential materials recovery facilities will be allowed to separate out these beverage containers and deliver them to the redemption system for the ten cent per container refund value. It is estimated that materials recovery facilities will separate and deliver 5,200 tons, or 150 million beverage containers, of the 12,400 tons of beverage containers that they receive, and will collect $14.8 million of deposits refunded. The remaining 7,100 tons of beverage containers they receive but don't separate, largely composed of broken mixed glass, will be sold by materials recovery facilities for a value of $ (0.1) million, since broken mixed color glass has an overall negative value and it would be the largest remaining beverage container component.

Table 4 noted that 150,600 tons of beverage containers are estimated to be generated in single-family residences. Single-family residential recycling collection programs are currently estimated to collect and market 74,200 tons per year of beverage containers, which are sold for an estimated $15.4 million per year. As Table 11 shows, the overall impact of the recycling refund system on single-family residential recyclables revenues managed by existing materials recovery facilities will be a net reduction $0.6 million per year, or $0.03 per single-family household per month.

Table 11 Materials Recovery Facility Revenues from Single-Family Beverage Containers after Recycling Refund System Implementation

Container Type[1]	Single-family Residential Recycling (tons)	MRFs Redemption of Single-family Containers Received			MRFs Recycling of Remaining Containers			Existing System MRF Revenues		Change in Revenues
		tons	million units	$ million	tons	$/ton	$ million	tons	$ million	$ million
PET Bottles	2,400	2,200	70	6.9	200	438	0.1	10,200	4.5	2.5
HDPE Bottles	700	700	10	0.9	100	485	<0.1	3,000	1.5	-0.5
Other Plastic Bottles	300	300	<10	0.4	<100	40	<0.1	400	<0.1	0.3
Aluminum Cans	900	900	60	6.0	<100	1,510	<0.1	7,400	11.2	-5.2
Steel Cans	<100	0	0	0.0	<100	250	<0.1	<100	<0.1	0.0
Glass Bottles	7,900	1,200	<10	0.4	6,750	-35	-0.2	52,900	-1.9	2.0
Aseptic/Gable-top Cartons	100	100	<10	0.2	<100	125	<0.1	200	<0.1	0.2
Foil Pouches	0	0	0	0.0	0	-150	0.0	0	0.0	0.0
TOTAL	**12,400**	**5,200**	**150**	**14.8**	**7,100**		**$ -0.1**	**74,200**	**15.4**	**-0.6**

Figures are rounded and may not sum precisely.

1 Materials revenues in this table are for beverage containers only and do not include the revenue contributions from other packaging and paper materials collected from single-family homes.

RSE also evaluated the impact of the recycling refund system on materials recovery facility processing costs. The reduction in beverage container received, especially PET and aluminum cans, may result in capital expenditures for optical and eddy current sorters no longer being economical in materials recovery facilities, so that container sorting will more likely be performed manually than is the case currently. Furthermore, manual sorters will be relied on to separate the remaining beverage containers by hand from non-beverage containers for the deposit value, a function that automated materials recovery facility sorting equipment is not designed to perform. As a result no net labor reduction, processing cost savings, or jobs impacts are forecasted for materials recovery facilities by this study.

Recycling Collection Impacts

The recycling refund system has the potential to reduce the costs that service providers have of collecting and processing beverage containers based on a reduction of the quantities managed by those service providers.

Residential recycling collection trucks normally fill before the end of the collection day and drivers typically need to leave their route, empty, and return to their route to complete their collection activities for the day. RSE estimated the overall existing volume of Minnesota statewide residential recyclables collected for recycling, including beverage containers and other packaging and paper, by multiplying estimates of tons collected by density conversion factors. We also estimated the tonnage and volume in cubic yards of beverage containers projected to be diverted from residential recycling collection, and projected that the collection volume would fall by 20 percent, allowing trucks to collect recyclables from 20 percent more homes before they fill. Because this savings would mostly impact the time spent travelling off route to empty recyclables, and would not significantly impact the on-route productivity, the net time savings to residential collection is estimated by RSE to be a 13 percent reduction in overall time spent. It is recognized that equipment and overhead costs may not be reduced by this potential direct cost savings. Furthermore, if trucks still need to be completely emptied at the end of each day, if for example if they are used to collect waste on the following day, service cost savings will be virtually non-existent. According to the 2007 U.S. Economic Census, Minnesota waste and recycling haulers' payroll composes 19 percent of total customer billings.[11] Assuming this percentage can be used to estimate potential recycling collection service fee savings, and assuming that the average single-family residential household charge for residential curbside service is $3.50 per household per month, the estimated collection cost savings that should be passed down to local authorities and subscription households would be $0.09 per household per month.[12]

The Container Recycling Institute has a jobs calculator for estimating the potential jobs impact that a potential recycling refund system could have. While RSE did not use CRI's jobs calculator for estimating jobs impacts for this study, we did utilize certain jobs per 1,000 tons throughput factors from CRI's calculator for the calculations performed by this study. In the case of recycling collection, CRI estimates that there are 2.3 recycling collection (including administrative staff, maintenance staff, and management staff) per thousand tons of residential recyclables collected. Using that factor, the 13 percent savings discussed above, and the estimate of the total residential recyclables tonnage currently collected in Minnesota (approximately 445,000 tons), we have estimated that up to 136 residential collection jobs may be lost as a result of the recycling refund system.

[11] 2007 U.S. Economic Census, filtered for NAICS 562111 Solid Waste Collection, and the geographic area of Minnesota.
[12] 13 percent multiplied by 19 percent multiplied by $3.50.

Waste Collection and Disposal Impacts

A recycling refund system will also collect beverage containers that otherwise would be disposed in the single-family home residential waste stream. Single-family residential beverage containers disposed are projected to fall from 76,400 tons to 13,700 tons, which would save an estimated $4.4 million per year or $0.21 per household per month in avoided tip fees, based on a statewide average disposal tip fee rate of $70 per ton.

The portion of beverage container recyclables in disposed residential waste is much smaller than in recyclables. Also, residential waste collection trucks use high compaction ratios so that they are normally able to stay on route for the entire collection day before filling. Using a factor from CRI of 1.17 waste collection jobs per thousand tons, and 0.04 landfill jobs per thousand tons, only 6 jobs statewide were estimated to be lost from waste collection and disposal from all waste generating sectors, or 3 jobs from the single-family residential waste stream. This small impact was not estimated to have any discernable price effect on waste collection costs, and therefore no waste collection cost savings has been estimated.

Total Financial Impacts to Local Authorities and Individual Subscribers

The net impact to local authorities and individual single-family residential subscribers of the recycling refund system would therefore be:

- Materials recovery facility revenue reduction of $0.6 million, or -$0.03 per single-family household per month;
- Recycling collection cost savings of a net impact of approximately $1.9 million per year, or $0.09 per single-family household per month;
- Avoided tip fee disposal savings of $4.4 million, or $0.21 per household per month.

The total impact of the recycling refund system to local authorities and individual subscribers would be a net benefit of $0.27 per single-family household per month.

4.2.2. Minnesota Case Study Examples

The purpose of this subsection of the report is to provide three Minnesota local governmental case studies describing their residential curbside recycling programs and assessing the potential financial impact of the implementation of the recycling refund program based on their respective programs and financial arrangements with contractors. The three recycling programs selected are the City of Minneapolis, McLeod County, and the City of Maplewood. These three programs represent differing demographics, program types, and recycled materials revenue sharing agreements.

Case Study #1 – City of Minneapolis

The City of Minneapolis is the largest community in Minnesota with a population estimated at 392,880 (U.S. Census 2012). It is located in the Twin Cities Metropolitan Area. The City has approximately 106,000 residential dwelling units that are provided curb or alley recycling collection by City crews and a consortium of private haulers doing business as Minneapolis Refuse Incorporated (MRI). The City recently implemented a single stream recycling collection system in July of 2013. Two person crews utilize rear load collection vehicles with tippers to collect single sort recyclable materials.

Recyclables collected by City and MRI crews are delivered to a private materials recovery facility for processing. The materials recovery facility charges the City a $48 per ton fee for processing and marketing the single stream collected recyclable materials per a multi-year agreement. The agreement also includes a

revenue sharing arrangement where the City receives 80% of the blended value of the actual recovered materials sales. Therefore, the City may receive net revenue payments or have a net cost on a monthly basis depending on the volatility of recyclable materials markets.

The City finances waste and recycling collection, processing, and disposal through customer fees of $17.60 per household per month. This is a bundled rate that covers not only the costs of the recycling program, but a comprehensive residential refuse, recycling, yard waste, and problem material collection program within an enterprise fund framework.

The financial impact on the City's recycling program upon the implementation of the recycling refund system potentially includes the following:

- Recycling collection costs.
  - Even though it is anticipated that fewer quantities of recyclable materials will be collected through the City's curbside program, the impact on collection is projected to be limited because the City's routing structure will not likely change in the short term. Presently, City collection routes include two daily trips to the designated materials recovery facility for processing of the materials because trucks fill at mid-day. Although it is projected that 7,700 less tons per year of recyclable materials will be collected through the City's collection program, it is the City's standard operating practice to empty all collection vehicles at the end of each day regardless of how full the trucks may be; therefore, the City does not estimate that it will realize any collection cost savings, nor does it anticipate the loss any collection jobs. In the long term, the routes may be rebalanced and, in the aggregate, there potentially could be some cost savings to the City either from its own collection operations or that of the MRI consortium.

- Tip fees for disposal.
  - City residential customers are provided refuse collection via both city crews and the MRI consortium of private haulers. It is projected that a recycling refund program will reduce the quantities of refuse collected by approximately 2,900 tons per year because targeted containers in the refuse will be redeemed, as opposed to disposed. The City pays $49 per ton for disposal of refuse at the Hennepin Energy Recovery Center (HERC), a waste-to-energy facility. Therefore, total savings associated with avoided disposal costs would be approximately $142,100 per year.

- Materials processing costs and revenues from the sale of recovered materials.
  - Because the City presently pays $48 per ton for processing and receives an 80% revenue share from the sales of the recovered materials, and the recycling refund program is estimated to divert 7,700 tons of beverage containers from the City's recycling collection program, the City could realize MRF tip fee savings of approximately $369,600.

    This savings may be offset in part or in whole by a loss in revenues from the sale of recyclable materials. Based on the first six months of revenue sharing data under the City's new single sort recycling program from July 2013 through December 2013, the City was paid an average $62.12 per ton blended value by its processing vendor. This estimate was based on approximately $11.29 net average per ton of revenues paid to the City from the sale of recovered materials (net of $48 per ton incoming material processing fees and the revenue share agreement whereby the City is paid 80 percent of revenues).The City was not able to provide materials revenues by individual material type.

    There will be a reduction in the net per ton revenue received under the existing revenue sharing arrangement with the loss of high valued materials such as aluminum, PET, and HDPE. For example, if the average per ton blended value was reduced by 20 percent to an average of $50 per ton, the loss of revenues is estimated to be approximately $256,800. This assumes projected

quantities of 27,640 of single sort materials collected in 2014 less the approximately 7,700 tons directed to the redemption system. This reduction in revenues assumes that the City's recyclables processor does not separate or otherwise receive the deposit value for beverage containers that remain in the recyclables that it sorts and markets.

The City's processor will have the opportunity to obtain additional revenues from the beverage containers subject to redemption that remain in the recyclable materials collected by the City and its contractors and transported to the MRF for processing. The City's recyclables processor may separate these materials and deliver them to the recycling refund system to receive the deposit value. In the alternative, the private recyclable materials processor may choose not to separate the materials for redemption and process the materials and sell the recovered materials on the scrap market as described above.

It is estimated that 1,510 tons of beverage containers targeted as part of the recycling refund system would remain in the City's recycling system annually. These containers, if they were separated from other recyclables and delivered to the recycling refund system, would have a blended average value of more than $2,000 per ton, compared to the $62.12 average per ton blended value if they are not separated and are only sold for their scrap value. The present revenue sharing agreement does not explicitly identify redemption fee revenues as part of the overall agreement. Thus, if the materials processor chose to redeem the targeted containers as opposed to process and sell on the scrap market the extent of the revenues due the City for this subset of recyclable materials would be uncertain, and would need to be clarified.

The overall net impact to the City's is a financial benefit of $254,900, with the potential for significantly higher savings depending on how the beverage containers collected in the City's recycling program are handled by the private materials recovery facility and the applicability of the revenue share contract terms to the redemption revenues.

Please note that the above discussion solely addresses potential short term financial impacts on the City of Minneapolis under the structure of its existing recycling program and the existing terms of the agreements between the City and its recycling collection and processing service providers. In particular, it does not assess the immediate financial impact on the City's recyclable materials processing vendor who would be directly impacted with the receipt of less processing fees, a decrease in its share of revenues from the sale recovered materials, and potentially an increase in revenues from the redemption of beverage containers for their deposit value.

Case Study #2 – McLeod County

McLeod County is located approximately 50 miles west of the seven-county Twin Cities Metropolitan Area. The county has a population of approximately 36,650. Nine municipalities in the County composed of approximately 11,000 residential households receive curbside recyclable materials collection via a county-wide collection contract with a private vendor. The remaining approximately 3,650 residential households are provided an opportunity to recycle through four rural recycling drop-offs and six township sheds. The County also contracts with a private vendor to service these collection depots. The materials are collected both at the curb and at the collection depots using a five-sort collection program.

Listed below are the five-sort recyclable materials collected in the County's collection program:

1) Old Corrugated Containers and Old Boxboard;
2) Glass Bottles and Jars;
3) Metal Cans;
4) Plastic Bottles; and

5) Mixed Paper, which includes Newspapers, Magazines, Office Paper, Home Office Paper and Mail, and Phone Books

The County pays the vendor a per-household monthly fee for curbside collection of the materials. All residential recyclable materials collected by the contract vendor are transported to the County-owned materials recovery facility for processing. The County markets the materials to a number of end markets to generate recovered materials sales. In 2012, the County recovered nearly 4,900 tons of recyclable materials from all sources, including ICI, and generated $501,000 in recovered materials sales. Thus, the County generated more than $100 per ton in gross revenues for recovered materials sales.

The financial impact on the County's recycling program upon the implementation of the recycling refund system potentially includes the following:

- Recycling collection costs.
  - During the term of the existing county-wide collection agreement, it is anticipated there will be no impact on recyclable materials collection costs to the County. The County pays the vendor for contract collection based on an agreed upon per household collection rate. Unless the County would agree to renegotiate the agreement after the implementation of the recycling refund program, no savings associated with the collection of fewer materials would be accrued by the County during the term of the agreement. We project that the County will collect approximately 440 tons fewer recyclable materials on an annual basis upon the implementation of a recycling refund program.

    Please note that the collection costs for the vendor providing curbside collection and servicing the depots may be reduced; however, no short term collection cost savings to the County has been assumed in this analysis.

- Tip fees for disposal.
  - County residents contract for collection of refuse with haulers via subscription or via municipal contract. Notwithstanding the City of Hutchinson, the refuse collection fees range from approximately $8.20 to $12.75 per household per month for weekly collection of 30 to 90 gallon containers. The City of Hutchinson's collection fees exceed $20 per household because they are bundled rates that include curbside collection of organics.

    We estimate that the quantity of materials collected for disposal would be reduced by 427 tons annually if the recycling refund system was implemented. Because the County does not pay the disposal fees it would not be directly impacted. However, the County would be financially impacted if this loss of tonnage was not offset by additional tonnage being disposed at the Spruce Ridge Landfill located in the County. Per Minnesota Solid Waste statutes, the County has levied a $3.50 per ton surcharge on all MSW disposed at the Spruce Ridge Landfill. Therefore, the County's tip fee revenues would be reduced by a relatively small amount of approximately $1,500 based on McLeod County materials only. However, the Spruce Ridge Landfill accepts MSW from a number of other Minnesota counties and the implementation of the recycling refund system could potentially result in an additional loss of revenues to the County because of the decrease in the total quantities of MSW received at Spruce Ridge Landfill for disposal. Estimating the overall impact on these revenues was beyond the scope of this analysis.

- Materials processing costs and revenues from the sale of recovered materials.
  - The County would be directly impacted by a reduction in revenues it receives from the sale of the recovered materials. The County processes and markets all of the residential and most of the commercial recyclable materials collected within the County. With the implementation of a recycling refund system, fewer quantities of recovered plastics, aluminum beverage containers, and glass containers would be sold. Specifically, we estimate 438 fewer tons of materials would be collected

and recovered from the County residential recycling stream. Using the County's 2012 annual per ton revenue averages by material type, this reduction in volume of recovered materials sold translates into approximately $77,900 annually in reduced revenues generated at the County's MRF. This analysis assumes that the County does not separate or otherwise receive the deposit value for beverage containers that remain in the recyclables that it processes. If it does separate beverage containers for the redemption value, materials revenues received by the County would increase.

The overall net impact to the County would range from a revenue reduction of $79,400; however, this revenue loss may decrease, in whole or in part, if the County is provided the opportunity to separate the beverage containers for their deposit value.

Case Study #3 – City of Maplewood

The City of Maplewood is located in the Twin Cities Metropolitan Area and can be a characterized as a "first ring" suburb of the City of St. Paul. The City contracts for curbside collection of recyclable materials with a private vendor. The vendor collects single stream recyclable materials from approximately 11,300 single-family and 4,200 multi-family customers using 18 gallon bins on a weekly basis – 2,734 tons of residential recyclable materials were collected in this manner in 2013. When the City begins using wheeled carts for this recycling program, the recycling contractor will switch to collecting using fully automated

The City will transition to a recycling collection program using wheeled carts, as opposed to bins, beginning in March of 2014, at which time the recycling contractor will switch to using fully-automated collection trucks. The carts will be provided by the vendor as part of a new collection agreement with a term from January 1, 2014 to December 31, 2017. Using carts for collection, the City will pay $2.50 per household per month for years one and two and $2.75 per household per month for years three and four. St. Paul Regional Water Services adds the recycling fee to residents' water bills. The recycling fee is currently $2.94 per month, which includes a limited additional fee to cover contract administration and customer education costs. There is no revenue sharing from the sale of recovered materials for the City under the present agreement with its vendor.

The City has an "organized" refuse collection program where it contracts with a private vendor for refuse collection from all single-family homes and multi-family of four units or less, which serves approximately 8,800 units. In 2013, approximately 8,000 tons of municipal solid waste was collected from the units served through the organized collection program. Under the organized collection program, the contract vendor bills the customers directly. However, a set of differential rates by container size with a base fee and a disposal fee are established via agreement. The disposal tip fee was approximately $56 a ton in 2013 and the collected MSW was transported to the Newport Resource Recovery Facility where it was processed into fuel for energy recovery.

The financial impact on the City's recycling program upon the implementation of the recycling refund system potentially includes the following:

- Recycling collection costs.
  - During the term of the agreement, it is anticipated there will be no impact on recyclable materials collection costs to the City. The City pays the contract vendor for the collection based on an agreed upon per household collection fee. Unless the City or the vendor would request to renegotiate the agreement after the implementation of the recycling refund program, no savings associated with the collection of fewer recyclable materials would be accrued by the City. We project that the City's vendor will collect approximately 415 fewer tons of recyclable materials on an annual basis upon the implementation of a recycling refund program.

- Tip fees for disposal.
  - As described above, the City has an organized refuse collection system with a contract vendor that includes agreed upon collection and disposal rates. The per ton disposal rate was estimated at $56 per ton in 2013. We estimate that the quantity of materials collected for disposal would be reduced by 267 tons annually if the recycling refund system was implemented. At $56 per ton for disposal, this results in savings of nearly $15,000 annually. The City would not directly benefit from avoided disposal savings because the hauler bills the customers directly and the cost of disposal is incorporated into the monthly refuse service rates.

- Materials processing costs and revenues from the sale of recovered materials.
  - The City's recyclables collection vendor is responsible for collection, processing, and marketing of the recyclable materials, with no revenue share back to the City. Therefore the City will not experience any direct financial impact from changes in the sale of recovered materials. The collection vendor or the materials recovery facility the recyclables are delivered to may realize a revenue reduction from the reduced quantity of recyclables collected. The vendor may argue that the implementation of the recycling refund system falls within a force majeure provision, providing for the right to renegotiate the agreement with the City to make up for any loss of revenues or cost increase it may experience under the contract.

The short term financial impact on the City's recycling program upon the implementation of the recycling refund system under its existing agreements with service providers would be no change from its current position.

Summary

As reflected above, each local authority is financially impacted differently and at varying levels depending on its role in waste and recycling management and the terms of the agreements in place with service providers. The short term impacts analysis of this subsection is based strictly on the existing agreements that are in place. Over a longer term, agreements may be renegotiated that would change the financial impacts described in this subsection; furthermore, to the extent that service providers realize a financial benefit from the recycling refund system, over the long term that benefit may be passed back to local authorities if contracts are competitively placed back out to bid.

4.3. Impacts to Markets and Beneficiation Facilities

According to an interview with Verallia conducted for this study, only approximately 40 percent of single-stream glass received by beneficiaries can be economically prepared to a suitable quality for glass container manufacturing. Alternatively, according to Verallia, 99.5 percent of deposit glass can be prepared for glass container manufacturing. A recycling refund system will result in higher quantities of glass going to higher value recycled product applications than would be the case under the existing system. Similarly, the improved quality and controlled sourcing of PET under the recycling refund system would benefit PET reclaimers in other states (there are currently none in Minnesota) who recycle PET closed loop back into bottles. While improved quality under recycling refund systems has been demonstrated for glass and PET, and improved market prices paid for glass and for PET by recyclers have been incorporated in in the revenue calculations in this report, similar price impacts from quality improvements for other materials are not as apparent and have not been included.

Some 88,000 tons of glass containers, including food container glass but excluding non-glass contamination, are currently estimated to be recycled by glass beneficiation facilities in the state. Based on a recovery increase to 157,000 tons of glass containers (including food glass) recycled under a combination of the existing system and the recycling refund system, RSE estimates that an additional 15 glass beneficiary jobs would be created in the state as a result of the recycling refund system.

In general, this study has assumed that the recycling refund system will result in more locally recovered materials being available to in-state manufacturers, which may reduce their costs of manufacture and may lead to increased sales and job growth. However, such estimates require detailed regional market studies to track the flows of recyclables both into and from the state, including freight calculations, which was beyond the scope of this report. To be conservative, no additional jobs have been assumed at Minnesota mills, reclaimers or product manufacturers in this analysis.

4.4. Impacts to Beverage, Hospitality, and Retail Industries

4.4.1. Sales Impacts

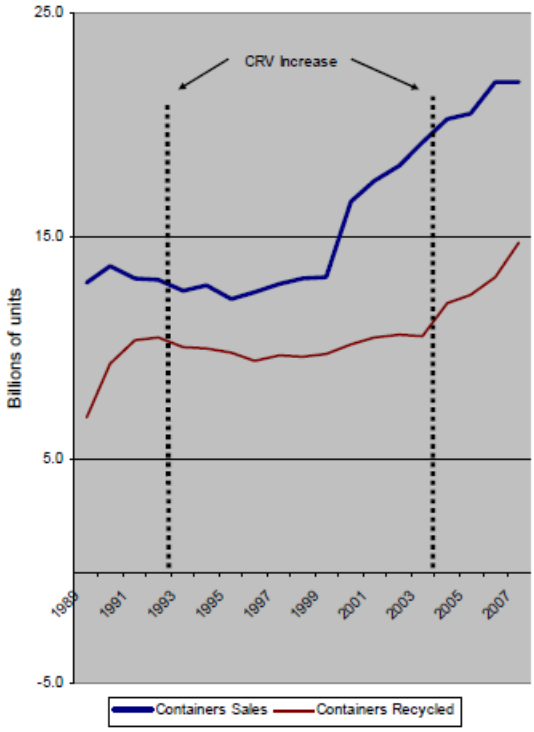
Some in the beverage industry assert that beverage sales in Minnesota will fall as a result of the recycling refund system, both on a temporary basis shortly after it is implemented, as well as on a long-term permanent basis. This potential sales reduction can come from three causes:

1) The recycling redemption system operating deficit identified earlier in the report, which would require beverage distributors to provide supplemental funding to the system of approximately $29 million per year, or $0.0062 per beverage container on average, which may result in higher shelf prices to consumers that result in reduced product sales;
2) The presence of the deposit, which consumers may elect to forfeit if they choose to not return beverage containers for the deposit refund; and
3) Residents in Minnesota counties that border non-deposit states driving across state boundaries to do their grocery shopping in non-deposit jurisdictions.

There have been a number of studies that present conflicting conclusions regarding whether beverage deposits impact sales and RSE reviewed those studies for this report. Studies that assert there are job losses are based on economic impact models in which researchers input price-purchasing elasticity factors into the models to forecast sales losses associated with price increases. The seminal study most referenced for job loss calculations that uses this modeling approach was conducted at the University of Kentucky in 1999; however, the same approach to modeling job losses is used today by industry groups.[13] Alternatively, conflicting studies point to state sales data when deposit programs are either implemented, containers added to the deposit, or the deposit level increased. These studies portray no apparent change in consumption trends as a result of recycling refund programs or their changes. Figure 4 is excerpted from one of these studies, which analyzed California data (one of the two most-recently implemented deposit-return states).[14]

[13] "The Economic Impact of a Container Deposit Program in Kentucky," the Center for Business and Economic Research, University of Kentucky, March 1999.
[14] "Evaluating End-of-Life Beverage Container Management Systems for California," R3 Consulting Group Inc. and Clarissa Morawski, May 2009.

Figure 4 Impact of California Redemption Value on Sales



California's redemption program began in the fall of 1987, collecting a 1 cent deposit (California Redemption Value, or CRV). As Figure 4 shows, California beverage container sales increased from 1989 to 1990, after which they had several years of decline, and then in 2000 began to increase steadily again. As the study report states:

> "Deposits were increased in 1989 from 1 cent to 2 cents; in 1993 from 2 cents to 2.5 cents; and in 2004 from 2.5 cents to 4 cents. More recently, in January 2007, the deposit was further increased from 4 cents to 5 cents for small containers and from 8 cents to 10 cents for large containers...In the years directly following both CRV increases there was no disruption of sales trends, either upwards or downwards. This suggests that the introduction of the CRV, as well as two increases to the CRV, had no impact on sales."

Based on the studies reviewed by RSE, there does not appear to be conclusive evidence to support the assertion deposit programs result in permanent decreases in consumer consumption of packaged beverages.

The University of Kentucky study also investigated sales shifts across state borders that used statistical regression analysis to evaluate the impact of the deposit compared to other factors, such as differing state sales taxes, in the counties on both sides of the border of deposit states. The University of Kentucky concluded that sales shifts do occur, and RSE used data from that study to estimate sales shifts (and job shifts) outside of the state. Based on the results of the University of Kentucky analysis, supermarket and grocery retailers in Minnesota may lose 0.5 percent of sales statewide, resulting in a shifting of 214 jobs to neighboring states. To the extent that beverage distributors in Minnesota only distribute their products in

state (and not in adjoining counties in surround states), Minnesota beverage distributors may lose up to 39 jobs that would shift to neighboring states.[15] There will be some loss to state and local tax revenues as a result of the estimate of grocery purchases that goes out-of-state, although this loss has not been estimated by this report.

4.4.2. Regulatory Agency Impacts

This study estimated that an additional 4 jobs with the State of Minnesota will be created that are primarily related to law enforcement (e.g., fraud criminal investigations), as well as some staff time associated with regulating the private non-profit beverage container recycling organization that will operate the recycling redemption system. A cost estimate for these jobs has not been prepared in this report.

4.5. Litter Reduction

The amount of beverage containers currently littered in Minnesota is difficult to estimate due to the lack of Minnesota-specific litter data and variation in the data reported from elsewhere. One study that reviewed litter data from numerous other studies found that beverage containers were reported to compose between 4.4 percent and 21 percent of litter. A nationwide study conducted by Keep America Beautiful entitled “2009 National Visible Litter Survey and Cost Survey” counted beverage containers at only 2.9 percent of all litter (which includes cigarette butts in the calculation), and 14.5 percent of litter larger than 4 inches. Yet another study by the Washington Department of Ecology determined that 26.7 percent of litter was made up of aluminum cans, plastic bottles and glass bottles in that state. Litter data is typically reported on the basis of unit counts, which is number of beverage containers counted divided by the total number of pieced of litter observed, and depending on how and the extent to which small components of litter are counted will significantly impact any estimate of the actual quantities of beverage container litter.

Beverage container relative litter reduction factors resulting from deposit programs may be more applicable to Minnesota than quantity estimates. Litter reduction depends on many factors including the percentage of beverage containers covered in deposit programs and the value of the deposit. For example, if a deposit state only includes beer and soft drinks in its program, littering rates for those containers will differ from littering rates for bottled water containers that are not included in the deposit program. Higher deposits can also be expected to have a greater impact than the typical five cent deposit collected on small beverage containers in other states. This makes it difficult to use litter data from other deposit states, which are less comprehensive than that considered in Minnesota, and apply that data to make Minnesota estimates. At a minimum, data from other deposit jurisdictions can be reviewed and any estimates made from those studies can be considered conservative in Minnesota’s case. Table 12 shows the results of litter studies in deposit states – in Minnesota’s case, beverage container litter can be estimated to be reduced by approximately 85 percent, and overall litter by 40 to 50 percent.

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[15] "The Economic Impact of a Container Deposit in Kentucky" found that grocery sales decreased by 3.2 percent in counties that border non-deposit states. Minnesota counties that border North Dakota, South Dakota, and Wisconsin contain 16 percent of Minnesota’s population. Because Iowa also has a deposit, the population of Minnesota’s southern border counties was not included in this estimate. The overall statewide potential grocery reduction is therefore 0.5 percent. Total state grocery jobs are based on U.S. Census Bureau, 2011 County Business Patterns, which identified 41,111 grocery jobs in the state for NAICS 445110 Supermarkets and Other Grocery. The Minnesota Beverage Association on its website reported that their members employed 5,310 in Minnesota in 2012. Similarly, the Beer Institute in “Beer Industry Economic Impact in Minnesota” reported 2,160 beer distributing jobs in the state in 2012.

Table 12 Litter Reductions from Beverage Container Deposit Programs

State	Beverage Container Litter Reduction	Total Litter Reduction
Iowa	76%	39%
Maine	69-77%	34-64%
Massachusetts	N/A%	30-35%
Michigan	84%	41%
New York	70-80%	30%
Oregon	83%	47%
Vermont	83%	35%

Source: Proceedings of the July 11, 2002 hearing before the Committee on Environment and Public Works of the U.S. Senate (www.access.gpo.gov/congress/senate/pdf/107hrg/83716.pdf)

Cost savings from litter reduction cannot be readily determined. While some studies assert that the cost of collecting litter ranges from $1,200 per ton to $2,300 per ton, those studies do not report actual cost reductions resulting from reduced litter in deposit states. Litter collection is much like residential curbside recycling collection. While some cost savings may occur, the cost savings will be much smaller than a direct proportional reduction based on total litter reduction percentages, since local authorities must still patrol and collect the remaining litter from areas maintained by them. Because of the lack of Minnesota-specific litter cost data, cost savings that may result from litter reductions, and quantity of beverage containers currently littered in Minnesota, reliable estimates of litter reduction cost savings could not be made for this report.

4.6. Summary of Costs and Benefits Resulting from the Recycling Refund System

In summary, Table 13 shows the projected increases in beverage containers recycled in Minnesota as a result of the prospective recycling refund program:

Table 13 Increase in Beverage Container Recycling from a Recycling Refund Program

Beverage Materials	Tons	Millions of Containers
PET Bottles	16,100	500
HDPE Bottles	3,700	50
Other Plastic Bottles	300	<10
Aluminum Cans	12,400	850
Steel Cans	<100	<10
Glass Bottles	68,500	240
Aseptic/Gable-top Cartons	6,400	270
Foil Pouches	100	30
TOTAL	**107,400**	**1,950**

Figures are rounded and may not sum precisely.

In addition to the increase in quantity of beverage containers recycled, the quality of the collected commodities would be improved over that of the existing recycling systems.

The cost increase associated with these higher recycling levels is estimated at:

- $29 million to operate the recycling redemption system, incurred by beverage producers;
- Less than $1 million incurred by the State of Minnesota, not including state tax loss impacts that may occur from reduced in-state grocery sales;
- Undetermined costs incurred by consumers in transporting beverage containers to redemption sites.

The following annual cost reductions are also projected to result:

- $5.6 million realized by local authorities and individual single-family home waste and recycling service subscribers;[16] and
- Undetermined savings to state and local authorities for reduced litter cleanup.

The recycling refund system is estimated to have the following Minnesota jobs impacts:

- Increases of:
  - 1,438 recycling refund system jobs;
  - 15 glass beneficiation jobs;
  - 4 state law enforcement and regulatory agency jobs; and
  - Undetermined potential for in-state recycling manufacturing jobs.
- Decreases of:
  - 214 supermarket and grocery jobs;
  - 39 beverage industry production and distribution jobs (note, jobs will be shifted to other states but are not forecasted to be actually lost);
  - 136 residential recycling collection jobs;
  - 6 waste collection and landfilling jobs.

The direct job impact is forecasted to be a net gain of 1,062 jobs. Furthermore, additional jobs will be created in industries that support the recycling infrastructure with goods or services, and by the personal spending of employees who fill the 1,062 jobs. These additional indirect job impacts have not been modeled by this study.

In addition to the above benefits, energy savings and environmental quality benefits would occur from the recycling redemption program. It was beyond the scope of this report to estimate these benefits.

4.7. Estimated Impacts to Specific Stakeholder Groups

Following are a summary of estimated financial and job impacts from the perspective of various stakeholders:

- Consumers
  - Financial impacts:
    - Potential price increase of $29 million per year or $0.006 per container purchased if beverage distributors and retailers pass the full cost of the recycling refund on to consumers;
    - Undetermined costs incurred by consumers in transporting beverage containers to redemption sites; and

[16] Although impacts to industrial, commercial, institutional, and multi-family residential establishments could not be estimated in this study, it is reasonable to assume that the collective savings to these establishments would be marginally smaller than, although similar in magnitude to, that of single-family homes.

    - $74 million in unredeemed deposits (only incurred by those consumers and bars/restaurants that choose to not return beverage containers for the deposit).
- Beverage industry
    - Financial impacts – from 0 to $29 million per year, depending on if supplemental payments to the recycling refund system can be passed on to consumers in price increases; and
    - Job impacts – shift of 39 jobs from Minnesota to surrounding states.
- Supermarkets
    - Financial impacts – loss of 0.5 percent of sales on a statewide basis (losses will occur in counties that border states without beverage container deposits); and
    - Job impacts – shift of 214 jobs from Minnesota to surrounding states.
- Local governments and individual residential single family home waste services subscribers
    - Financial impacts;
        - $5.6 million net annual cost savings ($0.27 per household per month) from avoided disposal cost savings and residential recycling collection cost savings after accounting for reduced residential recycling program commodity revenues; and
        - Undetermined savings from reduced litter clean-up costs.
- Materials recovery facilities
    - Financial impacts;
        - Net lost commodity revenues of $0.6 million after including offsetting revenues from returning beverage containers for their deposit value, assumed to be passed on to local governments and hauler customers for no long-term cost impact; and
        - Lost tip fee revenues due to reduced incoming tons, assumed to net zero after adjusting tip fees to result in no long-term cost impact;
    - Job impacts – none.
- Waste and recycling haulers and waste disposal facilities
    - Financial impacts
        - Loss of $4.4 million in disposal facility tip fee revenues; and
        - Loss of $0.2 million in recycling collection revenues.
    - Job impacts
        - Loss of 136 residential recycling collection jobs; and
        - Loss of 6 jobs waste collection and landfill jobs.
- Glass beneficiaries
    - Financial impacts - improved revenues from sale of more processed glass to high-value glass container manufacturing markets; and
    - Job impacts – gain of 15 jobs.
- Recycled product producers
    - Financial impacts – potential to source additional raw materials from in-state sources with the potential to reduce sourcing costs and increase product sales; and
    - Jobs impacts – undetermined, depends on financial impacts and sourcing relationships.
- State of Minnesota
    - Financial impacts
        - Additional cost of less than $1 million for law enforcement and regulatory agency costs; and
        - Loss of 0.5 percent of grocery and alcoholic beverage container sales taxes.
    - Job impacts
        - 1,062 net jobs gained in the state.
- Non-profit Groups
    - Financial impacts – potential to generate additional revenues from collecting donated beverage containers for their refund value.

Appendices

Appendix A Sensitivity of Results to Assumptions and Model Inputs

This appendix provides a discussion of the sensitivity of the results presented in this report to changes in key assumptions and model inputs.

Materials Revenues

Revenues from the sale of materials in this report are based on three-year averages for the period from 2010 to 2012. If average material revenues were calculated for the five-year period from 2008 to 2012, which includes the uncommon extreme lows in 2009 resulting from the global recession, average materials revenues for the recycling refund system would drop by approximately $10.3 million, or 14 percent, from $76.0 million to $65.7 million per year.

Materials Recovery and Waste Processing Facility Deposit Returns

The calculations in this report for deposit containers managed by existing recyclers or separated for recycling by waste processing facilities such as waste-to-energy facilities assume that the Beverage Container Recycling Organization will require them to physically separate those containers and deliver them in loose form to a redemption system baling facility, which may be an existing paper stock dealer or scrap metal processor, in order to receive the refund. The reason for modeling the system in this manner is based on an assumption that the BCRO will seek to minimize fraud that otherwise can occur when existing recycling facilities simply report quantities recycled, but otherwise retain ownership of those materials and never physically transfer them to the recycling refund system. Physically transferring material across certified scales at recycling refund system baling facilities is one way to verify material type (for appropriate weight-to-units conversion factor application), ensure that only deposit containers are in the load, and validate the weight recycled. Physically transferring them to the recycling refund system also ensures that those beverage containers undergo an alteration process so that they are taken out of circulation to avoid multiple returns of the same beverage container.

The calculations in this report estimate that recycling facilities will separate and deliver to recycling refund baling facilities as many beverage containers as they are able to identify and separate, which has been estimated at 81 percent by number (50 percent by weight) of the deposit containers that they receive. Table 14 shows the comparative value of beverage containers to recyclers based on whether they deliver them to the recycling refund system for a ten cent refund compared to the materials' scrap value.

Table 14 Comparative Deposit and Scrap Value of Beverage Containers

Beverage Materials	Deposit Value ($/ton)	Scrap Value[1] ($/ton)
PET Bottles	3,123	438
HDPE Bottles	1,360	485
Other Plastic Bottles	1,360	40
Aluminum Cans	6,866	1,510
Steel Cans	1,160	250
Glass Bottles	356	-35
Aseptic/Gable-top Cartons	4,205	125
Foil Pouches	25,600	-150

1 Based on 3-year market price average from 2010-2012.

As Table 14 shows, the deposit value far exceeds the scrap value for all beverage containers. This report assumes that the additional value recyclers receive from separating beverage containers from other

recyclables and delivering them to a recycling refund system processor will provide sufficient incentive and cover any additional cost recyclers may incur. If the BCRO did not require recycling facilities to separate and transfer beverage containers from other recyclables, but still provided the full refund value, recycling facilities would experience the following changes in their revenues:

- Baseline revenue estimate from 10,600 tons of beverage containers separated and turned over to the recycling refund system and 10,600 tons of beverage containers sold for scrap value as shown in Table 7, multiplied by the scrap values shown above, equals a baseline revenue estimate of $34.9 million;
- Deposit value of beverage containers in materials handled by existing recyclers based on 21,200 tons of beverage containers shown in Table 7 would be $40.7 million;
- Scrap value of beverage containers in materials handled by existing recyclers based on 21,200 tons of beverage containers shown in Table 7 would be $6.3 million;
- Because recycling facilities would retain ownership of these materials and so would market and retain the scrap value in addition to the deposit received, the additional compensation paid to recyclers from the BCRO under this arrangement would be $40.7 + $6.3 - $34.9, or $12.1 million per year.

The reduction in tonnage handled by recycling refund sorting and baling facilities would save the BCRO approximately $2.1 million in processing fees. In summary, if the BCRO did not require recycling facilities to separate and transfer beverage containers from other recyclables, but still provided the full refund value, it would need an additional $10 million from beverage distributors to cover the increased payouts and reduced revenues that would be recognized by the BCRO.[17]

Beverage Container Redemption Center Collection Rate

The overall collection rate for beverage containers through redemption centers from either individual consumers or from on-premises collection by redemption centers has been estimated at 77 percent of beverage container units sold. If the collection rate achieved was 82 percent, or five percentage points higher than estimated in the report, the recycling refund system would receive an additional $5 million in revenues from the sale of recovered materials; however, the amount of unredeemed deposits left to finance the system would fall by nearly $26 million. Furthermore, service fees paid to redemption site operators, collectors, and sorting/baling facilities would increase by approximately $6 million. Overall, the recycling refund system would require an additional $27 million in supplemental financing from beverage producers to offset the system cost increase and reduced revenues from unredeemed beverage containers.

Redemption System Optimization

The redemption system described in the report has been modeled based on conservative assumptions regarding the system, including redemption centers' leased space and equipment cost (a box truck for collecting beverage containers from bars, restaurants, and schools) is fully allocated to them and not shared with other activities at the same location, and beverage containers are transported loose and not in a compacted form for transport between redemption centers and recycling refund sorting and baling sites.

There may be opportunities for the redemption system operators to pair operations with other business activities, reduce labor costs by supplementing manual returns with automated sorting or reverse vending, or make use of compaction technologies for more efficient transportation to baling locations. If system optimization were to reduce the average per container cost of managing beverage containers downward by one cent per container, the cost of operating the recycling refund system would fall by $22 million.

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[17] $12.1 million net in additional compensation to recycling facilities, minus $2.1 million in reduced payments to recycling refund sorting and baling facilities.

Appendix B Redemption Sites Modeled Per County

This appendix provides a discussion of the classification of counties in Minnesota into urban, suburban, and rural. These classifications for this study are based on the Rural-Urban Continuum (RUC) codes developed by the U.S. Department of Agriculture (USDA).

- **Urban.** There are 27 counties classified as urban (RUC codes 1-3) in Minnesota. These counties are home to 76 percent of the state's population. All of the state's 17 cities with more than 50,000 residents lie within these counties.
- **Suburban.** There are 27 counties classified as Suburban, which is defined as counties with an urban population of at least 20,000 or that are located next to populations centers. Suburban counties encompass 16 percent of the state's population.
- **Rural.** The remaining 33 counties have urban populations of less than 20,000 residents or are not adjacent to the state's metro areas. These counties account for 8 percent of the state's population.

Table 15 lists the number of redemption centers modeled for each county in Minnesota based on the criteria identified in Section 3.3.2.

Table 15 Redemption Centers Modeled for Minnesota's Counties

County	Classification	Number of Redemption Centers
Aitkin County	Rural	2
Anoka County	Urban	23
Becker County	Suburban	3
Beltrami County	Rural	4
Benton County	Urban	3
Big Stone County	Rural	1
Blue Earth County	Urban	5
Brown County	Suburban	2
Carlton County	Urban	3
Carver County	Urban	7
Cass County	Rural	2
Chippewa County	Rural	1
Chisago County	Urban	4
Clay County	Urban	4
Clearwater County	Rural	1
Cook County	Rural	1
Cottonwood County	Rural	1
Crow Wing County	Suburban	5
Dakota County	Urban	27
Dodge County	Urban	2
Douglas County	Suburban	3

County	Classification	Number of Redemption Centers
Faribault County	Suburban	1
Fillmore County	Urban	2
Freeborn County	Rural	3
Goodhue County	Suburban	4
Grant County	Rural	1
Hennepin County	Urban	78
Houston County	Urban	2
Hubbard County	Rural	2
Isanti County	Urban	3
Itasca County	Suburban	4
Jackson County	Rural	1
Kanabec County	Suburban	2
Kandiyohi County	Suburban	3
Kittson County	Rural	1
Koochiching County	Suburban	1
Lac qui Parle County	Rural	1
Lake County	Suburban	1
Lake of the Woods County	Rural	1
Le Sueur County	Urban	2
Lincoln County	Rural	1
Lyon County	Rural	2
McLeod County	Rural	1
Mahnomen County	Rural	1
Marshall County	Rural	2
Martin County	Suburban	3
Meeker County	Suburban	2
Mille Lacs County	Urban	2
Morrison County	Suburban	3
Mower County	Suburban	3
Murray County	Rural	1
Nicollet County	Urban	3
Nobles County	Rural	2
Norman County	Rural	1
Olmsted County	Urban	10
Otter Tail County	Suburban	4
Pennington County	Suburban	1

County	Classification	Number of Redemption Centers
Pine County	Suburban	2
Pipestone County	Suburban	1
Polk County	Urban	3
Pope County	Rural	1
Ramsey County	Urban	35
Red Lake County	Rural	1
Redwood County	Rural	2
Renville County	Rural	2
Rice County	Suburban	5
Rock County	Suburban	1
Roseau County	Rural	2
St. Louis County	Urban	9
Scott County	Urban	6
Sherburne County	Urban	2
Sibley County	Urban	14
Stearns County	Urban	11
Steele County	Suburban	3
Stevens County	Rural	1
Swift County	Rural	1
Todd County	Suburban	2
Traverse County	Rural	1
Wabasha County	Urban	2
Wadena County	Rural	1
Waseca County	Suburban	2
Washington County	Urban	17
Watonwan County	Suburban	1
Wilkin County	Suburban	1
Winona County	Suburban	4
Wright County	Urban	9
Yellow Medicine County	Rural	1

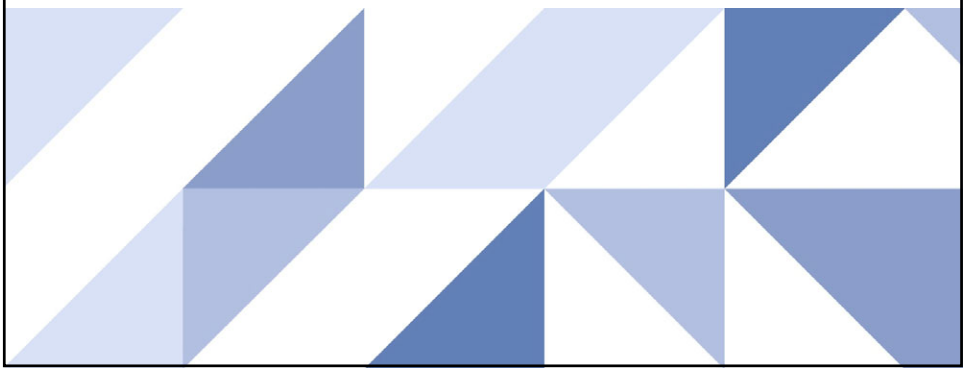
Appendix C: Presentation on the draft cost-benefit analysis

Reclay StewardEdge
Product Stewardship Solutions

Recycling Refund System Cost-Benefit Analysis

Tim Buwalda, Senior Consultant

Public Meeting, Saint Paul, Minnesota – January 14, 2014



Reclay StewardEdge

Description of Recycling Refund System

- Recycling refund/deposit amount of $0.10 will apply to beverage containers up to one gallon to be paid at time of sale
- Beverage containers subject to a deposit includes all alcoholic or a nonalcoholic drink containers intended for human consumption and packaged for sale in a redeemable beverage container including beer and other malt beverages, wine, distilled spirits regardless of dairy-derived content, carbonated and noncarbonated soft drinks, flavored and unflavored bottled water, fruit juice, milk, and tea and coffee drinks regardless of dairy-derived content

Reclay StewardEdge

Description of Recycling Refund System

- A non-profit beverage container recycling organization (BCRO) to manage the program will be created by statute
- The Board of Directors of the BCRO will be appointed by the MPCA Commissioner
- Development of the Beverage Container Recycling Plan

Reclay StewardEdge

Description of Recycling Refund System

- Minimum of one redemption site per county up to 15,000 population and one additional site for each additional 15,000 population
- Unredeemed deposits remain BCRO
- Redemption center handling fees necessary will not be specified by legislation but will be determined by the BCRO

Reclay StewardEdge

Description of Recycling Refund System

- Redemption centers may be operated by retailers (on a voluntary basis), local government, charitable/non-profit organizations, and solid waste facilities
- Centers can be either staffed or a reverse vending machine
- The beverage container recycling organization will own and market all beverage containers returned for refund of the deposit

Reclay StewardEdge

Description of Recycling Refund System

- Unredeemed deposits will be managed by the beverage container recycling organization and be used to offset program costs.
- MPCA will be the primary oversight agency with responsibilities for reviewing and approving the beverage container recycling plan, ensuring compliance, providing technical assistance, conducting program evaluation, reporting to the Legislature, and conducting criminal investigations and enforcement actions related to fraud.

Reclay StewardEdge

Data Sources for Cost Benefit Analysis

- SCORE Report, 2012
- MPCA materials recovery facility reporting, 2012
- 2013 Statewide Waste Characterization Study," Burns & McDonnell, Oct. 2013
- "Beverage Sales Market Data Analysis," Container Recycling Institute, 2010
- "Beverage Containers," MPCA, 2009

Reclay StewardEdge

Existing Beverage Container Generation and Recycling

Container Type	Generation (tons)	Collected in Recycling Programs (tons)	Source Separated Recycling Rate	Separated From Waste (tons)	Total Recycling (tons)	Total Recycling Rate
PET Bottles	41,732	18,532	44%	0	18,532	44%
HDPE Bottles	9,878	4,698	48%	0	4,698	48%
Other Plastic Bottles	2,681	536	20%	0	536	20%
Aluminum Cans	32,087	14,737	46%	2,249	16,986	53%
Steel Cans	63	31	49%	6	37	60%
Glass Bottles	155,072	73,052	47%	0	73,052	47%
Aseptic/Gable-top Cartons	9,317	382	4%	0	382	4%
Foil Pouches	261	0	0%	0	0	0%
TOTAL	**251,090**	**111,967**	**45%**	**2,255**	**114,222**	**45%**

Reclay StewardEdge

Estimates of Beverage Container Generation by Sector

Container Type	Single-family Residential (tons)	Multi-family Residential (tons)	Industrial/ Commercial/ Institutional (tons)	Public Spaces (tons)
PET Bottles	20,782	4,257	15,023	1,669
HDPE Bottles	5,329	1,091	1,729	1,729
Other Plastic Bottles	1,113	228	1,206	134
Aluminum Cans	14,648	3,000	12,995	1,444
Steel Cans	29	6	25	3
Glass Bottles	104,255	21,353	27,991	1,473
Aseptic/Gable-top Cartons	4,408	903	601	3,405
Foil Pouches	43	9	188	21
TOTAL	150,606	30,847	59,758	9,878
Sector portion of generation	60%	12%	24%	4%

Reclay StewardEdge

Estimates of Existing Beverage Container Collection for Recycling

Container Type	Single-family Residential (tons)	Multi-family Residential (tons)	Industrial/ Commercial/ Institutional (tons)	Public Spaces (tons)
PET Bottles	10,190	2,087	5,587	668
HDPE Bottles	3,038	622	346	691
Other Plastic Bottles	357	73	95	10
Aluminum Cans	7,438	1,523	5,198	578
Steel Cans	19	4	7	1
Glass Bottles	52,942	10,844	8,677	589
Aseptic/Gable-top Cartons	181	37	25	140
Foil Pouches	0	0	0	0
TOTAL	74,165	15,190	19,935	2,677
Sector portion of collection	66%	14%	18%	2%

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Materials and Financial Flows

- Assumptions for redemption center operators
  - performed by independent for-profit contractors
  - contractor profit margin included in the financial analysis
- Assumptions for existing materials recovery facilities
  - allowed to separate out beverage containers from mixed recyclables
  - deliver separated containers to the redemption system
  - provided with full refund of the deposit collected
  - not be entitled to payment of handling fees

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Materials and Financial Flows

- The beverage container recycling organization will finance the cost of operating the recycling refund system from:
  - unredeemed deposits
  - the sale of beverage containers processed by the recycling refund system
  - collecting supplemental fees as necessary from beverage distributors

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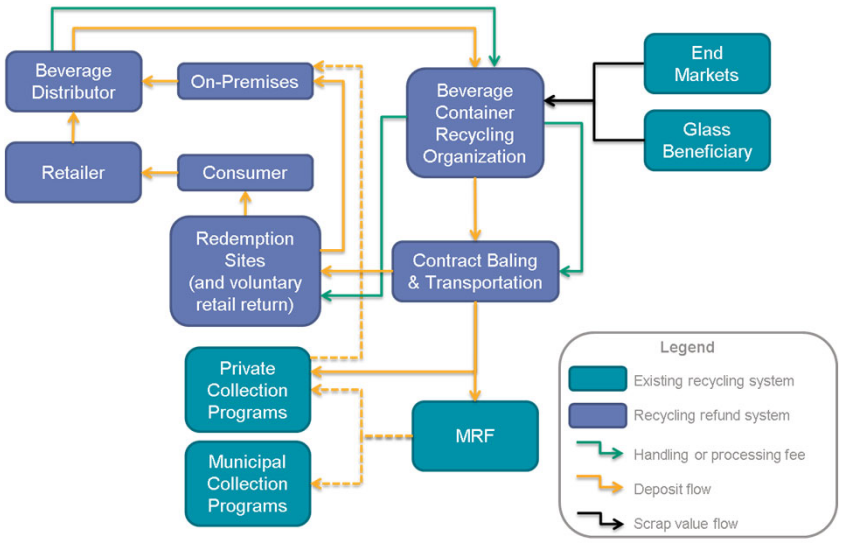
Financial Flows



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Recycling Refund System Quantities

Container Type	Collected by Redemption Centers			Collected by MRFs/Others		Total Marketed by Recycling Refund System		
	tons	million units	redemption rate	tons	million units	tons	million units	refund total
PET Bottles	29,229	913	70%	4,837	151	34,066	1,064	82%
HDPE Bottles	7,144	97	72%	1,096	15	8,240	112	83%
Other Plastic Bottles	349	5	13%	397	5	745	10	28%
Aluminum Cans	26,461	1,817	82%	2,429	167	28,890	1,984	90%
Steel Cans	45	1	72%	0	0	45	1	72%
Glass Bottles	130,043	463	84%	1,731	6	131,774	469	85%
Aseptic/Gable-top Cartons	6,625	279	71%	99	4	6,724	283	72%
Foil Pouches	117	30	45%	0	0	117	30	45%
TOTAL	**200,013**	**3,604**	**77%**	**10,589**	**348**	**210,602**	**3,952**	**84%**

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Recycling by Other Infrastructures and Total Statewide Recycling Rate

Container Type	Received by MRFs/Others			Processed by RDF/WTE Plants		Redemption Center	Total Statewide Recycling – All Infrastructures	
	received tons	redeemed tons	recycled tons	received tons	recycled tons	tons	tons	rate
PET Bottles	5,375	4,837	537	1,540	0	29,229	34,604	83%
HDPE Bottles	1,217	1,096	122	328	0	7,144	8,361	85%
Other Plastic Bottles	466	397	70	403	0	349	815	30%
Aluminum Cans	2,479	2,429	50	680	408	26,461	29,348	91%
Steel Cans	8	0	8	2	2	45	55	87%
Glass Bottles	11,539	1,731	9,808	2,914	0	130,043	141,582	91%
Aseptic/Gable-top Cartons	110	99	11	558	0	6,625	6,735	72%
Foil Pouches	0	0	0	31	0	117	117	45%
TOTAL	**21,195**	**10,589**	**10,606**	**6,455**	**410**	**200,013**	**221,618**	**88%**

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Recycling Refund System Costs

- Data from elsewhere not transferrable
- Cost centers
  - redemption center operations
    - cost profiles developed and extended based on number of sites
  - collection from redemption centers
    - collection model
  - sorting and baling sites
    - processing model and reference comparison
  - Beverage Container Recycling Organization costs
    - reference comparison

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Redemption Site Cost Profiles

- Convenience
  - criteria result in the need for 402 redemption sites, with an average population base of 13,264 people per site
    - urban counties 14,202 people per site
    - suburban counties 12,123 per site
    - rural counties 9,147 people per site
- Accessibility
  - leased space in strip centers and other commercial and/or industrial spaces that meet convenience standards
  - annual lease costs
    - range from $8 per square foot on average in rural areas to $14 on average in urban areas
    - 3,500 square feet per site
    - plus insurance, common area maintenance, and taxes

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Redemption Center Cost Profiles

- Labor
  - Site operations
  - Collection service for schools, bars, restaurants
- Competitively contracted with independent licensees' who will own and operate each site – licensees will earn a profit

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Redemption Center Modeled Annual Financial & Operating Results per Site

	Urban	Suburban	Rural
Redemption Site Metrics			
Number of redemption sites	288	67	47
Average container units returned per site per year (millions)	9.6	8.2	6.2
Redemption Site Costs			
Labor and proprietor's profit	$273,000	$237,000	$126,000
Space lease	$65,000	$51,000	$44,000
General and administration	$27,000	$26,000	$25,000
On-premises collection expenses	$15,000	$13,000	$5,000
Total	$380,000	$327,000	$200,000
Average Cost per Container Returned	$0.0396	$0.0399	$0.0324

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Redemption Center Payments

- Not anticipated to be a fixed per-container handling fee
- Determined by the BCRO
- Various approaches can be considered
  - competitive bids and/or negotiations between the BCRO and prospective redemption site operators;
  - different compensation scales based on economies of scale (based on population served); or
  - different per container fees for different container material types
    - higher fees for glass bottles than for aluminum cans

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Beverage Container Recycling Organization Financial *Pro Forma*

		$ millions
Revenues		
	Beverage Container Deposits Received	469
	Sale of Processed Materials	76
	Subtotal Revenues	545
Expenses		
	Deposits Refunded	395
	Redemption Center Payments	141
	Collection Contractor Payments	17
	Processor Payments	14
	Materials (Pallets, Crates, Sacks)	1
	Administration	4
	Promotion and Education	2
	Subtotal Expenses	574
Net Revenues (Deficit)		**(29)**

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Average Annual Materials Market Revenues

Container Type	Market Value ($/ton)	Marketed Quantity (tons)	Revenues
PET Bottles	685	34,066	$ 23,344,896
HDPE Bottles	448	8,240	$ 3,695,086
Other Plastic Bottles	40	745	$ 29,801
Aluminum Cans	1,576	28,890	$ 45,530,844
Steel Cans	249	45	$ 11,187
Glass Bottles	19	128,855	$ 2,480,460
Aseptic/Gable-top Cartons	93	6,724	$ 626,808
Foil Pouches	-150	117	$ (17,600)
TOTAL		**207,565**	**$ 75,719,082**

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Recycling Refund System Benefits

- Direct and indirect benefits
  - decreased litter
  - energy savings
  - reduced greenhouse gas emissions
  - avoided acidification and eutrophication
  - improvements to human and animal health
  - decreased waste collection and disposal costs
  - Increased recycled material quality and yield
  - net increases in employment, with some economic sectors realizing gains while others experience losses

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Recycling Refund System Costs

- $179 million direct gross cost
- Funded from
  - $76 million per year from revenues received from selling beverage containers to recycling markets
  - $74 million per year from consumers who choose to dispose beverage containers rather than return them or donate them to recyclers
  - $29 million from beverage distributors

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Job Impacts Summary

- Job gains
  - 1,438 recycling refund system
  - 14 glass beneficiaries
  - 4 Minnesota Pollution Control Agency
  - ? Minnesota manufacturing
- Job losses
  - 214 supermarkets
  - 136 residential recycling collection
  - 39 beverage industry
  - 6 waste collection and landfilling
- 1,064 net job gain

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Municipal and Individual Subscriber Impacts

- Materials recovery facility revenues
  - single-family residential recycling collection of beverage containers would fall from 74,165 tons with $15.4 million revenues to an estimated 12,383 tons
  - Materials recovery facilities will separate and deliver 5,241 tons, or 148 million beverage containers, for a deposit refund of $14.8 million
  - The remaining 7,142 tons of beverage containers they receive but don't separate will be sold for a value of $ (0.1) million
  - Net materials recovery facility revenue reduction of $0.6 million, or 3 cents per household per month

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Municipal and Individual Subscriber Impacts

- Less residential recycling collection required
  - $3.50 per household per month current cost estimate
  - 2.5 percent cost reduction from 20 percent volume reduction, 13 percent time savings, 19 percent of billings from payroll costs (multiplied by each other)
  - $1.9 million, or 9 cents per household per month
- Less disposal cost at landfills and waste-to-energy facilities
  - $70 per ton savings, 62,718 less tons disposed
  - $4.4 million, or 21 cents per household per month
- Total municipal savings of 27 cents per household per month

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Retail Impacts

- $29 million Beverage Container Recycling Organization distributor surcharge assumed passed on to retail customers
  - 0.6 cents per container
- Studies present conflicting conclusions on sales impacts
  - this study concluded that evidence of statewide sales reductions is lacking
  - 3.2 percent decline in grocery sales in state border counties
    - 0.5 percent of all Minnesota grocery sales
  - 214 grocery jobs shifted to neighboring states

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Beverage Industry Impacts

- Based on 0.5 percent of retail sales shifts to adjoining states
  - 28 of 5,310 non-alcoholic beverage production and distribution jobs
  - 11 of 2,160 beer distribution jobs

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Litter Reduction

- Beverage container litter reduction of 85 percent
- Total litter reduction of 40 to 50 percent
- Litter cleanup cost savings expected
  - could not be quantified at this time


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Product Stewardship Solutions
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www.reclaystewardedge.com

Appendix D: Public comments on the draft program design

Public comments on the draft program design received through November 4, 2013. The agency sought comments on specific provisions of the draft and how those provisions could be improved to promote ease of implementation and program efficiency, as well as data and research that would contribute to overall program functionality.

- American Forest & Paper Association
- Californians Against Waste
- Carton Council
- City of Minneapolis
- Conservation Minnesota
- Eureka Recycling
- Glass Packaging Institute
- Hospitality Minnesota (Minnesota Restaurant, Lodging, and Resort & Campground Associations)
- International Bottled Water Association
- Kwik Trip, Inc.
- Minneapolis Regional Chamber of Commerce
- Minnesota Agri-Growth Council
- Minnesota Automatic Merchandising Council
- Minnesota Beer Wholesalers Association
- Minnesota Beverage Association
- Minnesota Chamber of Commerce
- Minnesota Grocers Association
- Minnesota Retailers Association
- Minnesota Solid Waste Administrators Association
- National Association for PET Container Resources
- Recycling Association of Minnesota
- Redwood County
- Republic Services of Minnesota
- UPSTREAM
- Verallia North America
- Waste Management
- Western Lake Superior Sanitary District
- Wine Institute

American Forest & Paper Association

November 4, 2013

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Mr. Gjerde,

On behalf of the American Forest & Paper Association (AF&PA)[i] and the Minnesota Forest Industries (MFI)[ii], we are writing to express concerns about the recycling refund program for beverage containers proposed by the Minnesota Pollution Control Agency (MCPA).

We believe that the environmental performance of paper-based beverage containers and our industry's voluntary efforts to increase access and recovery are impressive. Paper-based packaging, including shelf-stable and refrigerated cartons, should not be included as part of the proposed recycling refund program. Thanks to the work of the Carton Council, access to recycle cartons in Minnesota has grown from 3 percent of the state's residents in early 2010 to nearly 60 percent today. The Carton Council continues to work to add carton recycling access to more Minnesota communities this year.

All paper-based liquid packaging should be collected through the community residential recycling program (versus a deposit program) because it helps avoid consumer confusion. Multi-material curbside programs have also proven to achieve high recycling rates at a much lower cost while a recycling refund program as proposed would introduce unnecessary extra costs for consumers, business and local authorities. Additionally, including these containers in curbside helps minimize the carbon footprint, so all the material is collected weekly by trucks rather than consumers making individual trips in cars to redeem containers.

Paper-based packaging is a commodity that is highly recycled, recyclable, compostable and renewable. More than 60 percent of paper consumed in the U.S. has been recovered for recycling each year since 2009 – and exceeded 65 percent in 2012. Given this environmental record, we believe that including paper-based beverage containers as part of the bottle bill is unnecessary and could interfere with the tremendous progress that our voluntary efforts have yielded by disrupting markets for

recycling paper-based containers and would damage the viability of existing proven and optimized collection and recycling systems.

For the reasons stated above, AF&PA and MFI respectfully oppose the recycling refund program for beverage containers proposed by the MPCA in its current form. We encourage you to avoid measures that penalize commodities that are recovered at a high percentage and, as always, we stand ready to assist you and offer our expertise as a resource as you continue the dialogue on this important issue. If you have questions, please contact AF&PA's legislative advocate, Lloyd Grooms, at (612) 386-6327or lgrooms@winthropandweinstine.com.

Sincerely,

Cathy Foley
Group Vice President
American Forest & Paper Association

Wayne Brandt
Executive Vice President
Minnesota Forest Industries

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[i]AF&PA serves to advance a sustainable U.S. pulp, paper, packaging, and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative - *Better Practices, Better Planet 2020*. The forest products industry accounts for approximately 4.5 percent of the total U.S. manufacturing GDP, manufactures approximately $200 billion in products annually, and employs nearly 900,000 men and women. The industry meets a payroll of approximately $50 billion annually and is among the top 10 manufacturing sector employers in 47 states. In Minnesota, the industry employs more than 25,000 individuals and has over 115 paper manufacturing facilities. Visit AF&PA online at www.afandpa.org or follow us on Twitter @ForestandPaper.

[ii]MFI is an association representing the state's forest products companies. MFI members encourage conservation, proper forest management and industry development that foster sound environmental stewardship, multiple use of timber lands and sustainable, long-term timber supply.

Californians Against Waste
Conserving Resources. Preventing Pollution. Protecting the Environment.

November 4, 2013

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Re: MPCA Container Deposit Draft Recommendation - Support

Dear Mr. Gjerde,

We want express our support for the thoughtful, 'out of the box' thinking that went into the beverage container recycling incentive system proposed by Minnesota Pollution Control Agency (MPCA).

While even critics acknowledge that financial incentives drive beverage container recycling levels 2-4 times higher than the best curbside recycling programs, there is a misperception that incentive schemes have a negative financial impact on curbside programs.

We believe that a recycling incentive and funding system along the lines of that proposed by MPCA can result in:

- Higher recycling rates (75%-85%) compared to just 50% in comparable 'curbside-only' communities;
- Higher quality/value recyclables.
- Lower costs per ton for both curbside and other collection programs;
- Higher net revenue per household ($8-$12/per curbside household).

Californians Against Waste is non-profit organization that has analyzed and help implement recycling funding and incentive systems for more than 35 years. Our experience with the California Beverage Container Recycling program has demonstrated that when incentives are market-based and fairly structured, curbside and other collection programs can see both lower processing costs and higher revenues.

Today in California, better than 80% of beverage containers are returned for recycling. And while California curbside programs handle only about one-third of beverage container volume per household as comparable communities without a Bottle Bill, California curbside programs typically realize more revenue per household for beverage containers compared to other communities.

In addition, the California beverage container program provides essential funding to curbside and is strongly supported by both local governments and program operators (including Waste

Management & Republic). In 2012, California curbside programs realized more than $150 million in revenue from beverage container recycling—or about $12 per curbside household. The key is that incentives follow the container through whatever recycling stream the consumer choses to utilize.

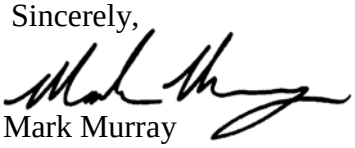
Contrary to public (and curbside operator) perception, nearly half (about 46%) of empty beverage containers generated away from home and generally not available for recycling at curbside. And even without state-mandated recycling incentives, many consumers choose to directly recycle (or donate) their empty aluminum cans for scrap value rather than leave at curbside. For example, in Seattle, which has comprehensive curbside recycling less than 20% of empty aluminum cans are recycled at curbside.

While the environmental benefits of bottle bill programs are well established, we can't stress enough the economic benefit of Bottle Bill programs. California's Bottle Bill program has helped created thousands of jobs, with over 200 processors, 2,400 buyback centers, 231 collection and drop off sites, and over 1,400 supermarket recycling centers. This infrastructure creates convenient recycling opportunities for consumers and clean sorted commodities for processors and manufacturers.

Furthermore, we are very supportive of the comprehensive scope of beverage containers proposed under the draft Bottle Bill program. This will help maximize litter reduction, recycling, greenhouse gas reduction, and economic benefits. In addition, the comprehensive scope will help prevent consumer confusion on what's in and what's out of the program.

Thank you for the opportunity to comment on the proposed Bottle Bill Program. Please feel free to contact me if you have any questions. I can be reached at murray@cawrecycles.org, or you can reach Teresa Bui, Policy Analyst at teresabui@cawrecycles.org.

Sincerely,



Mark Murray
Executive Director

Carton Council

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

November 4, 2013

RE: Draft program design for a recycling refund program for beverage containers in Minnesota - Carton Council recommendations

Dear Mr. Gjerde,

On behalf of the Carton Council, we are writing to express concerns about the recycling refund program for beverage containers proposed by the Minnesota Pollution Control Agency (MCPA).

The Carton Council shares your goals of increasing recycling of beverage containers. We believe that the environmental performance of beverage cartons (both shelf-stable and refrigerated cartons) and our industry sector's voluntary efforts to increase access to carton recycling warrant a more cost-effective approach using existing proven and optimised systems of collection and recycling.

Thanks to the Carton Council's efforts in recent years, more than 57% of Minnesota households have access to recycling programs that accept cartons. Since 2010 access to carton recycling in Minnesota has increased from 3% to 57% as of October, 2013. Carton recycling is now available in all major cities , except for Rochester and Duluth – both of which are being lined up for access within the next 24 months. Nearly 100% of the five counties that are part of the Twin Cities (Minneapolis and St. Paul) metro area now have access to carton recycling. The Carton Council continues to work to add carton recycling access to more Minnesota communities this year. Access is projected to grow to 60% by year end (2013), 65% by the end of 2014 and 72% by the end of 2015. Access growth has resulted from Carton Council partnerships with communities, haulers and recycling facilities across the state and has included over $650,000 in equipment grants into recycling facilities during the last 3 years. The Carton Council is considering potential additional equipment grants over the next two years.

The Carton Council has already partnered with state and local recycling and governmental associations to communicate and message about the availability of carton recycling. These investments – targeted at building recovery volume now that access has been established – are expected to continue in 2014 and beyond, leveraging additional public and private sector partnerships, traditional as well as social media, directed towards consumer engagement around the benefits of carton recycling, how, where, etc.

This legislation could undermine the Carton Council's voluntary efforts to increase access to carton recycling. Besides, beverage cartons are amongst the most sustainable packaging solutions commercially available on the market. Made mainly of renewable materials, sourced from well-managed forests, they have an excellent product-to-package ratio, averaging 94 percent product and 6 percent package. Cartons are also transportation-efficient, allowing more products to be shipped in fewer trucks which minimize impact to climate change.

Beverage cartons are also used to protect and deliver safely to the market products such as milk and juices which are basic food commodities and which should remain accessible for all parts of society.

Given this environmental record, beverage cartons should not be included as part of the proposed recycling refund program and should rather be collected through the community residential recycling program. Multi-material curbside programs have proven to achieve high recycling rates at a much lower cost.

The Carton Council would be happy to pursue the dialogue on this important issue. If you have questions, please contact Carton Council Government Affairs staff, Elisabeth Comere at (224) 587 0819 or Elisabeth.comere@tetrapak.com

Yours sincerely,

Elisabeth Comere
VP Government Affairs, Carton Council

Department of Public Works
Division of Solid Waste & Recycling
309 Second Avenue South - Room 210
Minneapolis MN 55401-2281

Office (612) 673-2917
Fax 673-2250
TTY 673-2157

City of Minneapolis

November 4th, 2013

To Whom it May Concern:

Minneapolis Solid Waste & Recycling would like to submit the following comments for consideration on the Minnesota Draft Recycling Refund Program Design that was presented at the Minnesota Pollution Control Agency's office in St. Paul on September 30th, 2013.

Minneapolis Solid Waste & Recycling provides organized garbage, recycling, yard waste, and large/bulky item collection services for approximately 60% of Minneapolis residential dwellings. The impact of a container refund program on our residential solid waste and recycling services is unknown and therefore the City is neither for nor against the implementation of a container refund program. However, if one is enacted, it should be effectively developed, monitored, and managed.

Scope of beverage containers with deposit:

If reverse vending machines will be utilized in redeeming container deposit funds, please note that most reverse vending machines are not built to accept containers of one gallon capacity. This could be a deterrent from redeeming one gallon in size containers.

Beverage container recycling organization:

The Beverage Container Recycling Plan should be approved by the MPCA and industry stakeholders.

In addition to selecting and approving of redemption centers to ensure their capability to meet convenience requirements, the beverage container recycling organization should be responsible for auditing redemption centers processes every XX years to ensure that XX% of containers being redeemed are eligible for redemption in Minnesota. Auditing redemption centers ensure continued compliance with redemption center eligibility requirements as well as deterring fraudulent container redemption.

Governance structure of beverage container recycling organization:

The MPCA should consider including other stakeholders such as end user industries, the general public, and retailers as candidates for the Board of Directors of the beverage container recycling organization.

Unredeemed Deposits:

State oversight or direction is needed to ensure the unredeemed deposits are used in an effective manner and that they are non-siphonable from recycling or cleanup related programs. A portion of unredeemed deposits should go back to municipalities to help offset revenue lost from curbside recycling programs.

Handling Fees:

The handling fees deemed necessary to support the operation of redemption centers by the beverage container recycling organization should be evaluated by the beverage container recycling organization every __ years and verified/approved by the MPCA.

Distribution/convenience of redemption centers:

Minneapolis Solid Waste & Recycling agree that additional research is needed to determine habits and distances the average Minnesotan would consider driving to redeem deposits from containers. One redemption center per every 5,000 residents could be sufficient for the Metro Area but likely is insufficient for residents in Greater Minnesota.

Selection and approval of redemption centers:

The State should determine needed requirements (rules/guidelines) for redemption centers to abide by. The beverage container recycling organization would be responsible to continue to monitor redemption centers to make sure they are meeting or exceeding requirements.

Ownership of redeemed containers:

Ownership of redeemed containers should be determined before a beverage container refund program is finalized. The MPCA should consider creating a task force of stakeholders to determine who maintains ownership of containers.

Performance goal:

The MPCA should set performance goals for the first several years the container refund is in place and potential penalties for the beverage container recycling organization if they fail to meet the goals.

Impact on county recycling rates:

The system should be created to credit all municipalities for the containers redeemed by their residents. Cities need to meet their goals set by Counties to get their SCORE funding. If the municipalities do not get any credit for the containers their residents redeem, the likelihood of meeting the recycling goals is significantly decreased. If municipalities do not meet their recycling goals, they not only lose the funding from the beverage containers, but they also may lose their SCORE funding. Loss of both curbside recycling funding sources could devastate curbside recycling programs in both urban and rural Minnesota.

Lastly, a detailed cost-benefit analysis and an environmental impact assessment should be completed to view the impacts to all stakeholders, consumers and the environment if a beverage container refund system is established. What overall environmental and economic impact would result from establishing a beverage container recycling program to increase beverage container recycling from the 2012, 50.39% beverage container recycling rate, to the mandated 80% recycling rate? Does the 30% increase in beverage container redemption outweigh any adverse environmental impacts that could result from the implementation and maintenance to a beverage container recycling refund program?

We appreciate the ability to submit these comments in writing. Please feel free to contact me for any clarification or with any questions.

Sincerely,

David Herberholz, Director
Division of Solid Waste & Recycling
City of Minneapolis

CONSERVATION MINNESOTA

November 4, 2013

Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

Mr. Gjerde,

Conservation Minnesota is a state wide nonprofit organization with a network of over 40,000 people. Our mission is to find constructive solutions to conservation problems that affect Minnesotans and the lakes, lands, and way of life that make our state such an outstanding place to live. Waste reduction is a broadly held concern by our state's citizens. Literally millions of Minnesotans recycle each week and are eager to support state and community goals in this area.

We applaud the MPCA's efforts to help Minnesota reach the Minnesota Climate Change Advisory Group's (MCCAG) recommendations to reduce statewide greenhouse gas emissions 15% below 2005 levels by 2015 and at least 30% below 2005 levels by 2025. We are especially supportive of MCCAG's Action Plan's call for increased source reduction and recycling through efforts including increased beverage container recycling. And to redesign Minnesota's solid waste system to achieve the MCCAG goal of 87 million tons of GHG reductions by 2025 as outlined in the MPCA's Solid Waste Policy Report.

The goal of an 80% recycling rate for beverage containers is an objective within that Solid Waste Policy Report and was reaffirmed by the Integrated Solid Waste Management Stakeholder Panel of diverse stakeholders representing industry, state and local governments, environmental organizations, and others.

A 2013 report from the Container Recycling Institute on U.S. container recycling rates and trends shows there are significant GHG reductions from recycling beverage containers. Between 2000 and 2010, making replacement aluminum cans from raw materials emitted 67 million more metric tons of carbon dioxide equivalent (MTCO2E) nationwide than would have been produced by using recycled material. Plastic container replacement emitted an additional 30 million MTCO2E, and glass container replacement accounted about 19 million MTCO2E.

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CONSERVATION MINNESOTA

Current System

In our view, the 80% goal is both good and achievable. However, it will take a significant effort to reach that goal. As data presented by the MPCA at the October 2012 Beverage Container Recycling Forum shows, the beverage container recycling rate in Minnesota is 27% and has decreased since 2008. This is occurring even though we have solid waste residential recycling programs in most of the state that have made improvements such as adding cartons to the materials collected, expanded offering of single stream recycling, and increasing the types of plastics collected.

Meanwhile, demand from Minnesota manufacturers for more recycled content to use in their new products is increasing. But each year in Minnesota, millions of dollars of commodity value are tossed into the trash.

If enhancements to residential curbside collection programs and the economic drivers of supply and demand cannot increase beverage container recycling rates, tweaks to the current system will not be sufficient to reach the 80% goal. For instance, some have suggested that switching all residents to single-stream recycling will greatly increase the amount of recyclables collected. While cities that switch do see an initial increase, the amount of material collected diminishes over time. Brooklyn Park was the first to adopt single-stream in 2002 and saw an approximately 20% increase in material collected in the first year. However, by 2012 recycling volume dropped below the amount collected before the switch.

While Minnesota's beverage container recycling rate is at 27% and going down, the recycling rate in states with a container deposit program is more than double our rate – anywhere from 67% to 97%, and remains consistent over time. In fact, 46% of all beverage containers recycled nationwide come from those states with container deposit programs. Michigan leads the way with a ten cent deposit on soft drinks, beer, carbonated & mineral water, wine coolers, and canned cocktails and has a recycling rate of 97%. Another clear indicator of the success of the Michigan program is the fact that recycling rates for containers not included in the program, like bottled water, are much lower.

While a container deposit system is the best solution to meeting the state's 80% recycling goal, there are some modifications needed to the draft plan the Agency presented last month.

Financial Impacts on the Current System

Since the container deposit system would overlay the existing recycling infrastructure, it's important to ensure that these changes would not harm current programs. Local units of government and private sector haulers and processors have made significant

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investments of infrastructure and labor to create one of the most effective recycling programs in the country. That's why it's important that the report give greater specificity to the distribution of money from unredeemed deposits. Specifically, we want to ensure that there is no net loss of funding for local recycling programs.

In states with container deposits, a certain amount of containers are collected through traditional recycling programs managed by local governments. We expect that to occur in Minnesota. In the proposed framework, those containers could be remitted for their redemption value or, if not whole, sold for their commodity value. The ability for local governments to redeem the deposit value for whole beverage containers, rather than the commodity value, will provide them with significant additional revenue.

Because of decreased collection of material, especially glass, government programs are likely to see cost savings from decreased collection and processing costs. For instance collection trucks would need to make fewer trips from where they are collecting material to a materials recovery facility (MRF) resulting in fuel and labor cost reductions. Additionally with glass, which is the densest material collected, removed from the collection stream, trucks will need less fuel to carry their loads.

It costs more to process containers that it does for paper. That's due in part to the extra equipment necessary to separate the multiple container streams – drum magnets to extract ferrous metal, eddy currents to extract aluminum, fans and optical sorters to extract different types of plastic and more optical sorters to process glass into different color grades. Glass is typically the last material extracted from the recyclables, despite the fact that mixed broken glass causes wear and tear on processing machinery. Thus, fewer containers in the recycling collected curbside will result in lower overall processing costs.

Typically paper is the first material extracted at the MRF. Research by the MPCA and others show that paper bale quality has decreased since the addition of single-stream recycling. Non-paper products such as beverage containers end up in paper bales sold to manufacturers. A 2009 report from the Container Recycling Institute shows a contamination rate on average nation-wide of 15% - 18% for paper bales. The MPCA report details the impact of this increasing contamination is having on Minnesota manufacturers. They must buy extra recyclables to make up for the bale loss and must incur additional transport costs for that material while also paying more to dispose of non-target material. They are also seeing an increase in operations and maintenance costs. For instance, mixed broken glass included in other recycling bales causes additional wear and tear on machinery that was not designed to deal with glass.

The CRI report also shows that the contamination rate for paper bales is at the lower end of the scale in states with container deposits, which remove most of the glass and much

CONSERVATION MINNESOTA

of the plastic from the curbside stream. Thus, fewer containers in the curbside collected recycling will result in lower costs for manufacturers.

Manufacturers report that bottles and cans collected through container deposit systems are also cleaner. A study by King County, Washington in 2006 found that the bales of PET bottles created by four different area MRFs were only about 84% PET bottles. PET bales collected through a container deposit system have less contamination. Again, having fewer containers collected curbside will lead to cost savings for Minnesota manufacturers. Cleaner bales of recyclables could be sold for higher prices leading to increased revenue for local government and processors.

At this time it's not possible to determine what the total financial impact will be on existing collection programs. However, we recommend that the MPCA's financial analysis include all the factors spelled out in these comments. We further recommend the formula used to determine the distribution of unredeemed deposits will also include these factors in order to ensure that local units of government see no net loss in support for their recycling programs.

Revenue Opportunities

Cities and counties with drop-off facilities could use those facilities as redemption centers and generate additional revenue through handling fees and the sale of the material. It is our understanding that the Agency will clarify the report and specify that redemption centers will be able to own the recyclable materials and sell those commodities. We endorse that clarification.

Cities, counties, and school districts with athletic facilities could also realize revenue from redeeming beverage containers. More than a third of all beverages are consumed away from home. Many sports drinks are consumed at athletic facilities and facility users may be unlikely to take their empty containers with them. Instead they may be willing to place them in recycling containers especially if they know the money from the deposits would support the facility. This could incentivize these public entities that don't currently have them to add recycling collection programs.

Similarly athletic associations and booster clubs that operate concession stands at these athletic facilities may establish recycling collection to capture these containers in order to redeem them and generate additional revenue for their programs. They may also hold bottle drives (as is done in states with container deposit) to further fund their programs. All this increased container recycling results in additional jobs and their association economic impact. A study by the National Association of PET Container Resources (NAPCOR) shows that each 1000 tons of recyclable material collected results in 22 jobs

1101 West River Parkway, Suite 250 • Minneapolis, MN 55415 • phone: 612 767 2444 • fax: 612 677 3278

created. Those jobs range from collection and processing, to transportation and manufacturing.

Cities and counties will also realize cost savings for non-recycling programs. Cities and counties will see a decrease in litter. A 2009 study from the Container Recycling Institute shows that in states with container deposit systems, beverage container litter decreased 69% - 83% and overall litter was reduced by 30%-56%. In addition to the aesthetic improvements of decreased litter there are savings through cost avoidance. Savings come not only from decreased cost of collecting litter, but also from avoiding degradation of natural resources from litter contamination. For example there would be fewer plastic bottles in lakes, ponds, streams, rivers, and wetlands. Degraded plastics have negative impacts on water quality and aquatic life.

Additionally local units of government are facing increasing requirements for storm water management. Decreasing beverage container litter can ease the burden on local government by decreasing the amount of material that inadvertently ends up in the storm water system.

With more beverage containers being processed through the deposit system, there will be lower volumes in the garbage system. That can allow consumers to downsize garbage containers and realize cost savings. It will also result in cost savings for local units of government that contract for garbage service either for residents or for their own operations.

This can also decrease costs for processing garbage. For example lower garbage volume can lead to operational efficiencies at incineration facilities. While these facilities would lose BTU value from having fewer plastics to burn they would realize two gains. First, less aluminum which does not add BTU value and second, and most important, less glass which has negative BTU value and creates slag that is costly to remove from the incineration equipment.

All of these improvements will result in a more fair waste management system because responsibilities associated with managing beverage containers would be shifted from taxpayers to brand owners.

Additional Recommendations

All these benefits are premised on the beverage containers collected being recycled. We are pleased that the MPCA will include pouches in the definition of beverage containers. However, currently there is no collection, processing or re-manufacturing system for these multi-layered plastic pouches. We believe a successful container deposit system

CONSERVATION MINNESOTA

should not incentivize use of non-recyclable containers. We urge the MPCA to explore how to incentivize the use of widely recyclable material in beverage containers.

We endorse the 10 cent deposit amount, as did our members. We surveyed more than 1000 Minnesotans and more than two thirds chose a 10 cent deposit over a 5 cent deposit.

We endorse the convenience metric as proposed in the draft program design. Clearly, customer convenience will be a primary factor in creating a successful program that engages people throughout the state in recycling and waste reduction. We encourage the Agency, in its plan review, to monitor the geographic distribution of redemption centers in order to prevent potential redlining.

We recommend clarification dealing with state oversight. We believe that when the MPCA conducts program evaluation that it should seek input from stakeholders and the public.

Our final recommendation is to expand the composition of the Board of Directors of the beverage container recycling organization. We believe consumers can provide a unique and valuable perspective. Thus, we recommend including the public as a group to be represented on the Board.

Thank you for considering these comments in future program design and in conducting the agencies cost benefit analysis. A Recycling Refund program has tremendous potential to provide many benefits for Minnesotans, our communities, and our environment. We applaud the MPCA's efforts to make progress on this complex but important issue.

Respectfully submitted,

Paul Austin
Executive Director

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Thank you for the opportunity to comment on the Minnesota Draft Program Design for a Recycling Refund Program. Eureka Recycling supports a bottle bill in Minnesota if it is an effective tool to significantly increase the recovery of bottles throughout the state and incentivizes reduction of single use containers and increase use of refillables – truly moving us toward a zero waste Minnesota. Minnesota's bottle bill can move beyond just recovery rates and become a national model for local, green economic development. We offer the following recommendations to help make this happen.

The research we have read clearly demonstrates that refunds can be very effective in increasing the amount of containers that are captured for recycling but to date we have not seen any information regarding refunds that help to reduce the use of, often non-renewable, resources for packaging of single use beverage containers. Likewise we have seen no commitment to dedicate the unused funds towards reward and incentives to producers who use refillable containers for their products or any mechanism to ensure a healthy, green local economic benefit.

These three aims; reducing single-use packaging, rewarding refillables and focusing on improving our local, green economy result in cost-effectiveness and environmental benefit, and are the missing pieces in the refund programs we have seen and can be resolved in this draft program design.

Here are our comments on the program design:

Recycling Refund/Deposit Amount
We support the stated goal of 80% but this should be for each packaging material type not an aggregate that allows hard to recycle containers to ride on the backs of more recyclable materials. We support the 10 cent deposit as it has proven effective in meeting and exceeding that recovery in Michigan. We also recommend that the plan is required to have recovery goals for each packaging type and that if those goals are not met the deposit for that packaging type increases on a biennial basis.

Specified Exclusions
We support including milk and dairy products. This language seems unclear; we assume that a "redeemable beverage container" is any container of a beverage not listed in the exclusions?

Beverage Container Recycling Organization
Ideally the Beverage Container Recycling Organization should not include any members with a financial interest in the program. As the ideal rarely happens in these decisions, if the BCRO includes those with a financial interest it should include an equal number or greater of those who do not have a financial interest including especially those with an environmental interest. It should also include the local and not the national representation of stakeholders as they often have vastly different positions with the local having interests in Minnesota's economy. It should also include representatives of the current recycling collection and processing infrastructure who have a clear financial interest as well as local government.

The BCRO should be required to provide a public comment period in the development of the Plan and show how they have incorporated or why they have dismissed those concerns. The BCRO members with no financial stake in the issue should rotate every four years and others if allowed, should rotate every two years.

Redeemed Deposits

For over 30 years, local Minnesota businesses and governments have invested significantly in our current recycling system. While deposit legislation will clearly get us to the next level, the impact of increased recovery and new collection systems will radically change the landscape and economics of our current work. The following will help keep current constituents whole:

The redemption value and handling fee should be paid to recyclers for qualified redeemable bottles collected under their system. This will help offset the loss in revenue from material lost to the redemption program – approximately $20 million a year. Without this, this loss will be passed on to the local governments and/or negatively impact local infrastructure especially local green businesses that cannot absorb these losses over a nation infrastructure.

Distribution/Convenience of Redemption Centers

The minimums outlined will not provide for the returning of a bottle to be as convenient as the purchasing of it so we recommend re-addressing these requirements.

Selection and Approval of Redemption Centers

How are centers "approved and selected" in a fair and comprehensive way, especially if the governing members of the BCRO have a financial concern in the operations? The State should set the standard and it should be a part of the plan. The BCRO administers to that standard which includes requirements, reporting, etc. It is imperative to allow for realistic handling fees. The average handling fee across all bottle bill programs is $.02-$.035/bottle. $.01 is the lowest. $.01/bottle will only cover the costs of high volume grocers. A higher handling fee will support small, independent stores and create more opportunity for local economic development around collection (i.e. less out sourcing). Bottlers and distributors pay a higher handling fee into the system.

Ownership of Redeemed Containers

Currently, collectors are the owners as outlined above and processors are the owners once the collectors have delivered the material. Assuming processors would be redemption centers - then they are the owners of the containers. If this ownership system changes, there would be significant financial impacts to those local businesses, collectors and processors, local government and to the resident. It is likely that these programs will already suffer a decline in containers at the curb, currently these financial impacts are not being addressed in this program design.

Utilization of Unredeemed Deposits (UD)

We whole-heartedly agree that UD should not go into the general fund – already significant funding that was created to address the problems associated with waste have been diverted to the general fund. We also strongly believe that none of the UD should be used for the BCRO management costs. The UD should be used first and foremost to decrease the number of single use containers, to increase the use of refillable containers, to ensure that the containers are actually recycled and to educate and promote recycling of containers. The UD should not be used for market development of beverage containers that are comprised of hard to recycle materials as this is a subsidy for hard to recycle materials and the onus should be placed on the producer to improve their packaging performance by shifting to better performing materials or better yet – refillables. UD funds could be used to help local businesses shift to refillables.

The statewide impact is estimated at $17-18 million of the total revenue in UD funds is an estimated $85 million a year. These funds should be used to control how materials are processed and where they are sent to ensure that they are actually recycled. Create minimum definition for what is an acceptable recycling end market. Require reporting and independent verification of the ultimate use for materials redeemed (i.e. end markets and what the material was made into). British Columbia may be a place to look at effective reporting requirements regarding where the material goes.

The UD funds should be used to create incentives to send material to end markets that provide highest and best environmental and local use. A hierarchy of environmental benefits (i.e. reuse, bottle to bottle, then secondary uses) should be created and rewards/incentives should be provided to higher and better uses. (Refillables would be foremost.) Local or regional markets should be favored. The increased material collected can provide valuable feedstock to Minnesota companies using recycled feedstock, growing green jobs and the local economy. One way to accomplish this would be a revolving loan fund for recycling market development to locally owned and operated businesses – not to support market development for unrecyclable materials that should require packaging design changes.

Components of the Beverage Container Recycling Plan

The plan should include:

Renewal every two years with public comment period

Clear and specific reporting requirements of the BCRO

Clear and specific requirements to be a redemption center with a description of how handling fees will be set

Delineate how unredeemed funds will be spent. Including details of the education plan for two years

Dispute recording and reconciliation with neutral party mediation and settlement

September 30, 2013

Comments on the Minnesota Draft Recycling Refund Program Design

On behalf of the Glass Packaging Institute (GPI), I am pleased to provide the following comments on the Draft Recycling Refund Program Design (referred to in our comments as the "program"). GPI is the North American trade association for the glass container manufacturers, glass recyclers, and suppliers of materials, equipment and transport to the industry. GPI members operate 48 glass container manufacturing plants in the country, as well as two glass recycling and processing plants St. Paul, along with a recycling depot facility in Owatonna.

Background:

It is important to understand that GPI member companies recognize the importance of supporting sustainability initiatives including conserving energy, saving raw materials, reducing air emissions (including NOx, SOx, PM and greenhouse gases such as CO_2) and being fully committed to "Reduce / Reuse" in all aspects of plant operations e.g. water, cardboard, lubricants, electricity, etc.

When glass plants can increase the levels of recycled glass as part of the overall batch mix, they can reduce furnace temperatures, resulting in reduced energy use and lower greenhouse gas emissions. This is also true of other packaging and manufacturing industries. For glass container manufacturing, one ton of carbon dioxide is reduced for every six tons of recycled container glass used in the manufacturing process. Energy use at the glass container plants also drop about 2-3% for every 10% recycled glass used in the manufacturing process.

Based on the forgoing, it should come as no surprise that GPI member companies are strongly impacted by the outputs of the municipal solid waste and recycling streams. A top priority for GPI is to divert and recycle glass containers currently in the Municipal Solid Waste (MSW) stream, and to ensure that as many containers as possible are re-melted in the production of new glass containers.

GPI has established a 50% recycled content goal for the manufacture of new glass containers. Success in achieving that goal is largely dependent on the strength of the recovery systems that generate recycled materials purchased by our industry. GPI estimates that more than 65% of recycled glass comes from the 10 states with beverage container recycling refund programs. There are important reasons why the rates are high from those 10 states:

1. The deposit provides a strong personal incentive to return the container to be recycled. It is this critical piece that the Minnesota recycling systems do not currently incorporate, which results in lower participation in what is widely recognized as a state-of-the-art single stream recycling system.

2. Once returned, the containers are kept separate from other recyclables eliminating the cross contamination. This results in several highly valued commodity streams providing the best opportunity for those commodities to be sold for maximum value and return in the form of a manufactured product.

Accordingly, GPI members are vigorously engaged at the local, state and federal levels to improve collection systems, improve the usability of quality of recyclables for manufacturers and better link collection systems with end markets.

It is important to understand the fate of glass beverage containers when they are collected in a single stream manner. Largely as a result of the collection process, glass beverage containers are unable to be sorted and cleaned sufficiently for reuse in a manufacturing process. As such, the majority of glass collected via single stream ends up as cover for landfills, or is utilized in one-time lower value applications, including roadbed aggregate. Recycling refund programs that focus on beverage containers keep the glass separate from other collected materials, and well over 90% of the containers collected in this manner are eventually purchased for reuse in the manufacturing process.

Also, unlike beverage container recycling refund programs, curbside programs alone do not have a demonstrated ability to reduce litter from public areas. However, single stream curbside, beverage container recycling refund programs, along with drop-off programs can collect a broader spectrum of materials, and therefore work cooperatively with each other to achieve a greater overall improvement in recycling. A properly designed beverage container recycling refund program could add millions of dollars to these other recycling systems to aid in their recovery. Additionally, the wear and tear on capital-intensive sorting and processing machines at recycling recovery facilities can be greatly reduced if a portion of covered beverage containers is removed from the process.

The creation of a beverage container recycling refund program in Minnesota has enormous potential to increase the beverage container recycling recovery rate within Minnesota, assisting in important reductions in energy use and emissions levels for in-state and nearby manufacturers. Further, adoption of such a program means that about 3 billion containers worth more than $50 million dollars of aluminum, PET and glass beverage containers that currently end up in Minnesota's landfills, as highway or as waterway litter each year will be recovered, and sold in the commodities markets.

Comments on the Draft Program Design:

The program places the refundable deposit on covered beverage containers at 10 cents. Currently, the only state in the country with a 10-cent deposit is Michigan, a state that also leads the nation in beverage container recovery for covered containers, capturing well over 90%. We believe the 10-cent refundable deposit will act as a very strong incentive and propel the success of the program, while achieving the highest possible recovery rates.

All of the recovered glass beverage containers have a ready market for re-use in the manufacturing process. Recovered glass within the program would greatly increase the local use of recycled glass, while at the same time, contributing to in-state recycling and processing value. In addition, the glass beverage containers recycled in deposit

systems often travel to other states for eventual re-use in the glass container manufacturing industry. The current market is such that there is an enormous demand in the mid-west for clean recycled commodities – aluminum, PET and glass. Consequently the material commodity tonnages that Minnesota would contribute as a result of implementing a deposit system and the accompanying high quality of that material into the recycling industry could only help this demand.

The scope of the program, to include numerous types of beverages and containers is also a section of the program that GPI and its member companies support. No particular package, or competing beverage, should be excluded from the enormous recovery potential and subsequent program inclusion.

The proposed Beverage Container Recycling Organization (BCRO), tasked with overseeing the program, is an important component of the program's future solvency and success. In addition to the proposed governance structure of the BCRO, glass recycling operations, suppliers of equipment for the program, ENGOs and importantly, the end-use markets, including glass container manufacturing and similar operations should be provided ample opportunity to provide input on program design. These companies and organizations have vast experience with existing beverage container recycling refund programs around the country, and can bring their leadership and expertise to the table, should a Minnesota program be established by the legislature.

The BCRO, as designed, would be tasked with establishing requirements for redemption centers, retail outlet returns, distribution of program funds and organization of redemption centers, among other critical responsibilities. It is important to GPI that the return of covered containers be convenient for the consumer, as this will enhance the success of the program. Handling fees are a crucial part of any beverage container program, and should be an amount that will enable redemption center owners to successfully run their programs.

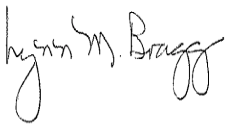
Disposition and use of program funds should also be carefully considered. Most of the funds in states with existing beverage container recycling refund programs are drawn from the unredeemed deposits, accumulated when consumers chose not to return their containers or recycle them in another manner. Program funding, as currently outlined in the draft, should remain in the BCRO, and used in a manner that supports all program components. It should not be directed for use in the state's General Fund or for other unrelated purposes, regardless of balance or surplus in any given fiscal year. That being noted, with an anticipated higher recovery rate, in contrast to similar programs with 5-cent deposits, less money should be expected for program expenditures.

The performance goal of 80% recovery is not only reasonable, it is clearly achievable as the average recovery of beverage container recycling refund programs around the country is above this. As we mention earlier in our comments, with a deposit of 10 cents, this rate is likely to be over 90% as Michigan has consistently experienced, making it among the most successful recycling programs of any kind in the country. This being noted, we strongly encourage the final program to set a date specific timeline to achieve the stated 80% recovery goal.

GPI would like to thank the Minnesota Pollution Control Agency and the legislature for their consideration of a beverage container recycling refund program.

Please consider GPI and its member companies a resource and advocate for recycling related issues.

Sincerely,



Lynn M. Bragg
President

October 29, 2013

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St Paul MN 55155

Dear Wayne,

This letter provides written comments on behalf of the more than 2,400 members of the Minnesota Restaurant, Lodging, and Resort & Campground Associations regarding the draft program design for beverage container deposits. Our industry employs over 250,000 people, contributes about $11 billion in gross revenue to the state's economy and collects more than 17% of the total sales taxes levied in the state.

The hospitality industry supports voluntary beverage container recycling. We do not support a beverage container deposit that would be applied broadly to beverages consumed in public places.

Forty states have elected not to use container deposits to increase recycling. Other approaches can increase the container recycling rate without risk to the current curbside programs or unfair burdens on businesses and consumers. We suggest further study of ideas such as:

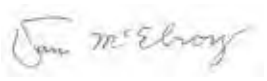
- Best practices research on methods that work currently in Minnesota and in other states.
- Increased use of single sort curbside programs
- Public relations and advertising to keep the recycling message in front of the people.
- Contests to recognize and reward businesses with very high recycling rates

Our members already have a strong record of recycling cans and bottles. Because separating glass and aluminum from the waste stream reduces the cost of trash removal, virtually 100 % of beverage containers for on-premise consumption are already being recycled.

Securing the large volume of cans and bottles which our members recycle will become a major problem if every can or bottle becomes valuable for the deposit. Storing cans and bottles inside the property is impractical as well as unsanitary. We are concerned about a potential conflict between the Minnesota Department of Health rules and a container recycling regime.

The bill contains a hidden tax on Minnesota businesses and consumers as proponents of the bill estimate that the unclaimed deposits will total about $45 million or more each year.

Sincerely,



Dan McElroy
Executive Vice President

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International Bottled Water Association

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November 4, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, Minnesota 55155-4194

Dear Mr. Gjerde,

The International Bottled Water Association (IBWA) welcomes the opportunity to provide comments on the September 16, 2013 proposal from the Minnesota Pollution Control Agency (MPCA) to establish a bottle deposit program for beverage containers sold in Minnesota. IBWA is the trade association representing all segments of the bottled water industry, including spring, artesian, mineral, sparkling, well, groundwater and purified bottled waters. IBWA members include bottled water bottlers, distributors and suppliers throughout the United States, including several small, medium and large size companies doing business in Minnesota.

The bottled water industry is opposed to bottle deposit programs, as there are many inherent problems with a program that assess a fee on beverage containers. In Minnesota, curbside recycling and the technological advancements have made it possible to institute innovative services, such as single-stream recycling, which is having a significant impact on diverting waste from landfills and improving waste management for communities across the state. However, one of the major problems with a beverage container deposit program is the lack of focus on the larger issue of recycling of all materials and consumer products.

Although MPCA was directed by the Minnesota Legislature to address increasing recycling of beverage containers, it would be a mistake to simply focus on one segment of the consumer products industry. Data derived from EPA figures demonstrates that plastic water bottles make up less than one-third of one percent of the U.S. waste stream. A comprehensive and effective recycling effort must include all food and consumer products. If the state's overall goal is to reduce litter, reduce the amount of waste heading into landfills, and provide the necessary tools for its citizens to assist in this effort, then the MPCA and the legislature must take a broader view of this issue.

IBWA and Recycling

IBWA supports comprehensive, multi-industry approaches to recycling and solid waste management, rather than targeting a small segment of the food industry for deposits on containers. IBWA's policy on recycling is as follows:

> *The International Bottled Water Association (IBWA) is dedicated to the comprehensive management of bottled water packaging to provide the highest quality, cost effective and environmentally responsible containers possible. IBWA and its members approach packaging issues in a manner emphasizing the most effective and efficient solutions to reduce the strain on the environment while taking into account the equal responsibility of all solid waste generators. Consideration must also be given to behavioral solutions, such as public education and enforcement of existing recycling and litter control laws.*

IBWA supports curbside recycling programs which are clean and convenient for consumers, and green for the environment because they dramatically increases recycling rates. Curbside recycling is also great for cities and towns because it lowers collection costs and tipping fees, while simultaneously increasing revenues.

Bottle bills address an extremely small percentage of the entire waste stream, and also harm existing curbside recycling programs by removing from those programs valuable supply material that has a high demand in scrap markets, such as aluminum cans and Polyethylene terephthalate (PET) and high density polyethylene (HDPE) plastic bottles. This reduces the overall revenues to cities and towns for their curbside recycling programs, which can actually lead to failure of those programs. Curbside recycling programs are far more successful if more recyclables are available to fuel their success. This leads to even more recycling for all products, and at a lower cost to citizens, towns and the environment. IBWA also supports efforts to increase away-from-home and public space recycling as part of a comprehensive and sound strategy for solid waste management in Minnesota.

To that end, in June 2010, IBWA approved an innovative framework for a Material Recovery Program that can serve as the blueprint for local communities to increase recycling through the support and participation of all stakeholders. This program will assist in developing new, comprehensive solutions to help manage solid waste in communities throughout in the United States by having all consumer product companies work together with state and local governments to improve recycling and waste collection efforts.

IBWA's Material Recovery Program framework supports state-authorized public/private corporations that: 1) establish in each community specific recycling goals to increase recycling access and rates; 2) generate revenue for grants from annual consumer product company producer responsibility fees and local/state government contributions; 3) fund local government recycling infrastructure improvements and consumer education programs; and 4) dissolve when local recycling goals have been met.

Cost to Consumers

For consumers, a bottle deposit system is nothing more than a hidden tax - one that can be ill-afforded during these difficult financial times. This increased expense will impact not only customers but also retailers and bottlers throughout the state. Minnesota residents and visitors will be paying more for bottled water and other bottled beverages without having a significant effect on reducing the amount of litter in the waste stream. A tax of $0.10 per container would raise the cost of a case of 24 bottles of water by $2.40, nearly doubling the price. Moreover, implementing a beverage container deposit program, which would accompany the existing state recycling infrastructure, consumers would now paying for maintaining two recycling systems in the state.

Cost to the Industry

At the same time, bottlers would have to absorb service and handling fess that would be passed along to the consumer. This will have a direct impact on sales and operations for even the most established bottlers in Minnesota. Retailers in the state along the border areas can expect to see a drop in sales as they will lose customers to neighboring states that do not charge a deposit.

This will be of particular harm to small water bottlers in the state who will face a significant cost in the implementation and compliance within a bottle deposit system due to bottled water industry's unique open distribution system. Bottled water's open distribution system differs from that which is utilized by most beer and soft drink distributors. This is commonly referred to as a Direct Store Delivery (DSD) system under which the distributor typically handles all product brands for a specified area of the state, and has a direct relationship with their retail customers in their exclusive territory.

Conversely, bottled water manufacturers generally operate under an open, one-way distribution system. There are no exclusive territories, and bottled water manufacturers do not have one distributor for their products. They may sell to directly to food wholesalers, drug wholesalers, chain retail stores, distributors of other products and services, and directly to consumers as well. Geographic areas or brands of products do not define these distribution channels.

Small bottlers will also struggle in competing with larger bottlers that have the resources to better deal with a deposit program and also comply with deposit programs in other states. Finally, retailers may also have to limit the number of brands they carry to products from bottlers who are already participating in bottle deposit programs. Due to the cost to bottlers to comply with bottle deposit laws, many smaller bottlers may be unwilling to offer their product for sale in a state that institutes such a program.

Impact on Existing Recycling Efforts

Minnesotans have a proud and strong record on recycling that has been established over the years and has been achieved through effective curbside and drop off recycling systems. These systems have thrived due to the materials collected. By removing the most valuable recycling commodities – plastic, glass and aluminum – recyclers will be left with little product of worth within their recycling portfolio. By attempting to maintain both a bottle deposit program and curbside recycling system, the very real threat of product being pilfered from recyclers as well as neighborhood recycling efforts becomes one of public health and safety.

As many Minnesota communities begin to move to single-stream recycling, the need for a unique system that targets beverage containers becomes unnecessary and redundant. The major reason for the success of these curbside programs are ease of use. Instituting a deposit program will place an increased burden on consumers who want to redeem their deposit. The establishment of redemption centers will require special trips by consumers to return their beverage containers, which means more time, more gas and more emissions.

Fraud and Over-Redemption

Fraud and over-redemption are inherent problems in bottle deposit programs and because it borders four states, three without a deposit system, Minnesota can expect sales along the border to be reduced. Fraud leads to loss of sales (and tax revenue) and loss of jobs. Fraudulent over-redemption will lead to increased costs for both manufacturers and consumers. The bottled water industry has seen firsthand incidences in deposit states that have cost manufacturers nearly $2 million because of fraudulent over-redemption. And criminalizing bootleg bottle redemption does nothing to address the financial hardships such over-redemption would place on bottlers and distributors.

The bottled water industry holds a strong place in Minnesota's economic portfolio. Companies in Minnesota that manufacture, distribute and sell bottled water products employ as many as 3,920 people in the state and generate an additional 9,880 in supplier and ancillary industries. These are good jobs, paying an average of $59,843 in wages and benefits. The industry also contributes to the state's economy as a whole. In 2012, the bottled water industry was responsible for as much as $2.7 billion in total economic activity in Minnesota. Furthermore, the bottled water industry generates sizable tax revenues in the state, with the industry and its employees paying more than $148 million in annual property, income and sales taxes.

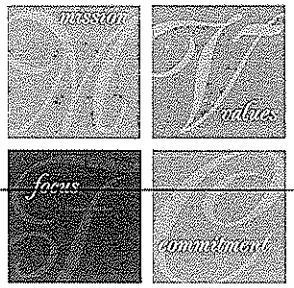
Conclusion

IBWA fully shares MPCA's and the Minnesota Legislature's desire to increase recycling in Minnesota and thereby keep this great state clean and sustainable. Our Minnesota members have an incredibly rich history here and are deeply committed to environmental stewardship through comprehensive recycling. In the end, taking a serious and long-term look at all products in Minnesota's waste stream, rather than focusing on the minuscule segment of the waste stream that beverage containers make up, will serve everyone's best interest.

We urge MPCA to reconsider the current proposal and instead offer a system that is less of a financial burden on consumers and businesses, a system that enhances rather than diminishes the efforts already made via existing recycling programs, and a system that takes a broader look at the needs of waste and litter management for Minnesota. In these efforts, please know that IBWA is a willing and accessible partner for further discussions and planning that MPCA may undertake in making a final recommendation to the state legislature.

Respectfully submitted,

James P. Toner, Jr.
Director of Government Relations
International Bottled Water Association



November 4, 2013

Mr. Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155

RE: MPCA's Proposed Recycling Deposit Program

Dear Mr. Gjerde:

On behalf of Kwik Trip, Inc., a family-owned convenience store chain of 445 stores that operates 111 stores in Minnesota, I am writing to you to express our strong opposition to the Minnesota Pollution Control Agency's (MPCA) draft recycling deposit program for beverage containers. In short, this legislation would place the recycling burden on the backs of convenience stores and grocery stores, increase labor and operational costs (training, accounting system for deposit tracking, deposit remittance, etc.), generate cleanliness and rodent/insect problems, create a much bigger carbon footprint, and create a competitive disadvantage for border stores who would lose business to lower priced products in stores located across state lines.

Since the ultimate goal and objective of the MPCA is to increase the percentage of beverage containers recycled, the MPCA must pursue less burdensome and costly options implemented in other states, such as encouraging additional single stream curbside recycling programs, adopting best practices, and creating task forces and industry/trade initiatives that have helped increase recycling rates. Rather than imposing a 10-cent container deposit fee, simply place more emphasis, education, and awareness on the need for consumers to always recycle.

Giving consumers financial incentives to recycle, does result in increased collection rates. The MPCA must not adopt a recycling deposit program but rather look at a program called RecycleBank which works with municipalities and haulers to offer reward programs to residential customers. Residential participants earn reward points based on the weight of recyclables collected; these rewards are redeemable at retailers like Target®.

You earn points for recycling! Reduce, Reuse, and Recycle has now turned into Recycle, Rack Up, and Redeem! To date, over 20 USA cities and 2 British communities have signed on. According to "The New York Times", "RecycleBank charges municipalities (or private haulers, depending on the arrangement)..." a monetary fee" per household, and guarantees clients that they will save at least that much in disposal fees as waste is diverted from landfills and incinerators. The company also receives revenue from recycling plants, depending on how much it increases the amount of materials that are processed. " To learn more about the program, visit: RecycleBank.

As stated in a research paper, "To make recycling an ingrained American habit, financial incentives need to be reinforced with teaching the ecological benefits of recycling. Continual environmental education targeted to schools and communities will help to make recycling more than just a financial transaction; it will help it to become a core American value."

Kwik Trip currently employs over 11,000 co-workers, with 2,872 co-workers living and working in Minnesota. In 2012, Kwik Trip paid $56,137,000 in compensation (salary/benefits/bonuses) to its Minnesota co-workers and paid/collected over $119 million in Minnesota state taxes (payroll, fuel, tobacco, sales, etc.). In addition, Kwik Trip paid $3,825,000 in real estate taxes in Minnesota in 2012.

Over the next several years, Kwik Trip estimates that it will construct six new convenience stores annually in Minnesota at a cost of $5 million to $6 million per store, creating 30-35 jobs and additional tax base at each store location. The amount of future new store development in Minnesota could be adjusted downward based on an increase in labor and operational expenses caused by the potential implementation of this proposed recycling deposit program.

All new Kwik Trip stores are LEED (Leadership in Energy & Environmental Design) certified, which has reduced water consumption by 40%, energy usage by 16%, and annually generates 20 tons of recycled shrink wrap and 100 tons of recycled cardboard. All new stores have beverage recycling containers for our use by our guests and co-workers. In addition, reverse osmosis -- recycling water used in the undercarriage washing process in our car washes -- has saved over 10 million gallons of water, all significant sustainability initiatives saving Kwik Trip money and improving the environment. In May 2012, we opened the first retail alternative fuels center in the country. In short, Kwik Trip is very proactive in its recycling, reuse and sustainability initiatives.

Since Minnesota's curbside recycling and voluntary programs have resulted in Minnesota ranking second in the country in recycling rates based on tons recycled per capita, these voluntary, successful and documented recycling initiatives should be enhanced and expanded through incentive based programs that do not involve implementation of an inefficient, costly and burdensome recycling deposit program that would be administered by the retail industry and have negative consequences for the Minnesota economy.

Kwik Trip, Inc. is strongly opposed to this proposed recycling deposit program. Thank you for your time and consideration of our views on this important matter.

Sincerely,

David W. Ring
Community Relations Coordinator
Kwik Trip, Inc.

MINNEAPOLIS
REGIONAL Chamber of Commerce
Bloomington Chamber of Commerce
Northeast Minneapolis Chamber of Commerce

81 South Ninth Street, Suite 200
Minneapolis, MN 55402-3223
Phone: (612) 370-9100 Fax: (612) 370-9195

November 4, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

Dear Mr. Gjerde,

Below you will find the Minneapolis Regional Chamber of Commerce's (MRCC) comments and concerns regarding the MPCA's "Draft program design for a recycling refund program for beverage containers in Minnesota." I appreciate your consideration in this matter.

The MRCC has been a regional leader in encouraging business to adopt sustainable practices in the workplace. We facilitate opportunities for businesses to connect with resources to assist in waste management needs and provided educational programming with industry experts. As one example of our efforts, the MRCC partnered with Minneapolis City Council to pass commercial recycling requirements. These actions show our membership embraces the need to reduce, recycle and reuse waste and are willing to work with stakeholders to find appropriate solutions.

With this said, the MRCC has concerns regarding the current Container Deposit proposal. Specifically, our members are concerned on the focus of this proposal and the resulting financial impact on manufactures, retail businesses and waste haulers. This added "tax" on beverage containers will significantly hurt job creators in Minnesota and its impacts will likely be passed on to consumers. Instead, the MRCC asks that public officials look to finding ways to increase recycling opportunities for all waste streams that are cost-effective to all stakeholders. We support the state's waste management goals and urge decision-makers to work with the business community to find appropriate solutions to achieve them.

Again, thank you for the consideration and please let me know if you have any questions.

Sincerely,

Todd Klingel
President & CEO

Minnesota
Agri-Growth Council

November 1st, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

Dear Mr. Gjerde:

On behalf of the Minnesota Agri-Growth Council (Agri-Growth), I'm writing to express our concerns over the container deposit refund program proposed by the Minnesota Pollution Control Agency. Agri-Growth's membership includes a number of food companies, processors, and other related businesses that would be negatively impacted by the deposit refund program as proposed.

Agri-Growth and its membership are certainly supportive of recycling efforts and programs, including those that currently exist among Minnesota businesses and communities. These efforts have proven to be successful, as evidenced by the fact that Minnesota ranks second in the nation in recycling tons/capita.

Our concerns with the recycling include the following:

- The impact of a new recycling program on the existing efforts of current recycling programs. We are concerned that significant investment from both the public and private sector over the years in recycling programs would be wasted or diverted to a new recycling infrastructure.

- The costs to set up and operate a new recycling structure, as well as the additional costs that will be passed onto businesses and ultimately consumers to pay for a new system.

- The competitive disadvantage with border states that could result from Minnesota setting up its own system, as well as the potential for fraud as it relates to beverage container redemption.

In summary, Agri-Growth is opposed to this recycling program as proposed, and would instead recommend the Minnesota Pollution Control Agency focus its efforts on ways to build upon existing successful efforts that communities and businesses have invested time and resources in.

Thank you for the opportunity to comment on this proposal. Please do not hesitate to contact me should you have any questions.

Sincerely,

Perry Aasness
Executive Director
Minnesota Agri-Growth Council

408 St. Peter Street, Suite 20, St. Paul MN 55102 • Phone: 651.905.8900 • Fax: 651.905.8902

Minnesota Automatic Merchandising Council

A State Chapter of the National Automatic Merchandising Association
15560 Boulder Pointe Road
Eden Prairie, MN 55347
Office: 952- 974-0075
Fax: 952-934-7442

October 13, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road
North St. Paul, MN 55155-4194

RE: Comments on Beverage Container Recycling Program

Dear Mr. Gjerde:

As the legal counsel for the Minnesota Automatic Merchandising Council, the state vending machine trade association, I am submitting this letter as the association's comments in opposition to the proposal to establish a beverage recycling deposit program in Minnesota.

Price Increase Issue

A deposit of ten cents per beverage container will automatically result in an increase in consumer prices for soft drinks, juices, bottled water and dairy products sold in recyclable beverage containers. This will be the case for all beverages in recyclable containers sold through vending machines. Moreover, if the ten cent deposit results in a higher consumer price on a beverage, then vending machine operators will need to pay sales tax on the additional ten cents per beverage container because current state law requires that sales tax be collected and paid on all food and beverages sold through vending machines.

Since some of these beverage products are exempt from sales tax if sold in a grocery store or convenience store, the fact that sales tax must be paid on all beverages sold through vending machines puts vending companies at a competitive price disadvantage. Also, vending machines can only recoup increased costs in increments of a nickel or dime. Any sales tax less than 5 cents causes the vending machine operator to pay the extra sales tax itself or raise the product price another nickel instead of one or two cents, which further exacerbates the price disadvantage.

Questionable Compliance

The consumer will recoup these higher prices caused by a recycling program only if the consumer routinely traveled to a redemption center to turn in empty beverage containers. While current curbside recycling programs provide consumers the convenience of depositing beverage containers in a collection container and placing them curbside, a recycling program based on up

front deposits paid at the time of purchase will require consumers to make additional trips to a recycling center to return beverage containers. These additional trips will cause consumers time and travel expenses that they cannot recoup.

Also, the requirement to return containers to a recycling center rather than rely on the convenience of a curbside recycling program may very well result in consumers simply throwing beverage containers away in the regular weekly trash. This unintended consequence would be counter-productive, yet a likely outcome. One question that should be studied is what percentage of consumers in other states with a deposit requirement actually return their beverage containers to a recycling center to obtain a refund of the beverage deposits? Also, how much additional air pollution will be created as a result of the hundreds of thousands if not millions of trips Minnesota consumers will need to make annually in their personal vehicles to the recycling centers? In outstate areas, how far will consumers need to travel to any given redemption center? The further the distance to a recycling center, the greater time, expense and inconvenience all of which are a disincentive for consumers to travel to the center.

Impact to the Existing Curbside Recycling Programs

The current system of curbside recycling would be negatively impacted if a beverage container deposit system is enacted in Minnesota. Specifically, those waste companies that collect recyclable contains would no longer collect any beverage containers from curbside recycling. This would cause these waste companies to suffer a significant decline in revenue currently generated from collecting and recycling beverage containers.

This reduction in curbside recycling will also result in less efficiency since smaller amounts of recyclable materials such as paper and metal would still need to be collected from consumers participating in a curbside program. Such a loss in volume will increase the incremental costs to waste haulers, which would be exacerbated by the reduction in revenue due to the loss of beverage containers. The result may be increased waste hauling fees charged to consumers.

High Costs to Build and Staff Recycling Centers

Building and staffing an estimated 1,000 or more recycling centers throughout the state would entail significant capital outlays which would likely be charged to consumers through fees or higher taxes. Does the infrastructure exist such as roads and accessibility to recycling processing plants to make the building of some 1,000 recycling centers practical even without the costs that will be incurred to build, staff and operate the centers?

In sum, consumers would be faced with higher prices for beverages in recyclable containers, greater personal expense in transporting empty containers to recycling centers, predictably more air pollution due to the innumerable trips consumers will make driving to the recycling centers, and higher fees for consumer trash collection services. Thank you for your time.

Sincerely,

Thomas A. Briant

Thomas A. Briant
Executive Director and Legal Counsel

October 28, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Mr. Gjerde,

Thank you for the opportunity to submit comments regarding the MPCA's Container Deposit study on behalf of the Minnesota Beer Wholesalers Association (MBWA). Any action taken as a result of this study would have a huge impact on the members of MBWA. Our members are strong advocates in the cause to ensure recycling programs succeed in Minnesota. It is our belief that maximizing recycling efforts help sustain a healthy environment and a healthy economy.

We do, however, have serious concerns about a container deposit program. Chief among those concerns is cost to consumers. However, many other potential problems exist like erosion of the current recycling infrastructure which would be adversely affected by pulling out containers from the recycling stream. Border issues without question arise, again related to cost to consumers and loss of business for Minnesota retailers. Fraud will undoubtedly be a problem as border state consumers will take advantage of buying cheaper products in neighboring states and return those containers for refunds in Minnesota, a loss for small business owners and for taxpayers.

While we understand the legislature's directive to study the impact a container deposit program would likely have, we hope your agency will be diligent in dissecting the impact to recycling programs overall before a final product is sent to the legislature. Minnesota enjoys some of the highest recycling rates in the country at present and while a container deposit program would likely increase recycling rates for those containers, the negative impact to other products like glass, paper, etc. would undoubtedly be great. If the goal is to increase recycling rates statewide, a far better approach would be to continue to educate producers and consumers on the benefits current recycling programs have. In addition, we should continue to study the programs that are working now and implement ways to make them better. The Minnesota Beer Wholesalers stand ready to assist in efforts to continue to reach these goals.

Sincerely,

Mike Madigan
President, Minnesota Beer Wholesalers Association

MINNESOTA BEVERAGE ASSOCIATION

Representing the bottlers & distributors of non-alcoholic beverages

October 8, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194
Dear Mr. Gjerde:

Attached please find the written comments from the Minnesota Beverage Association regarding the MPCA's "Draft program design for a recycling refund program for beverage containers in Minnesota."

Sincerely,

Tim Wilkin
President

Phone: 651-291-2722 • Cell: 612-554-7273 • Fax: 888-542-2932
Email: tim@mnbev.com • Website: www.mnbev.com
Twitter: @mnbev Facebook: mnbev
P.O. Box 21293 • St. Paul, Minnesota 55121

Implications of Designing a Container Deposit/Refund Program for Minnesota

The development of a dedicated system to recycle only beverage containers is environmentally, economically, and socially counter-productive. How such a system is configured is irrelevant to the profound negative impacts that it would have, especially in a state where hundreds of millions of public and private sector dollars have been invested in waste diversion and recovery infrastructure.

The key objections to this system, no matter how it is designed, are the adverse effects on recycling programs, infrastructure, and the taxpayers and rate payers who fund them; the cost of establishing and operating a new, independent infrastructure for beverage container redemption and the associated cost to consumers; border sales and redemption issues including fraud and cross-state sales; and consumer impacts to redeem rather than recycle containers.

Impact on Existing Recycling Programs

The economic viability, efficiency, and scope of existing recycling programs would diminish in the face of a deposit/refund system. Recycling companies would experience significant reductions in commodity revenue while facing significantly lower utilization of equipment, lower efficiency, but the same fixed costs of providing service.

A deposit scheme, especially one with 10¢ deposits, would draw virtually all of the valuable container material out of the curbside and dropoff recycling systems in Minnesota. The material remaining in recycling trucks, carts, and bins would be paper and a smattering of metal, glass, and plastic containers. Even if consumers recycled deposit containers at home or elsewhere, scavengers would likely collect those containers for redemption. Curbside scavenging is a serious problem in many urban neighborhoods in deposit states and is especially well-established in California where large scale, weight-based redemption is permitted, which accommodates scavengers very well. The public health and nuisance impact of scavenging is significant as well as residents awake to overturned recycling bins and scattered contents.

The operational impact on recyclers would be enormous, leading to significant material and revenue losses. Existing collection routes would become much less efficient, collecting far less material per route and per stop, but still requiring the same routes and stops to be covered. Even with efficient, automated equipment, the loss of volume makes the system much less effective and therefore much less efficient.

Processing facilities would find their significant investments in sorting and processing equipment for plastics, metal, and glass severely underused, both in terms of volume and in terms of the materials the facilities were designed to manage. The economics of recovering the small amounts of container material left in the multi-material recycling stream would deteriorate as scale economies in collection, processing, and materials marketing were lost. Many municipalities, especially in rural areas, would likely stop collecting some of these materials.

While these impacts on efficiency and cost would be profound, the revenue impact would be even more striking. Revenues from container materials – aluminum, PET, and HDPE (the most valuable components in the recycling stream) – would virtually disappear, creating a disconnect between existing pricing/contract terms and what was actually being processed. Recyclers would need to renegotiate contracts quickly, raising service fees to reflect both cost and revenue impacts from the deposit system.

The impact of such a broad beverage container deposit program (extended to all beverages and beverage packaging) would make these impacts more severe than experienced in any other deposit jurisdiction. This is especially true because no new deposit regime has ever been introduced in a jurisdiction with such extensive existing recycling infrastructure. In fact Hawaii's law is the only deposit system implemented since widespread access to household recycling appeared in the late 1980s. (Part of the impetus behind Hawaii's deposit law was the sorry state of recycling in Honolulu, which was the largest city in the US without curbside recycling at the time of the law's passage.) In short, there is no precedent for overlaying a deposit/redemption system over extensive, existing residential recycling infrastructure.

Building an Entirely New Infrastructure

Creating and operating an entirely new network of facilities to redeem beverage containers would require capital investment, extensive logistics and operational oversight, staffing, and a fee structure to recover the costs directly or indirectly from Minnesota consumers.

A system designed to redeem containers from consumers, transport, and process the beverage container material would represent nearly all new investment and new operating costs. Under the population formula proposed, more than 1,100 redemption centers would have to be sited. The system would also need transportation links between these centers and processing facilities; processing capacity for the containers ranging from steel and aluminum to glass, plastics, cartons, and pouches; material and financial management systems to monitor redemption, validate transactions, and manage the program; and an administrative organization to oversee and audit the entire operation.

Revenue from commodities would not cover these expenses – it does not do so in any deposit-refund system in the world. Because the 10¢ deposit is so high relative to the value of the material, fraud would be extremely profitable. Acquiring empty containers outside the state and redeeming them in Minnesota would be one avenue for fraud as would purchasing products in neighboring states and redeeming them in state. These activities would erode or even eliminate this revenue source.

The balance of funding would come from fees levied on containers to cover their handling costs. The more transparent way of levying these fees would be to charge them directly to consumers as a non-refundable component of the price paid at retail. This model is in place in deposit programs in several Canadian provinces. Alternatively these additional costs would be funded by beverage brand owners and passed along in wholesale prices. Consumers would ultimately bear these costs either embedded in the price of beverages or spread among other groceries and products they purchase.

Border Problems

The movement of empty containers across state lines for fraudulent redemption increases the cost of operating the redemption system. But the deposit and any visible fees also influence purchasing decisions, especially where these extra charges represent a large share of the final product price. These impacts are not greatly affected by the design of the deposit system because, regardless of the system, fraudulent redemption from border areas is nearly impossible to prevent. Given the vast number of products and packages affected, state-specific labeling or marking is infeasible; virtually all of these products are produced and sold for distribution nationally. Therefore a bottle of milk sold in Wisconsin is likely to carry the same deposit marking as one sold in Minnesota. To do otherwise would require the establishment of a state-specific inventory by producers and distributors; this is not only practically impossible given storage and transportation issues but would add enormously to food costs in Minnesota.

Even if a state-specific label or package were available for sale, those labels would not prevent fraud. In large scale redemption operations individual examination of each container is impractical and use of technology to read codes or symbols beyond traditional bar codes is not yet feasible.

Purchasing beverages outside Minnesota and redeeming them in the state would erode retail sales, reduce tax revenues, and drive up the cost of running the redemption system – all of which would flow through to consumers. For high velocity grocery items such as multipacks of soda and water the combined value of avoiding the deposit by purchasing out of state and then redeeming the container in state would virtually cover the purchase price of the product.

Consumer Impact

Consumers' time and effort to recycle would both increase markedly. This is especially noteworthy since recent gains in recycling participation and diversion have resulted from deliberate efforts to simplify sorting and collection (*i.e.,* single stream collection and provision of large carts to households). Separating all beverage containers from other recyclables doesn't just revert to the dual stream recycling system that most communities have abandoned – in fact for many this system would regress to the old material-specific separation of the late 1980s and early 1990s. In order to redeem containers, consumers may be required to not only keep them separate from other recyclables, but to sort them by material type (at least) and possibly size for counting and redemption.

Consumers can expect higher recycling service fees at home once the high value materials are removed from their curbside bins. They can also expect increased direct or indirect payments to underwrite the establishment and operation of the new redemption/recovery system. Consumers would also bear significant new time and transportation costs to redeem their beverage containers. Consumer travel to redemption centers is costly, even without valuing consumers' time. Most of these visits require consumers to travel out of the way and many redemption trips are dedicated to that purpose based on interviews conducted with redeemers in multiple deposit states.

System Design Issues

These consequences of adopting a deposit-based beverage-only system of recycling are not dependent on the assumptions made in MPCA's Draft program design dated September 16. These impacts are inherent in the adoption of any deposit/refund system. Tweaking the scope of the program to add or delete a particular product or material or to set the minimum number of redemption centers at 900 or 1,300 instead of 1,100 is not going to change these outcomes.

These impacts must be considered in the cost-benefit analysis to be prepared in the coming months. The *net* increase in containers recycled as a result of the 10¢ deposit needs to be compared against losses in recycling of other nondeposit containers and the entire cost of the redemption system including consumer travel, higher costs of existing recycling, and higher energy consumption and emissions associated with the redemption system.

MINNESOTA CHAMBER of COMMERCE

November 1, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N.
St. Paul, Minnesota 55155

Dear Mr. Gjerde:

Thank you for allowing the Minnesota Chamber of Commerce to comment on the proposed recycling fund program for beverage containers. The Minnesota Chamber represents over 2,300 businesses who employ over 500,000 individuals.

The business community supports an integrated waste management system that protects the environment and natural resources of the state and relies on private and public sector infrastructure to provide sensible, cost effective waste management options. Emphasis should be placed on the three R's-Reduce, Reuse, Recycle- to the level that remains economically practicable and sustainable. Education of stakeholders is also a crucial component of any successful waste management program. Minnesota Waste Wise, an affiliate of the Chamber of Commerce, is an example of a successful program that has educated and informed businesses about waste programs available in Minnesota and has achieved significant waste reduction and recycling objectives. Waste Wise has over 300 members, who have reduced over 81 million pounds of waste and recycled/reused 735 million pounds of waste.

Minnesota is a national leader in recycling and, as mentioned previously, has significant investment in the recycling infrastructure of the state by both private and public entities. Any government controls, taxes or regulatory approaches must emphasize flexibility and allow Minnesota businesses to remain competitive in the global marketplace.

The Minnesota business community agrees that increasing recycling is a laudable goal. Rather than mandating or requiring certain types of programs, the Minnesota Chamber believes that there are a number of options available to increase the recycling rates in Minnesota. These options include:

- Single Sort Recycling
- Voluntary programs for multi-tenant housing and commercial/industrial facilities
- Increased education for residential and commercial/industrial sectors
- More effective use of the revenue raised by the Solid Waste Management Tax

Minnesota businesses support increasing the recycling rates in Minnesota. This is a laudable goal that businesses support and practice in their individual workplaces. Minnesota has millions, if not billions, of dollars invested in solid waste infrastructure and should utilize these investments to achieve an increased overall recycling rate rather than new programs that could undermine existing efforts and expansion of those programs.

Again, thank you for allowing us to submit comments on the proposed recycling fund program for beverage containers.

Sincerely,

Tony Kwilas
Director, Environmental Policy

MINNESOTA GROCERS ASSOCIATION
533 St. Clair Ave. ◆ St. Paul, MN 55102 ◆ TEL: 651-228-0973 ◆ 1-800-966-8352 ◆ FAX: 651-228-1949 ◆ mga@mngrocers.com

October 10, 2013

Commissioner John Linc Stine
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Commissioner Linc Stine,

On behalf of the Minnesota Grocers Association, we would like to voice our concerns on the recycling refund program for beverage containers proposed by the Minnesota Pollution Control Agency.

As active members of our local communities, the Minnesota Grocers Association and its members are at the forefront in supporting a sustainable environment in Minnesota. The retail food industry is a leader in providing voluntary, innovative tools to allow our customers a variety of ways to make environmentally friendly choices.

We have a lot to be proud of; Minnesota is second in the nation when it comes recycling at tons per capita per year. The Minnesota Grocers Association Foundation has partnered with the Recycling Association of Minnesota (RAM) to work in collaboration with our convenience store members to provide easy access to recycling opportunities, which increases recycling, creates awareness, and educates the public on recycling initiatives.

Proven initiatives, such as single sort recycling, work within existing structures to expand on our successes, allowing consumers greater ease and access to recycling, while promoting an efficient system with tangible results. Comprehensive recycling programs that leverage investment in current programs are convenient, cost-effective, and sustainable. The continuation of established successes is the logical strategy to achieve higher recycling rates.

The proposal on beverage containers poses strong concerns that duplication of efforts for a small portion of the waste stream will create unintended consequences. We believe that creating an entirely new system moves Minnesota in the wrong direction. Higher costs to consumers, damaging current recycling infrastructure, and significant border issues, in relation to fraud and competitive disadvantages, are just a few of the foreseeable consequences a bottle deposit program will create in Minnesota.

Forced deposit programs with increased regulation create direct and indirect costs on consumers and disincentivize an already working system. This burdensome, expensive, and complicated proposal will counteract current recycling efforts by taking resources away from already successful recycling programs. Statistics show that a bottle deposit refund on beverage containers encourages criminal activity and fraud, with our border communities at the highest risk. This would create severe fiscal consequences on the industry and state.

Approximately 90% of all Minnesotans live within one and a half hours from a bordering state; consumers will make the choice to drive across the border to purchase beverages at a lower price. If this proposal advances, Minnesota's retail food industry will be put at a distinct competitive disadvantage.

Higher costs of goods will shrink consumer's basket size, hurting Minnesota families, businesses, and our state's economic vitality. Incentivizing consumers to shift their purchasing trends will be detrimental to Minnesota and counterintuitive in promoting sustainability. The retail food industry typically operates on a profit margin around one percent. The loss of revenue would severely affect the retail food industry's ability to succeed in this challenging marketplace.

We appreciate the opportunity to voice our opposition to this recycling refund program for beverage containers proposal, and look forward to being included in any further discussions. If we can be of any assistance to you on any issue, please do not hesitate to contact us.

Sincerely,

Jamie L. Pfuhl
President

The MGA is a state trade association representing the retail food industry since 1897. We have over 200 retail members with nearly 1,100 stores statewide, as well as approximately 115 distributors and manufacturers. Our member companies employ over 125,000 union and non-union Minnesotans. We actively advance the common interest of all those engaged in any aspect of the retail food industry as a leader and advocate in government affairs.

the
RETAILERSedge
Minnesota Retailers Association

November 4, 2013

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155

Dear Mr. Gjerde:

Thank you for seeking public comment on the draft recycling deposit program released by the Minnesota Pollution Control Agency (MPCA) September 16. I am writing today to express Minnesota Retailers Association's opposition to the proposed recycling refund program for beverage containers (hereafter referred to as "program").

788,000 jobs across the state depend on the economic viability of retailers, with Minnesota Retailers Association (MnRA) members working each day to enhance our economy through the maintenance and growth of these jobs. It is our position that the proposed program stands to stifle our economy by adding costs to retailers, increasing consumer prices, and dismissing the exploration of alternatives.

Added Costs, Competitive Issues For Retailers

A retailer administering the program as outlined will incur many expenses, including staff training, point-of-sale changes, accounting system creation for deposit tracking, deposit remittance, and potentially deposit refund administration.

On top of those expenses, retailers in Minnesota—in contrast to retailers in 26 other states—already collect and remit sales taxes for free. This program creates yet another unreimbursed responsibility for a retailer. In addition, and just like with sales taxes, retailers end up paying swipe fees on customer credit/debit card payments that include container deposits, creating even more unreimbursed expense.

The impact of program costs at the retail level will be felt across the state, but even more so in border communities. Border community retailers will lose sales to retailers in other states when the deposit is added to the upfront costs of products. Given the strong competition our border communities already face today, retailers cannot afford another competitive price disadvantage.

In today's business model, retailers will not be able to absorb program expenses. All these costs add up and ultimately equate to higher consumer prices, reduced employment hours, lower wages, and lost jobs for Minnesota.

Increased Consumer Prices, Inconvenience

Now is simply not the time to make it more difficult for consumers to spend and invest in Minnesota. Consumer confidence decreased sharply in October according to The Conference Board index. Economic uncertainty, unemployment, government action and inaction, and prices all contribute to today's challenging Minnesota consumer environment according to a recent MnRA survey of retailers around the state.

A recycling refund program will impact consumer spending as the price of some common consumer purchases double, such as a 24-pack of bottled water. Even before a retailer is forced to raise prices to offset program costs, consumers will be left with less money in their pockets. With our economic recovery fundamentally dependent on consumer spending, we are certain to see a harmful impact to Minnesota.

In addition to this potential negative impact on consumer spending, the program is inconvenient when it comes to recycling. Consumer curbside convenience for beverage containers will end. This inconvenience may take us backward relative to residential and commercial recycling rates.

Alternatives Warrant Exploration

MnRA recognizes the importance of improving our recycling systems and alternatives to the proposed program warrant exploration. Minnesota has relied on voluntary programs and curbside collection to increase our rates to second in the country based on ton recycled per capita. Our retailers lead in voluntary recycling, many with models looked to as best practices across the country. Minnesota is a leader based on the success of our current consumer recycling systems and voluntary recycling programs initiated through retailers. As such Minnesota deserves a constructive review of alternatives that do not involve the massive infrastructure required under the proposed program.

As an association representing more than 1,500 retail storefronts statewide, we oppose Minnesota implementing the recycling refund program. My organization looks forward to continued dialog with MPCA on this issue, and thank you again for the opportunity to comment.

Sincerely,

Bruce Nustad
president

MINNESOTA SOLID WASTE ADMINISTRATORS ASSOCIATION

November 1, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

Dear Mr. Gjerde,

The Solid Waste Administrators Association (SWAA) has a statewide membership comprised of county solid waste administrators from approximately 68 Minnesota counties and is affiliated with the Association of Minnesota Counties (AMC). We are writing this letter in response to the Minnesota Pollution Control Agency's (MPCA) request for comments on the Draft Beverage Container Deposit Program.

Both SWAA and AMC have strong positions in support of product stewardship initiatives. At the direction of the State, Counties have invested significant time and money into solid waste management infrastructure and counties take great pride in the various recycling activities they are involved in. County boards and staff strive to find cost effective ways to increase recycling rates while meeting our mandated requirements.

Before our members can make a decision regarding support or opposition to this draft proposal we would like to request more information. Currently, our members have many questions regarding the impacts to the existing recycling infrastructure and how a container deposit program might result in unintended consequences affecting these programs. We do not want to see the recycling of other materials negatively impacted due to funding constraints if a container deposit is implemented. The goal should be to have the total recovery of all recyclables increase, not continue to remain stagnate or worse, decrease.

- Counties have made significant investment in recycling infrastructure. Would container deposit legislation continue to allow recyclable materials to continue flow through existing recycling infrastructure?
- How might a container deposit program change the flow of revenue? Counties fund recycling activities through revenue from the sale of reclaimed materials. Revenues specifically from some materials addressed by the draft container deposit program fund a large portion of these

activities. If this revenue stream changes counties would need assurance that revenues would not decrease and could potentially increase.

- Many counties have current contractual obligations with recycling companies. How would a container deposit program impact these existing obligations?
- How would redemption centers be established, and how might this impact the current recycling system? Would redemption centers be obligated to take all containers, or would they be allowed to pick and choose the type of containers they wish to accept thus cherry picking the potentially valuable commodities?
- How will unredeemed deposits be handled?
- How will the plan define the convenience of locations, and how will this is determined?
- What are the expectations of local units of government and will the existing system costs be covered?

If you have questions or if you need any more information from the Solid Waste Administrators Association please do not hesitate to contact me at Troy.Freihammer@co.stearns.mn.us (320-656-6293) or Annalee Garletz, AMC Policy Analyst at Garletz@mncounties.org (651-789-4322).

Sincerely,

Troy Freihammer
President, Solid Waste Administrators Association
Stearns County Solid Waste Administrator

Comments on the MPCA's
Draft Program Design for a Recycling Refund Program for Beverage Containers in Minnesota
Submitted on November 4, 2013

As the trade association for the PET packaging industry, NAPCOR is deeply committed to maximizing the recycling of postconsumer PET. We support the efforts of states like Minnesota to develop beverage container recycling policy and analyze its impacts, both in terms of cost and performance. NAPCOR appreciates the state's efforts to take a fresh look at a controversial approach to increase beverage container recycling.

NAPCOR's decades of experience in designing and demonstrating recycling collection programs provides a unique perspective on beverage container recycling strategies. The following comments are offered to aid in the agency's analysis of impacts of the draft program design. NAPCOR does not take positions on new beverage container deposit legislation. These comments should not be construed as support for, or opposition to, the draft program plan or any beverage container deposit program that might result from it.

1. Innovative Approach

MPCA's draft program plan addresses many of the historical concerns with conventional beverage container deposit laws. By proposing to keep material revenues and unclaimed deposits in the system to finance the redemption infrastructure, not specifying handling fees, and facilitating industry management, the draft program plan would likely foster efficiency in the system. Enabling flexibility in development and operation of redemption centers, and allowing retailers to redeem containers voluntarily (instead of requiring that they do so) also addresses traditional concerns.

2. Definition of "Redeemable Beverage Container"

The draft program plan includes a broad scope of beverages "packaged for sale in redeemable beverage containers," but does not define "redeemable beverage container." It would be most fair and equitable if the program included a broad scope of containers, including non-traditional materials such as aseptic containers, cartons and pouches. If not, it will create an incentive for manufacturers to use those packages instead of the more readily recyclable PET, glass or aluminum containers, to avoid responsibility. Thus, it could lead to an increase in waste.

3. Governance structure of the Beverage Container Recycling Organization

Including several stakeholder groups in the governance of the BCRO is another innovation in the program plan that will likely yield positive results. One stakeholder group that is not represented is the collected materials reclaiming/end use industries. As the ultimate market for the materials collected, end users can have valuable input in collection strategies and efficiencies and could provide valuable input to the organization.

National Association for PET Container Resources (NAPCOR)
PO Box 1327, Sonoma, CA 95476 tel: 707-996-4207 fax: 707-935-1998 www.napcor.com

4. Redemption of containers collected through curbside recycling programs

Enabling existing recycling programs to benefit from the beverage container redemption program will be critical to its success. While the program plan notes that recycling programs can redeem their containers through the system, it does not describe the mechanism for that to happen. Requiring recycling programs to sort out redeemable containers and return them through a separate redemption system will be impractical in all but the smallest facilities. The plan should provide greater detail on how it envisions existing recycling programs will obtain the deposits for materials they collect.

5. Beverage Container Recycling Organization financing

The draft program plan retains the unclaimed deposits and material revenues to finance the collection system and sets out guidelines for how any excess revenue can be used. However, the draft plan does not specify who is responsible for financing the system in the event that the unclaimed deposits and material revenues are not enough to cover costs, or who is responsible for investing the start-up costs to seed the redemption network.

National Association for PET Container Resources (NAPCOR)
PO Box 1327, Sonoma, CA 95476 tel: 707-996-4207 fax: 707-935-1998 www.napcor.com

Recycling Association of Minnesota
2250 Wabash Ave. St. Paul, MN 55114
RecycleMinnesota.org

Co-Directors
Maggie Mattacola
651-641-4589
maggie@recycleminnesota.org

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651-641-4560
brita@recycleminnesota.org

November 1, 2013

Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N.
St. Paul, MN 55155-4194

Dear Mr. Gjerde;
The Recycling Association of Minnesota (RAM) is committed to promoting resource conservation through waste prevention, reuse, recycling, composting and purchasing practices using the most cost effective and environmentally sound methods available in Minnesota. We have over 250 members who are professionals in the recycling field who have very diverse interests. Due to the nature of our membership composition, RAM will remain officially neutral on the container deposit discussion. As such we as an organization focus on education and outreach.

We believe that in a complex modern recycling system, such as is place in Minnesota there can be many solutions to increasing recycling, not only of beverage containers, but for other materials as well. Some examples include increased recycling availability for public events, public spaces and increased commercial recycling-which would recycle many other types of material in addition to beverage containers.

In keeping with our mission, we as an organization, have been diligently working on this issue to help provide a solution to public space beverage container recycling through our Message in a Bottle™ program, which is a community based recycling program for businesses to participate free of charge. This program contracts the day to day operations to vocational centers which employ individuals with disabilities. We currently have approximately 300 convenience stores participating in the program statewide, each convenience store collects on average 1,500 pounds of beverage container material annually for recycling. In 2014, we plan to further expand the program across the Twin Cities metro area to an additional 60 convenience stores.

We support recycling solutions that make sense environmentally as well as economically. We look forward to continued discussions on this matter; if RAM can help facilitate discussion and bring consensus in any way please feel free to contact us.

Kindest Regards;

Marcus Zbinden
RAM Board Chair

* Affiliations on letterhead for identification purposes only.

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St Paul MN 55155

Brian Sams
Redwood County Recycling Coordinator
P.O. Box 130
Redwood Falls MN 56283

November 1, 2013

Wayne,

It is our understanding that the Minnesota Legislature has directed the Minnesota Pollution Control Agency (MPCA) to produce a report that details recommendations for a statewide "recycling refund program" for beverage containers that achieves an 80 percent recycling rate.

The purpose of this letter is to provide input in regards to the proposed legislation and our concerns about implementation of such a program. While we realize that the driving reason for such a proposal is to increase the recycling rate for aluminum, glass and plastic beverage containers, and we believe in this common goal, it is our opinion that there are far too many unanswered questions and potential negative impacts for us to support such a deposit system. We are especially concerned about the inclusion of gallon size containers and “all beverage containers” language that includes milk jugs, liquor, wine, beer bottles and aseptic containers.

Rural areas such as Redwood County will struggle with the “return” of these containers if only one redemption center is located within the county as the draft proposal indicates. With a county of only 16,000 people and an area of nearly 900 square miles, the “convenience” factor becomes another issue we are concerned with. Presently, nearly 100 percent of Redwood County residents have either a curbside recycling program or a rural recycling drop site within five miles of their residence. These sites or curbside programs allow residents to deposit all of the “selected” bottle bill materials (with the exception of aseptic containers) and a wide variety of other recyclables just minutes from where they live. With only one or even two redemption locations in the county, the convenience factor is far greater with the existing programs.

As a County with a very active recycling program and a Material Recovery Facility that is owned, operated and managed by the County, we believe that there are other options available for increasing not only the targeted beverage containers, but ALL of the recyclable materials currently collected in our area. For many years our program has accepted materials for recycling that most other Counties in the State are just beginning to accept, and other materials we process that were deemed “unacceptable” for recycling by other counties. We have written numerous grants to help establish “away from home” recycling at area gas stations and convenience stores, targeting the same materials selected for this proposed “refund program.” These “pop bottle bins” have been incorporated into all but about three gas stations in Redwood and Renville Counties, and provide another convenient location for disposal of “beverage containers.” This does not mean that our program is better than anyone else’s, it simply means that we are willing to do the extra research and work to make this possible. We believe that this approach has and will increase the recycling of all materials, not just the ones mentioned in this proposed legislation.

Recently, Redwood County entered into a Joint Powers Agreement with Renville County to form the Redwood/Renville Regional Solid Waste Authority. With the formation of this JPE, the organization has secured funds to construct a new MRF and transfer facility to handle the materials generated within the two County area. This project has a nearly five million dollar price tag, and revenue from the sale of aluminum, plastic, glass, and other materials has been factored into the operating costs of this facility. Furthermore, this organization made plans to increase the recycling rate of items such as aluminum beverage cans by incorporating a redemption center into this facility to encourage more diversion. We firmly believe that this option and additional education and promotion will accomplish the same goals for that particular commodity, and believe that a “per item” deposit, either at our facility or another redemption center, would adversely affect our operation and the revenue generated from it. If we were selected as the “redemption center” for this beverage recycling program, we believe that the end result would be “forced acceptance” of materials such as aseptic containers, which the organization has stated we are interested in pursuing on our “own time and pace,” not at the insistence of another organization or legislation.

Lastly, the undue hardship or cost that would be placed on the consumer to first pay the deposit, and then deliver the material back to a central location for a refund should be considered. Items such as reverse vending machines in metropolitan areas seem to be a good way to process these returns, but the same machines in a primarily rural area such as ours will not be widely utilized because of cost and distance to population areas. The current system works. Changes can be made to bolster the success of local recycling programs without forcing another new and burdensome system on the consumers who will pay for the program.

Please consider these points and closely study the upcoming cost benefit analysis. We believe that the system proposed has far too many unanswered questions and flaws to be fairly evaluated for passage by the legislature. We have a well established recycling program here in our area and throughout the State. Yes, we can improve, but we believe the “recycling refund program” is the wrong avenue to accomplish this change.

Sincerely,

Brian Sams -Redwood County Recycling Coordinator

C.C.- Bob Fox - Chair-Redwood/Renville Regional Solid Waste Authority

C.C. - Senator Gary Dahms

C.C. - Representative Paul Torkelson

REPUBLIC SERVICES

October 31, 2013

Commissioner John Linc Stine
Minnesota Pollution Control Agency
520 Lafayette Road
St Paul, MN 55155

Dear Commissioner Linc Stine,

Thank you for allowing us the opportunity to comment on MPCA's "straw proposal" for a container deposit program ("bottle bill"). We believe the Agency's proposal would have significant adverse effects on Minnesota's statewide recycling system.

Republic Services has a significant recycling presence in Minnesota, including the operation of two material recovery facilities (MRFs) and a large recycling hauling division. We are proud to lead the Minnesota market in recycling, including advances in single-stream recycling, carton recycling, and the collection of 1-7 plastics. We believe these recent innovations will divert a growing volume of recyclable material from of the waste stream. Our business goal is the same as the state's goal—to increase recycling. Unfortunately, a container deposit program will only work to dismantle Minnesota's effective and expanding recycling system.

A container deposit program makes recycling more complicated for consumers—and complexity will likely result in weaker recycling rates. We believe the current system serves consumers well. Most Minnesotans already have a recycling truck come to their home weekly or bi-weekly. We would support more curbside recycling. We support increases in single-sort. We also support improved recycling at multi-unit housing and businesses. Minnesota needs more recycling of all types of materials. An expansion of curbside recycling, single-sort, and multi-unit/commercial recycling will result in the recovery of more cans and bottles—but, unlike a container deposit program, this expansion will also lead to the recovery of more paper, cardboard, plastics, and other recyclables.

A container deposit program will cause significant reductions in the curbside collection of aluminum, PET, and HDPE—the most valuable commodities in the recycling stream. As MRFs receive less valuable material, many of their fixed costs remain the same. This will cause significant decreases in revenue at Minnesota's MRFs, and cause significant job losses for recycling center employees and hauling operation employees—not only at Republic, but at dozens of other recyclers and haulers across the state.

MRFs are a crucial component of Minnesota's recycling system. Recyclers invest millions of dollars to build MRFs and upgrade them with the latest technology. MRFs with the best technology do two things: (1) recover more recyclable material, and (2) deliver higher quality recyclable material to end users. Minnesota needs more high-tech MRFs. Unfortunately, a container deposit program will bring private sector investment to a halt. If recyclers are unable to recover their millions of dollars of investment, they will not build new MRFs. Existing MRFs will not be upgraded. Recyclers will not make the investments to bring recycling to the next level in Minnesota.

A container deposit program will negatively impact consumers and result in increased time, effort, and overall cost to recycle. Consumers will experience increased costs and carbon emissions as more miles will need to be traveled to redeem deposits. Because the most valuable commodities will now be removed from curbside collections, a container deposit program will surely increase consumer and business recycling service rates. Finally, a container deposit program will also have a direct, negative affect on our municipal partners (the cities we serve) in revenue-sharing agreements which are based on the value of recyclable material collected.

Even if a complex and burdensome container deposit system recovers more bottles and cans, the effect on the larger system likely will be a decrease in the recycling rate for all recyclable materials. Minnesota is a leader nationally in recycling, due to the work (and investments) of many in the public and private sectors. We need to improve the current system, not turn it upside down.

We encourage the MPCA to report to the Minnesota legislature that a container deposit program is a bad idea, and would hurt Minnesotans, and their recycling system.

Sincerely,

John Doyen
Area President
Republic Services of Minnesota

UPSTREAM
Where Waste Solutions Begin

November 1, 2013

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St Paul MN 55155

RE: UPSTREAM Comments on the Draft Program Design for a Recycling Refund Program for Beverage Containers in Minnesota

Dear Mr. Gjerde,

My name is Matt Prindiville, and I'm the Associate Director for UPSTREAM (formerly the Product Policy Institute). We are a national environmental policy organization dedicated to creating a healthy, sustainable and equitable society by addressing the root causes of waste. We develop model policies and educational materials, and organize stakeholders to help public interest groups, government officials, leading companies and everyday people advocate for product stewardship initiatives, where consumer goods companies are responsible for reducing or eliminating the environmental impacts of their products. We work closely with Eureka Recycling and several local government organizations in Minnesota, and our staff has worked on container-deposit legislation in several states as well as national legislation in Congress.

We write in support of the proposed draft program design for beverage container deposits. Over 40 years of data from states with container deposit laws clearly demonstrate that these initiatives accomplish four important outcomes in the public's interest. Container-deposits:

1. Dramatically boost recycling rates for beverage containers in comparison to municipal recycling programs.

2. Significantly decrease litter and pollution to waterways.

3. Preserve the inherent value of recyclable materials far better than municipal curbside programs.

4. Create entrepreneurial opportunities, economic development and jobs, at considerably greater rates than existing recycling systems.

In addition the arguments used against the proposal by the Minnesota Beverage Association and other trade associations do not hold up under close scrutiny.

1. If implemented as proposed, container deposits will have little to no negative financial impact on existing recycling programs as local governments will be able to redeem the beverage containers they collect, replacing lost revenue from losing aluminum containers to privately-run redemption centers.

2. Cross-border fraud claims by the beverage industry have been proven to be wildly overstated and inaccurate, and do not constitute a significant reason to recommend against deposits.

3. Public surveys show, time and again, that citizens love bottle bills and widely support them when implemented.

4. Building new recycling infrastructure and providing citizens with further opportunities to recycle is a reason to support container-deposits, not oppose them.

In detail, container-deposits:

1. **Dramatically boost recycling rates for beverage containers in comparison to municipal recycling programs.** Beverage containers achieve an 80% average recycling rate in bottle bill states. This is two and a half times better than the rate in states that rely primarily on curbside recycling systems without consumer incentives.[1] Part of the reason for this is that deposits signal to the consumer that the container has value. When people spend the nickel or dime on the deposit, they know that the container should be kept out of the trash so they can get their money back. In states without deposits, beverage containers are routinely thought of as garbage and if a recycling receptacle is not in close proximity, the container will be trashed.

   Another reason for these higher recycling rates is that deposits apply to all beverage containers consumed in the state – at home, work, school or on the go – and provide an incentive to recycle wherever beverages are consumed. In comparison, municipal recycling generally applies to households whether through curbside pick-up or transfer station drop-off. This leaves out the consumption of beverage containers in all other places where they are consumed. For commercial establishments, if recycling is perceived as a greater headache than trash disposal, many will choose not to do it. In bottle bill states, nearly all commercial establishments, including restaurants, campgrounds, hotels and convenience stores, choose to recycle beverage containers because of the containers' value – it has now become "worth it" to recycle.

2. **Significantly decrease litter and pollution to waterways.** Beverage containers account for 40% to 60% of all litter in non-deposit states.[2] Deposits significantly decrease litter by preventing it in two ways. The primary reason is that the value of the deposit is an incentive for people to redeem their container and a disincentive to litter it. Secondly, for people that don't care about the deposit and litter anyway, someone else is happy to pick that container up and get the deposit. Data shows that deposits are wildly successful at preventing litter. In Hawaii, the most recent state to pass a bottle bill (implemented in 2005), beverage container litter declined by 60% over the first three years of the initiative.[3]

3. **Preserve the inherent value of recyclable materials far better than municipal curbside programs.** There is no question that deposits lead to collection systems that better preserve the value of the materials primarily through source separation of the materials at redemption centers.

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[1] *"Bottle Bills Promote Recycling and Reduce Waste."* Container Recycling Institute. http://www.bottlebill.org/about/benefits/waste.htm

[2] *"Environmental Consequences of Beverage Container Waste."* Container Recycling Institute. http://www.container-recycling.org/index.php/all-about-beverage-container-waste/272-environmental-consequences-of-beverage-container-waste-

[3] *International Coastal Cleanup: 2003-1010.* Ocean Conservancy.

This is in contrast to municipal recycling programs which increasingly utilize single-stream recycling systems where people throw all the containers and paper into one bin. With single-stream, glass breaks and some plastic shreds into smaller pieces which cross-contaminate the other, more valuable materials. Glass recovered from single-stream is generally unable to be recycled into higher-value products, like new bottles and fiberglass insulation, and is instead downcycled into road aggregate and landfill cover. Food containers containing residues also pollute the recyclables, whereas separating beverage containers prevents their contamination.

Deposits provide economic incentives to source-separate covered containers, which leads to cleaner, more valuable materials that can be readily utilized by American manufacturers. When these same containers are collected by single-stream operations, the contamination lowers their value and their ability to be utilized by US companies. Sadly, much of our "recycled" materials are shipped offshore to countries which employ inexpensive manual labor to sort through the contaminated recyclables. Cleaner materials mean more of the recyclables can be used here at home, leading to more American jobs.

4. **Create entrepreneurial opportunities, economic development and jobs, at far greater rates than municipal recycling.** In 2011, The Container Recycling Institute (CRI) conducted an exhaustive study[4] on the job impacts of container-deposit-refund systems. Their chief findings were that:
   - **"Deposits create more jobs than curbside recycling relative to beverage containers."** CRI estimates that collecting bottles and cans through container-deposit systems yields 11 to 38 times as many jobs as collecting these same containers in curbside recycling programs.
   - **"Material throughput is the primary driver for recycling jobs."** This essentially means: "the more stuff you collect for recycling, the more jobs you create." Because states with bottle bills collect almost three times more beverage containers than non-bottle bill states, CRI documents that they commensurately reap the benefits of the added jobs associated with collecting more material for recycling.
   - **"The secondary driver of container-recycling jobs is the amount of workers required to collect, sort and transport the containers."** With regards to job creation, bottle bills succeed here again due to the decentralized, entrepreneurial nature of container-deposit systems versus municipal recycling. According to the Minnesota Beverage Association, the bottle bill would lead to the establishment of 1,100 redemption centers. When you factor in the staff required to run these centers and the trucking and processing, you're talking about a significant number of new jobs in the state of Minnesota to properly manage these containers as resources, and ensure they don't become public liabilities.

     The CRI report complements another 2011 report by the Tellus Institute, which estimates that 1.5 million new jobs can be created by increasing the US recycling rate from 33% to 75%. When you consider that states with container deposit laws already achieve between 70 and

[4] Morris, Jeffrey and Clarissa Morawski. "Returning to Work: Understanding the Domestic Jobs Impact from Different Methods of Recycling Beverage Containers." Container Recycling Institute: December 2011. http://www.container-recycling.org/assets/pdfs/reports/2011-ReturningToWork.pdf

90% recycling rates for beverage containers today, increasing and expanding bottle bills makes a lot of sense for new job creation.

Here is our response to the arguments used against the proposal by the Minnesota Beverage Association and other trade associations:

1. **If implemented as proposed, container deposits will have little to no negative financial impact on existing recycling programs as local governments will be able to redeem the beverage containers they collect, replacing lost revenue from losing certain containers to privately-run redemption centers.** Generally speaking, waste packaging is not a public good, it is a public liability. With the exception of a handful of commodities (like aluminum), recycling is a losing financial proposition for local governments. For nearly every category of product discards, it costs more to collect the materials than you can get from selling the scrap.[5] Some make a case for municipally-funded recycling by arguing that recycling costs less than landfilling or incineration, and therefore pays for itself. However, when the responsibility and costs for recycling are transferred to producers (in this case, beverage companies), then there are no costs for local governments or ratepayers and the former argument is rendered moot.

   It is true that container deposits will pull aluminum - which is the only material in curbside programs that has a net-positive value[6] – and other containers of lesser (negative) value out of the existing recycling infrastructure. However, under the proposal, local governments are allowed to redeem any containers they collect, which will offset lost revenues from transferring beverage container recycling to redemption centers. In addition, local governments will no longer have the burden and costs of collecting and processing these containers. In Maine, when the beverage industry proposed exempting larger containers from container deposits, the Maine Municipal Association vigorously opposed the bill due to the added costs to Maine municipalities from collecting and managing the influx of new materials, primarily PET plastic.

   Similarly, Massachusetts currently has a bottle bill that includes only soda and beer, and deposit advocates are working to expand their program to include water and other beverages. The vast majority of these new beverages they are trying to add are in PET bottles. A study commissioned by the state shows that municipalities would save $5 to 7 million per year from not having to collect and process these containers (both in the trash and recycling bins), and from not having to collect the littered containers. To date, over 165 municipalities in MA have passed resolutions asking the legislature to expand the state's bottle bill.

   Finally, to say that deposits will somehow hurt businesses is misleading at best, as deposits create more entrepreneurial activity, more business opportunities and more jobs than curbside recycling. In short, deposits are better for business than the status-quo, even in states that recycle a higher percentage of their waste stream like Minnesota. The data is clear on this. If you collect more materials and manage them properly through source separation which is more labor-intensive, you will create more jobs. Container-deposits change the economic landscape for recycling by assigning value to beverage containers, which in turn create entrepreneurial opportunities to

[5] *The Myth of Valuable Curbside Materials.* Product Policy Institute. August 2013. Using data provided by Stewardship Ontario - http://www.stewardshipontario.ca/
[6] Ibid.

steward that value through the container's life cycle. Deposits may upset the business model of a large waste hauler and MRF operator like Waste Management, but they create many more business opportunities (and jobs) than are impacted by upsetting some existing commercial arrangements.

2. **Cross-border fraud claims by the beverage industry have been proven to be wildly overstated and inaccurate, and do not constitute a significant reason to recommend against deposits.** Recently, a beverage "industry expert" was quoted in the LA Times saying that the amount of fraud in the California deposit system could be as high as $200 million – a completely unsubstantiated claim with no evidence to back it up.[7] According the Container Recycling Institute, in order for that number to be true, it would require 2/3 of all containers generated in Arizona and Nevada to be trucked across the border to California for redemption - a completely preposterous scenario at best. A more fair comparison is to look at fraud estimates in other bottle bill states. As a baseline, in Hawaii, a state without any cross-border fraud, the redemption rate is 76%. In Maine, a state surrounded by bottle bill states and provinces (with the exception of New Hampshire) and arguably minimal fraud due to that fact, the redemption rate is around 90%. In California, the rate is 82% with 8% coming from redemption through curbside programs, a policy feature the other states don't have. While some cross-border fraud is likely to take place by unscrupulous individuals, the benefits of deposits far outweigh any fraud implications in the system. When more states with connecting borders pass deposits, such as in the Northeastern United States, the incentives for fraud disappear.

3. **Public surveys show, time and again, that citizens love bottle bills and widely support them when implemented.** In Vermont, a state with one of the oldest container-deposit laws, statewide polling showed that 93% of Vermont citizens support the bottle bill.[8] 80% would like to see it expanded. The argument from the Minnesota Beverage Association that after deposits are passed, existing recycling systems would switch back to multi-sort recycling, and therefore a hassle for the consumer, is unsubstantiated and misleading at best. All bottle-bill states have either single-stream or dual-stream recycling operations and curbside recycling for populated areas.

4. **Building new recycling infrastructure and providing citizens with further opportunities to recycle is a reason to support container-deposits, not oppose them.** For many years, the beverage industry has made the claim that increasing curbside recycling programs and scattered public space recycling will boost recycling rates, and therefore deposits aren't needed. However, the evidence does not back this up. In the last twenty years access to curbside recycling has increased from 15% to more than 60%. Despite this increase in convenient curbside recycling, beverage container recycling rates declined during this period.[9] Conversely, in bottle bill states, collection rates average 80%. Although, these states make up only 28% of the nation's population, they were responsible for 42% of all containers recycled in 2010.[10]

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[7] Thomas, Jake. "California Redemption Fraud in Spotlight Again." Resource Recycling: October 2012. http://resource-recycling.com/node/3157

[8] "Bottle Bill is Strongly Supported by Vermonters, Polling Shows." Vermont Public Interest Research Group. http://www.vpirg.org/news/bottle-bill-is-strongly-supported-by-vermonters-polling-shows/

[9] Gitlitz, Jenny. *"Bottled Up: Beverage Container Recycling Stagnates – US Container Recycling Rates and Trends: 2013."* Container Recycling Institute: November 2013. http://www.container-recycling.org/images/stories/PDF/BottledUp-BCR2000-2010.pdf

[10] Ibid.

Part of the reason why curbside recycling has not delivered increased recycling rates is because cash-strapped local governments are broke. With local governments saddled with projected deficits of over $100 billion dollars,[11] they cannot afford to maintain or expand recycling infrastructure, services or outreach and education efforts—or do so at the expense of vital services. Recycling programs compete against police, fire, schools, libraries, parks, and pensions for funding. In Baltimore County, MD, the Council proposed borrowing $25 million from the pension fund to build a new County recycling facility.[12] Newsprint was traditionally the most cost-effective material in many residential curbside programs.[13] Yet newsprint consumption is declining dramatically, and has already declined 50% between 2000 and 2011.[14]

Deposits create economic incentives to build recycling infrastructure, create new businesses or expand old ones, conduct education and outreach campaigns, and provide more opportunities (and a financial rationale) for citizens to recycle beverage containers. These are some of the reasons why they have been so successful, and why they should be adopted.

Additionally, there is no disconnect between container-deposit systems and curbside operations existing side-by-side. In 10 US states, nearly every Canadian province, many EU countries and Australia, deposit initiatives work side-by-side with curbside programs, which can be funded by local governments, ratepayers or by producers in extended producer responsibility programs.

In closing, we know that Minnesota is also evaluating extended producer responsibility (EPR) for packaging without deposits as well. Beverage containers make up 6% of the total municipal solid waste stream by weight and 20% of the greenhouse gas emissions that could be saved through recycling for all municipal solid waste. They make up 15% of the total of post-consumer packaging by weight, which leaves an additional 85% of post-consumer packaging that also needs to be managed. Fortunately, there are good models in existence and being developed that have a) EPR for beverage containers through deposits and b) EPR for all other packaging through producer-funded recycling that utilizes and expands existing infrastructure. Most important to North American jurisdictions, British Columbia is implementing EPR for packaging, while preserving and promoting its EPR-deposit law for beverage containers.

When implemented properly, extended producer responsibility (both deposit and non-deposit systems) can substantially increase recycling rates, reduce energy use, and reclaim billions of dollars of embedded value being buried in landfills or burned in waste incinerators. Both deposit-based EPR for beverage containers and EPR for all other packaging should be pursued by jurisdictions that are serious about meeting aggressive recycling targets, lowering costs to local governments and taxpayers, growing jobs and building a more sustainable economy.

Thank you for the opportunity to comment. I can be reached for further inquiry at matt (at) upstreampolicy.org, or at 207-902-0054.

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[11] MacKerron, Conrad. *"Unfinished Business: The Case for Extended Producer Responsibility for Post-Consumer Packaging."* As You Sow. July 2012. http://www.asyousow.org/sustainability/eprreport.shtml

[12] Knezevich, Alison. *"Baltimore County borrows $25 million from pension fund for recycling facility."* The Baltimore Sun. August 02, 2012

[13] David Refkin, "Steep Decline in Newspapers Positions EPR as Vital to the Long Term Financial Health of Many Curbside Recycling Programs," Recycling Reinvented Blog, October 2012.

[14] Ibid.

November 4, 2013

Wayne Gjerde
Recycling Market Development
Minnesota Pollution Control Agency
520 Lafayette Road North
St Paul, MN 55155-4194
Wayne.Gjerde@state.mn.us

Dear Mr. Gjerde:

Verallia North America (VNA) operates 13 glass container manufacturing facilities in 11 states. The company's 4,500 U.S. employees produce approximately 9.1 billion endlessly-recyclable glass containers for beer, food, beverages, spirits, and wine each year.

The glass container manufacturing industry is represented by the Glass Packaging Institute (GPI), which filed comments on September 30, 2013 regarding the Minnesota Draft Recycling Refund Program Design. VNA supports those comments and offers the following comments as well for consideration.

VNA purchases large amounts of recycled glass (known as cullet) for use in its manufacturing process across the United States. Cullet is an important feedstock commodity in VNA's glass production process because it replaces virgin raw materials along with reducing energy consumption and air emissions, including greenhouse gases.

There is a robust market for various feedstock commodities (e.g., PET, aluminum and glass) but there is also an ongoing, enormous shortage today of these materials for the reasons outlined below. While VNA does purchase some cullet from Minnesota, we would certainly purchase considerably more high quality cullet if it were available … but it is not, even though VNA has been active in establishing glass beneficiator opportunities in St. Paul and continues to be very active with those operations. This is not to say that Minnesota's dedicated efforts to improve recycling (i.e., collection and recovery rates) have gone unnoticed. On the contrary, Minnesota today is widely recognized as a leader as a result of its efforts to develop and implement single stream recycling systems. That recognition has come from a plethora of efforts that Minnesota has undertaken to bolster / improve collection and recovery rates; including volume or weight based pricing, building a high number of above-average-cost material recovery facilities (MRFs), passage of numerous laws to support public recycling, and supplying grant money to build the infrastructure to support the system.

Notwithstanding these laudatory efforts, Minnesota is, like so many other states, finding that single stream systems present difficult challenges because of various sorts of contamination associated with comingling recyclables. Accordingly, while the collection rates have improved as citizens place their recyclables in the curbside "blue bins" rain or shine, week after week, Minnesota has concluded that it is not achieving its recycling goals.

Minnesota is not alone in facing the collection / recovery rate challenges; i.e., the more recyclables collected via single stream the greater the difficulty in significantly improving recovery rates of uncontaminated recyclables. Recovering a product that is usable by glass container manufacturers from single stream collection has been referred to as “unscrambling an egg” since a wide and diverse array of recyclables are placed in the same bin. While single stream may improve the “collection” of “all” recyclables, there is no question that the “recovery rate” of recyclables declines for feedstock commodities because the byproduct from single stream collection is highly contaminated and much less valuable. Due to that high level of contaminants, single stream material requires extensive processing through highly technical and very expensive sorting equipment. Even with the state-of-the-art equipment available today, contamination remains after processing, creating a number of production and quality issues for the glass container industry. Cullet that originates from bottle bill states has virtually none of these issues.

Minnesota has recognized that there has to be a better way to address these challenges and that now is the time to take a fresh look with respect to improvement opportunities, including evaluating a draft beverage container deposit system. There is an ongoing and robust debate today on the pros and cons associated with “bottle bills” and I’ve attached a recently published article from Glass International in which I attempted to outline this issue more clearly.

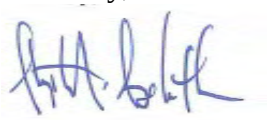
As discussed in the article and a bit further below, it is undisputed that the recovery rates for aluminum, PET and glass beverage containers cannot be matched by any other collection system. This does not mean, however, that single stream systems and bottle bills are incompatible. To the contrary, as Minnesota moves forward in its review, a bottle bill could be the lynch pin in the development of a model which improves overall recovery on a cost-effective basis. Even though none of the 10 current bottle bills are exactly alike and while there are certainly opportunities to improve bottle bill design, it is undisputed that bottle bill states have very high rates of return of uncontaminated material for recycling. A number of bottle bills have been in place for many years and consistently demonstrate the high rates of return, with an average of 82% overall. If fact, more that 65% of all the recycled glass today comes from the 10 bottle deposit states providing those tons and yielding very high quality material for remanufacturing. That being said, VNA believes that a well designed / implemented single stream system can be far more effective when operated in parallel with a well designed / implemented bottle deposit system. Those systems are already in place today in the 10 states with bottle bills and would substantially reduce the more than 2.4 billion beverage containers that Minnesota currently landfills each year. This would also provide Minnesota with the opportunity to reduce litter, collection costs, and tipping fees while capturing millions of dollars in feedstock commodities for which there is a ready market.

As I indicated above, each bottle bill is different so I note that the draft Minnesota Recycling Refund Program for Beverage Containers with a 10 cent deposit would add an additional 160,000 tons of high quality aluminum, plastic and glass to the commodity markets for remanufacturing beyond what is collected today. The total value of these commodities would be worth more than $65 million dollars annually and the system would exceed the recycling goal that Minnesota has set. That being said, it should be noted that if a 5 cent deposit were to be adopted, it would collect about 10% fewer tons of material; but, based on the experience of the other 10 bottle bill states, it would also function at a level that would likely achieve the Minnesota recycling goals. Accordingly, VNA would welcome the opportunity to discuss this particular design element further.

As a purchaser of hundreds of thousands of tons of cullet each year from a wide variety of sources across the United States, VNA's real world experience with recycling systems, including bottle deposit systems and single stream programs, allows us to observe which are successful and what systems struggle. Accordingly, VNA fully supports the Minnesota efforts toward a bottle deposit system as it will most certainly move Minnesota into that category of very high recovery rates for all the recyclables covered.

Thank you for allowing us to provide comments on this important effort. We look forward to responding to any questions you might have.

Sincerely,



Stephen A. Segebarth
Sr. V.P. Government Relations, Regulatory Affairs & Law

SAS/sf

cc: Kirk Koudelka, Assistant Commissioner, Minnesota Pollution Control Agency
kirk.koudelka@state.mn.us

Lynn Bragg, President, Glass Packaging Institute
lbragg@gpi.org

November 1, 2013

WM Comments Regarding MPCA Container Deposit Draft Recommendation

Waste Management (WM) of Wisconsin/Minnesota appreciates the opportunity to provide comments on the MPCA draft recommendation for a Container Deposit System for the State of Minnesota. We hope that our comments will provide background on the extensive investment our company has made in establishing a high technology recycling infrastructure for the State of Minnesota. A container deposit system puts this infrastructure at risk because it would take significant volumes of the most valuable materials out of curbside collection programs.

WM is the largest recycler in the State of Minnesota, processing nearly 250,000 tons of recyclable material every year. Our Twin Cities Materials Recovery Facility (TC MRF), located in Minneapolis, established in 2002, was the first recycling facility to process single sort recyclables, in addition to recyclables from dual sort and multi-sort programs. The TC MRF provides processing capabilities to the region, including the Dakotas, parts of Wisconsin and Iowa, in addition to the state of Minnesota. We provide processing services to third party private haulers and to public sector recycling collectors who rely on our services to process and get their curbside recyclables to commodities' end markets. Last year, Resource Recycling Magazine, a national journal, cited the TC MRF as "MRF of the Year" due to its high throughput and excellent operating principles.

WM was the first company to bring curbside collection of Single Sort (SS) recycling to Minnesota, pioneering a new concept that allowed all recyclable materials to be mixed and conveniently placed in a lidded container. Due to its convenience, SS recycling programs increase the participation (the number of homes that set out recyclables) and also increase the pounds collected because homeowners no longer have to sort: they like the larger cart and the convenience of single sort. We estimate that when a city recycling program converts to single sort recycling, they will experience an increase of 20-30% in the amount of tons collected.

Over the years, WM has continued to invest in new equipment such as optical sorters, that allow for the extraction of more and different types of recyclables. In the past 12 years, we have made significant modifications to the layout of the facility to accommodate additional recyclable material, new sorting equipment, and to carry out recycling processing as efficiently and as effectively as possible. Today, WM shares the success of Single Sort recycling, and nearly all in the recycling community agree that Single Sort has a significant impact on recycling rates. We are collecting more material through SS recycling, increasing recycling rates for communities and continue to add communities to the nearly 60% of the population currently on Single Sort. And while the state of Minnesota is currently at a 45% overall recycling rate, there is still room to increase that rate by continuing the implementation of SS statewide.

We hope that these comments have provided background on the extensive investment that our company has made in establishing a high technology recycling infrastructure for the State of

Minnesota. This investment, along with any future investment designed to capture more recycling volume, requires a return on investment through the sale of high value commodities, primarily aluminum and plastic. Because container deposit systems set up a duplicative system that takes these high value commodities out of community curbside programs, WM's ability to invest in our Twin Cities MRF or introduce innovative recycling programs would be severely compromised. In addition, the profits that we share with our community partners will be impacted, resulting in more expensive curbside recycling programs for Minnesota residents. If the current recycling system is impacted financially, how will the rest of the material, namely paper, provide the return on investment required to support our current recycling system?

Container Deposit will result in curbside programs that only collect lower value material. Lower revenue generated by curbside recycling programs will require higher rates from residents to cover the costs of collection and processing borne by communities and the industry. A bottle bill would essentially "gut" successful curbside programs that have helped Minnesota achieve a 45% recycling rate, while capturing only very small incremental amounts of the waste stream made up by bottles and cans. This seems counterintuitive to our overall state recycling policy. While proponents of container deposit continue to state that "90% of the containers are recovered with Container Deposit", the statement is very misleading: Containers as a portion of the total waste stream only represent a very small percentage of the total waste stream. Therefore, the implementation of Container Deposit, on top of an already mature recycling infrastructure has significant negative economic impacts on curbside programs with little impact on overall waste diversion. If implemented, Container Deposit legislation may increase our recycling rate a few percentage points at the risk of compromising our already high recycling rate.

We think Minnesota has much more to gain by continuing to build on the existing infrastructure rather than risking our recycling success with a container deposit system.

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WLSSD

Western Lake Superior Sanitary District

September 30, 2013

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

Dear Mr. Gjerde,

This letter is in response to the State's request for stakeholder comments on its draft Beverage Container Deposit Program. WLSSD's specific comments are included in this correspondence.

WLSSD is encouraged by the State's interest in exploring the development and implementation of a statewide beverage container deposit program. As the solid waste authority in a large region in northeastern Minnesota, we support the implementation of such a program.

Although our region takes pride in its recycling achievements, we believe that encouragement can only change behavior to a point and the State's recycling goals can only be achieved with dramatic change and incentive. Over the past 30 years since widespread, convenient recycling has been available in our communities, we have seen continued increases in recycling, however, we have reached a point where we see diminishing returns from our efforts. A much broader approach, such as a beverage container deposit program, is a much more efficient path to achieve recycling goals that result in landfill abatement and conservation of resources.

We believe that the time is right to implement a beverage container deposit program designed to incent the increased recycling of beverage containers. It is just such the dramatic change and incentive needed to achieve recycling goals across the state, and enjoy beverage container recycling success similar to the 11 states with beverage container deposit programs in place.

Regarding the specific approach described in the draft program, it seems that the state has explored and researched existing programs in the 11 states with container deposits and has included successful elements and principles from these successful programs.

If you have questions about the attached commentary or require any clarification, please contact me at Marianne.bohren@wlssd.com or at 218-740-4805. I would be happy to provide additional information or details.

Sincerely,

Marianne Bohren
Executive Director

Western Lake Superior Sanitary District

Stakeholder Comments

Draft Minnesota Beverage Container Deposit Program

The Minnesota Legislature has charged Western Lake Superior Sanitary District (WLSSD or the District) with the responsibility of effective solid waste management within its 530 square mile service area covering 17 communities in southern St. Louis and northeastern Carlton Counties.

WLSSD is committed to its responsibility of landfill abatement and has been a statewide leader in waste-related public education, programming and innovative solutions. These actions have resulted in WLSSD achieving one of the highest recycling rates in Greater Minnesota—no small feat for a service area with many rural communities with limited recycling options. In fact, in 2004, WLSSD was one of the first local units of government in the country, and the first in the Midwest, to mandate the source separation of pre-consumer food residuals by large food operations in its service area.

The District's vigorous and expansive recycling programming includes public education through broad-reach and targeted media messaging, staffed booths and displays at community events, group presentations and workshops, and staff assistance to many organizations to design and implement successful, sustainable recycling programs. Other recent activities include the purchase and distribution of recycling bins to all area gas and convenience stores, full-time staff assistance over three years to lead the design and implementation of recycling programs in approximately 30 public and private schools in the WLSSD service area, and staff to roll out recycling programs in 15 large multi-family housing complexes.

WLSSD also actively enforces recycling requirements as detailed in its comprehensive Solid Waste Ordinance—more stringent than many ordinances in the state—with compliance assistance programming, waste inspections, notices of violation and administrative penalty orders for non-compliant commercial waste generators . Recently, WLSSD has added regulations to its Solid Waste Ordinance that require organizers of events with 100 or more attendees to provide recycling for guests. WLSSD regularly assists organizers of events and waste haulers to create waste management plans that lead to successful separation of recyclables from event waste.

This robust programming has resulted in WLSSD's achievement of a 56% recycling rate for beverage containers (MPCA, 2013; WLSSD, 2013). Although we take pride in this achievement, 44% of beverage containers in our service area continue to be landfilled. In 2009, 2010 and 2011 WLSSD conducted a study that included sorting recyclables from residential and commercial waste loads to better understand recycling patterns in the St. Louis County portion of its service area. In this study, we learned that an astounding 18.2 million plastic bottles and 19.9 million aluminum cans continue to be landfilled from our service area each and every year. These materials have an estimated market value of more than $600,000 (WLSSD, 2011). We believe this is an incredible waste of resources.

Approximate Units in Waste Stream – St. Louis County portion of WLSSD

Material	Annual Tons in Waste Stream	Annual Pounds in Waste Stream	Approximate Units per LB	Annual Units in Waste Stream
Aluminum Cans (Pop, Beer, etc.)	272	544,000	33.5 cans	18,224,000
#1 Plastic Bottles (Pop, Water, etc.)	523	1,046,000	19.0 bottles*	19,874,000

* assumes a 20 oz. average bottle size.

Estimated Market Values (April 2012)

Commodity	Total Tons of In-District* MSW delivered to WLSSD Transfer Station (2010)	Cumulative Percentage in Waste Stream - Oct. '11	Estimated Tons of Landfilled Annually	Estimated Market Value (per ton)	Total Value Landfilled Annually
Aluminum	53,327.45	0.51%	271.97	$1,480	$402,515.60
Plastics 1&2 (mixed)	53,327.45	1.56%	831.90	$230	$191,338.89
Clear Glass	53,327.45	0.98%	522.61	$45	$23,517.41
Brown Glass	53,327.45	0.47%	250.64	$15	$3,759.59
Blue/Green Glass	53,327.45	0.15%	111.99	---	---
Tin/Steel	53,327.45	0.53%	282.64	$230	$65,006.16
Corr. Cardboard	53,327.45	0.51%	271.96	$130	$35,356.10
TOTALS		**4.71%**			**$721,493.75**

In the coming years, WLSSD plans to continue its active program of improved recycling options, education, assistance and enforcement and project only modest increases in its recycling rate over the next 10 years, as detailed in its 2013 10-Year Solid Waste Management Plan. Our projected increases will not achieve the statewide goal of a 75% recycling rate by the year 2025.

We believe that encouragement can only change behavior to a point and the State's recycling goals can only be achieved with dramatic change and incentive. Over the past 30 years since widespread, convenient recycling has been available in our communities, we have seen continued increases in recycling, however, we continue to see diminishing returns from our efforts. A much broader approach, such as a beverage container deposit program, is a much more efficient path to achieve recycling goals that result in landfill abatement and conservation of resources. The Container Recycling Institute has estimated that if a modest ten cent deposit were placed on all carbonated and non-carbonated beverages (excluding dairy) throughout the United States, an 80-90% recycling rate could be achieved across the board (Container Recycling Institute, 2008).

We believe that the time is right to implement a beverage container deposit program designed to incent the increased recycling of beverage containers. It is just such a dramatic change and incentive needed to achieve recycling goals across the state, and enjoy beverage container recycling success similar to the 11 states with beverage container deposit programs in place.

References

Container Recycling Institute. (2008) Wasting and Recycling Trends: Conclusions from CRI's 2008 Beverage Market Data Analysis. Retrieved September 26, 2013 from http://www.container-recycling.org/assets/pdfs/reports/2008-BMDA-conclusions.pdf

Minnesota Pollution Control Agency, (2013). Preliminary Results: MPCA Waste Characterization Study.

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Western Lake Superior Sanitary District, (2013). WLSSD SCORE Data provided to State of Minnesota.

Comments on the Minnesota Draft Recycling Refund Program Design

On behalf of our membership of 920 California wineries of all sizes, Wine Institute submits the following comments on the MPCA's "Draft Program Design for a Recycling Refund Program for Beverage Containers in Minnesota."

The Wine Institute is committed to environmental stewardship. Through our Sustainable Winegrowing Program, we provide California vintners and growers with information on how to conserve natural resources, protect the environment and enhance relationships with employees, neighbors and local communities. We, therefore, support efficient and cost effective mechanisms to increase the recycling of wine bottles. To that end, we believe that resources in Minnesota would be better dedicated to a comprehensive curbside recycling program rather than creating and implementing a beverage container redemption program.

Forty states have chosen not to impose container deposits to increase recycling. Only two states, Maine and Iowa, include wine bottles in their redemption laws. For wineries to comply with these laws, they either have to adopt special labeling procedures for wine sold there or include the deposit and refund value on all wine labels. Wine labels are already cluttered with information to comply with federal labeling requirements, including mandatory warnings. Furthermore, small wineries do not have the space, equipment, and financial resources to deal with duplicate inventories and special labeling procedures. There would also be additional costs associated with wineries collecting and remitting deposits on winery direct sales to Minnesota consumers.

Curbside is ideal recycling for wine bottles, since pick-up is made where the product is primarily consumed – at home. Wine bottles are heavy, breakable and take up household storage space, so they are not well suited for recycling programs that require consumers to return them to a retail location or redemption center. A comprehensive curbside recycling program would be more effective in increasing recycling rates, rather than simply putting a "fee" on every bottle that will probably not be returned by the average consumer.

Wine Institute, 425 Market Street, Suite 1000, San Francisco, CA 94105
www.wineinstitute.org

Given the combination of the state's excise, sales and gross receipt taxes as well as added hospitality taxes that are levied in some metropolitan areas, Minnesotans already pay high prices for alcohol beverages. We urge you not to add more costs that will just result in higher prices for your consumers.

On behalf of the Wine Institute and our members, thank you for your consideration of our serious concerns with imposing a Minnesota beverage container deposit. If you have additional questions, please contact Sally Jefferson at (646) 449-0598 or sjefferson@wineinstitute.org.

Appendix E: Public comments on the draft cost-benefit analysis

The purpose of the January 2014 meeting was to allow for public comment and feedback on the work presented. Comments on the draft cost-benefit analysis were accepted through January 22.

- American Forest and Paper Association
- Carton Council
- Citizen comments (compilation)
- City of Minneapolis
- Conservation Minnesota
- Container Recycling Institute
- Dem-Con Companies, LLC
- Eureka Recycling
- Minnesota Beer Wholesalers Association
- Minnesota Beverage Association
- Minnesota Grocers Association
- Minnesota Municipal Beverage Association / Minnesota Licensed Beverage Association
- Minnesota Resource Recovery Association
- Minnesota Retailers Association
- National Association for PET Container Resources
- National Waste and Recycling Association
- Novelis, Inc.
- Republic Services of Minnesota
- Strategic Materials, Inc.
- Verallia North America
- Wine Institute

American Forest & Paper Association

January 21, 2014

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Mr. Gjerde,

On behalf of the American Forest & Paper Association (AF&PA)[i] and the Minnesota Forest Industries (MFI)[ii], we are writing to express concerns about the recycling refund program for beverage containers proposed by the Minnesota Pollution Control Agency (MCPA).

We believe that the environmental performance of paper-based beverage containers and our industry's voluntary efforts to increase access and recovery are impressive. Paper-based packaging, including shelf-stable and refrigerated cartons, should not be included as part of the proposed recycling refund program. Thanks to the work of the Carton Council, access to recycle cartons in Minnesota has grown from 3 percent of the state's residents in early 2010 to nearly 60 percent today. The Carton Council continues to work to add carton recycling access to more Minnesota communities this year.

Overall, the report clearly shows that beverage containers represent only a small fraction of the waste stream. Singling out beverage containers with a recycling refund system is not the most cost-effective way to increase recycling of all commodities. All paper-based liquid packaging should be collected through the community residential recycling program (versus a deposit program) because it helps avoid consumer confusion and promotes efficiencies in the recycling system. Paper-based beverage containers are already being collected through the single sort recycling implemented in many Minnesota communities. Single sort programs have proven to achieve high recycling rates at a much lower cost while a recycling refund program as proposed would introduce unnecessary extra costs for consumers, business and local authorities. Additionally, including these containers in curbside recycling programs helps minimize the environmental footprint and impact on consumers.

Paper-based packaging is a commodity that is highly recycled, recyclable, compostable and renewable. More than 60 percent of paper consumed in the U.S. has been recovered for recycling each year since 2009 – and exceeded 65 percent in 2012. Given this environmental record, we believe that including paper-based beverage containers as part of the bottle bill is unnecessary and could interfere with the tremendous progress that our voluntary efforts have yielded by disrupting markets for recycling paper-based containers and would damage the viability of existing proven and optimized collection and recycling systems.

For the reasons stated above, AF&PA and MFI respectfully oppose the recycling refund program for beverage containers proposed by the MPCA in its current form, and rather suggest to promote recovery best practices. We encourage you to avoid measures that penalize commodities that are recovered at a high percentage and, as always, we stand ready to assist you and offer our expertise as a resource as you continue the dialogue on this important issue. If you have questions, please contact AF&PA's legislative advocate, Lloyd Grooms, at (612) 386-6327or lgrooms@winthrop.com.

Sincerely,

Cathy Foley
Group Vice President
American Forest & Paper Association

Wayne Brandt
Executive Vice President
Minnesota Forest Industries

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[i]AF&PA serves to advance a sustainable U.S. pulp, paper, packaging, and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative - *Better Practices, Better Planet 2020*. The forest products industry accounts for approximately 4.5 percent of the total U.S. manufacturing GDP, manufactures approximately $200 billion in products annually, and employs nearly 900,000 men and women. The industry meets a payroll of approximately $50 billion annually and is among the top 10 manufacturing sector employers in 47 states. In Minnesota, the industry employs more than 25,000 individuals and has over 115 paper manufacturing facilities. Visit AF&PA online at www.afandpa.org or follow us on Twitter @ForestandPaper.

[ii]MFI is an association representing the state's forest products companies. MFI members encourage conservation, proper forest management and industry development that foster sound environmental stewardship, multiple use of timber lands and sustainable, long-term timber supply.

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

January 21, 2014

RE: Carton Council Comments and Recommendations on Draft Study: Recycling Refund System Cost Benefit Analysis

Dear Mr. Gjerde,

On behalf of the Carton Council, we are writing to convey our continued concern regarding the recycling refund system for beverage containers under consideration by the Minnesota Pollution Control Agency (MCPA) and as described in the Recycling Refund System Cost Benefit Analysis draft report just released.

1) **Carton Council respectfully opposes the recycling refund program for beverage containers**

As indicated in our prior comments sent on the program design (November 4, 2013), the Carton Council shares the state's goal of increasing recycling of beverage containers and is dedicated to working with the state and broad stakeholders towards that end. The Carton Council believes that the environmental performance of beverage cartons (both shelf-stable and refrigerated cartons) can be an important contributor (and model) for minimizing the impact of beverage containers at all stages of the container lifecycle, including recovery. As well, the Carton Council believes that our industry sector's voluntary efforts to increase access to carton recycling represent a strong model for collaboration between industry and public agencies in building the infrastructure needed for increased recovery. The Carton Council also believes that similar models of industry and public agency collaboration will be the key to actual increases in real "on-the-ground" recovery, not just for cartons but across the board in packaging as well as printing and writing papers.

Finally, expanding our focus and efforts to away from home streams is a key component to Carton Council's strategy. Carton recycling is a natural fit for schools where large volumes of cartons are generated. Adding carton recycling programs to schools, using a set of best practices, grants and proper education tools, has helped divert even more cartons from the waste stream.

The success we have demonstrated (as outlined in our November 4, 2013 communication) is what has convinced us to take a strong position in advocating for more cost-effective approaches that use existing proven and optimized systems of collection and recycling. Overall, the Recycling Refund System Cost Benefit Analysis clearly shows that beverage containers represent only a small fraction of the waste stream. Singling out beverage containers with a recycling refund system is not the most cost-effective way to increase recycling of all commodities. A broader framework addressing all solid waste should be the way forward.

In this context, we are opposed, under any circumstances, to cartons being included in such a system. In fact the program as proposed would directly undermine the Carton Council's voluntary efforts that have been directed at building on the foundational strengths already in place for recovery programs in Minnesota. We believe that this foundation is very strong with many assets that should be maximized before a major change like a recycling refund system (or EPR for that matter) is considered for the state.

2) Carton Council supports an effective and efficient recovery framework that builds on and enhances voluntary recycling

The Carton Council is active in states across the country in promoting carton recycling access and recovery. The above statement that Minnesota's foundation for maximizing recovery is strong is based on this national exposure to a very wide range of programs and approaches. You know your programs and policies well, but we would just like to highlight some of your strengths that we feel position the state to reach best-practices in recovery – strengths the Carton Council wants to continue to build on. These programs, policies and regulations – at both the state and local level, include:

- Target Recovery Goals (state)
- Mandatory Residential Recycling (state)
- Disposal Bans (local)
- Unit-Based Garbage Pricing – and Similar Incentives for Recovery
- A Supporting Funding Mechanism – the Solid Waste Management Tax (SWMT)

In our own research on best practices in programs, policies and regulations, these are just a few of the "tools in the tool-box" of effective approaches to growing expanded and efficient recovery. At the Carton Council we call these best practice tools "VPR+" and "VPR++" - meaning voluntary producer responsibility (the "VPR") that builds on best practices in program and service delivery combined with effective public sector policies and regulations (the "+" of VPR+) and effective funding mechanisms that support public and private collaborations around recovery (the "++" of VPR++).

One of the most significant findings of that research is that it takes a recipe of the right mix of these best practices to find Minnesota's unique "sweet spot" that will boost recovery to a much higher level. A few examples – a) targets and goals can be applied across a suite of recyclables that should be common to all programs across the state; b) mandatory recycling requirements can be generator specific – outlining how all types of generators (types of residential as well as types of institutional, industrial and commercial) as well as their service providers (e.g. contracted hauler) need to provide recycling access; and c) statewide disposal bans on many of these common recyclables can require their removal from waste and placement in the recycling system – sending a clear message that the recycling system is to be used. These specific approaches may not be just right for Minnesota but they represent just a few of the examples of adjustments and tweaks that can be made to an already strong program to drive that push for higher recovery.

The Carton Council is committed to working with the state of Minnesota and public and private industry partners towards this mission and is ready to both share our research and engage in the dialogue and work required to help bring the next level of best practices to your recovery efforts across the state.

We think the Carton Council's actions in Minnesota to date demonstrate our commitment as well as the success of our approaches. We would welcome the opportunity to work with you to bring this next level of performance into reality.

In summary, the Carton Council respectfully recommends rejecting the proposed recycling refund approach and instead encourages state leaders to move forward with best practice programming, policies and regulations as described above – what we call VPR+ and VPR++. We look forward to an opportunity to expand on these points and provide additional input and resources towards pro-recovery efforts that rely on strong collaborative and well-coordinated contributions from both industry and public agencies. We believe this is the right way, the most efficient and effective way, to reach higher recovery levels of beverage packaging as well as other packaging and printing and writing papers. If you have questions, please contact Carton Council Government Affairs staff, Elisabeth Comere at (224) 587 0819 or Elisabeth.comere@tetrapak.com.

Yours sincerely,

Elisabeth Comere
VP Government Affairs, Carton Council North America

Citizen comments

Compiled comments received by e-mail from Minnesota citizens. (Sorted alphabetically)

Bonnie Baysinger (Martin County)

This is one of the great ideas our state is thinking of doing? We already recycle in Martin county and don't need another "tax" on our products. Thanks for another reason our state is getting too expensive to live in.

Isaac Hanson (Minneapolis, Minn.)

Please count my email in support of a container-deposit law. The MPCA's report was very detailed and made clear that although such a program would cause major changes to the state's recycling companies, the ultimate effect would be to increase recycling rates from 45% to 84%, which would be extremely beneficial to the state's people and environment.

J.R. Huntley

I don't know who thinks up these so called flawed numbers of it's only going to cost $29 million,really? I have relatives who live in northern Ia and say's anything but good about their program. 30 miles to take to a redemption center and how much will that cost you in gas? The hassle alone of no dents in cans must be clean, another cost for water usage, waste of water alone to wash them out. I have read the article in our local news paper $179 Million required annually to run! what happened to the $ 29 million at the start of this? Takes a lot more than just thinking about a program like this. Us Americans are already hurting in the financial area. Have you thought about those who don't drive? Probable not, I could just see a bus or taxi saying no you can't bring those along. Law makers must have nothing better to do than dream up a way to put further burden on the American people. Oh and that transportation cost is also estimated at $ 40 Million what happened to the $29 million? 400 locations are not even enough unless you are having people drive out of town (like places in Iowa) to take there containers to a place that will collect them. Another $6.00 hr job with no benefits. Gee I wounder what they will do with all that is used for big energy plants that burn most of what the haulers pick up? I have even heard in this area how much recycled materiel is burnt up instead of BEING RECYCLED. So I guess if if the state of Mn feels they really need to do this and put the burden on those who don't have a voice so be it but when it's implemented and it fails back on to state, I'm sure there would be a cover up or someone got there figures mixed up. I wish The United States would listen to the people instead of the law makers (that are a hand full at most) thinking they have the best answers. What ever the states decision I just hope it's well thought though and look at the real "numbers" of what the total cost would (will) be.I recycle everything I can, as it does cut down on my garbage cost. but I do see those with money to burn not recycling and thats what will happen also with a Dime on containers. Thank you for seeing my view on this it"s hard when your disabled to find the money for things you really need. and then have to spend more to return it to get your money back.

Mike Menzel, MD (Edina, Minn.)

Dear MPCA: I attended the analysis hearing on January 13, 2014 in St. Paul. The analysis mentioned the environmental costs of not recycling but the report stopped short of placing an economic cost on this. This needs to be included in the analysis since these costs are real and would significantly affect the revenue side in a positive manner.

If the MPCA does not have these numbers then they can consult other non-profits like Conservation Minnesota for their input.

Mary Nielsen (Martin County)

In Martin county we have a recycle system that provides each household with a bin in which we put cardboard, newspapers, plastic, aluminum, tin and glass. Our bins are picked up twice a month, at the end of our driveways. I would hate to see this system changed. I am a senior and it would be difficult for me to load up recycle materials and transport it to another site.

Please do not change our system. I do not support the bottle refund system. Would you consider recycling the way Martin Co. does??

Claire Robling (Jordan, Minn.)

I believe implementing this plan will set back other recycling efforts. Right now I am able to throw all of my recyclable items – from cardboard and newspaper to tin and aluminum cans and plastic bottles -- into one big bin that is picked up every other week. This is extremely convenient and I am a masterful recycler – even recycling the cardboard on the inside of the toilet paper rolls! It's so easy with this system, and it should be encouraged statewide. Certainly, it would bring up recycling rates if every hauler had this available for their customers. Currently, my recycling bin (which is larger than my garbage bin) is always full or overflowing on my recycling days, and my garbage is minimal.

If we have to pull out all the recyclable beverage containers and then take them to a distant recycling center (could be just one per county of 15,000), a lot of containers will still get thrown in the trash or they'll sit and clutter up our garages for months or years before they are hauled in. And what about those people who don't even have garages or a convenient place to store them until they get a load to haul in for their refund? Who thinks this will work out well? Also, I think people in my area are more likely to throw their other recyclables in the trash if they have to go back to sorting.

This is NOT a good idea.

Please do not promote it. I think it would be a big burden if it is adopted.

Thank you for listening.

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Division of Solid Waste & Recycling
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City of Minneapolis

Wednesday January 22, 2014

Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Mr. Gjerde,

Following the release of the Cost-Benefit Analysis for the proposed recycling refund program, Minneapolis Solid Waste & Recycling has concerns that the proposed system will impact stakeholders of the well-established recycling system in the State of Minnesota.

The City of Minneapolis completed implementation of a City-wide, one-sort recycling program utilizing 96-gallon carts in June 2013. Monthly recycling volumes have increased on average 50% and we attribute these results to the convenience of recycling for our residents.

The impact of our and other Minnesota community's switch to a single-sort recycling program is not reflected in the cost-benefit analysis and is sure to increase the recycling rate of beverage containers. With St. Paul and many other cities implementing single-sort recycling systems in the next couple years, the beverage container recycling rate will only continue to rise. The increase of single-sort recycling systems throughout Minnesota will result in higher handling fees to collect a smaller percentage of beverage containers if the proposed system is enacted.

When the opportunity to recycle is equally as easy and convenient as placing a beverage container in the garbage, residents will do the right thing, and expanding recycling opportunities to these sectors will greatly increase the number of beverage containers that are recycled. In addition, the State should continue its focus on local business and market development to utilize recycled material within the region.

Comments 1 – 4 on the following pages detail the concerns we have with the recycling refund cost benefit analysis.

1. Page 26 of the report states that cities will experience a 20% reduction in volumes which will result in a 13% reduction in time.

Minneapolis Solid Waste & Recycling is unique in that City and contractor forces provide residential collection for garbage, recycling, yard waste, and organics. Due to the narrow alleys and low power lines, our crews utilize 20 cubic yard semi-automated rear-load collection packer trucks. Routes are developed based on travel time and how many households can be serviced in a one day time period. Currently each recycling crew must empty their first load of recyclables at the MRF mid-route each day. A second partial truck load is delivered at the end of the collection route.

Because residents will still place out their recycling carts to have their non-beverage containers and paper products collected, no reduction in collection time will result. In addition, a 20% reduction in volumes is not enough to require only one truck load to be delivered to the MRF per route on any given day. We would need to see a 50% reduction in volumes of recyclables placed at the curb or alley to see the 13% savings proposed by the cost-benefit analysis.

2. Page 26 of the report states a net loss of $.03 per single-family household per month to the MRF.

Minneapolis Solid Waste & Recycling service 105,700 dwelling units. The net loss of $.03 per household per month equates to a $38,502 loss. Our findings show the net loss to our residential recycling program will be much higher than this projected loss. Minneapolis was selected as one of the case studies for the cost benefit analysis. We have yet to see the findings from the analysis and are looking forward to seeing the results and how the impact was calculated.

3. The last two sentences of the Executive Summary state: "In addition to the above benefits, energy savings and environmental quality benefits would occur from the recycling redemption program. It was beyond the scope of this report to estimate these benefits."

We feel this generalization cannot be made without analyzing the assumed benefits with the additional environmental costs associated with the proposed program design. Energy savings will result from reduced need to mine for silica sand used in virgin glass production, however, there are many transportation and other negative impacts that likely were not recognized. Significant emissions will result from requiring private collectors, non-profits, and MRFs to deliver loose containers to the redemption centers which are then again loosely transported to a baling operation. Redemption centers should be combined with baling locations to reduce the transportation of non-baled materials.

In addition, increasing the number of redemption centers from one for every 5,000 residents to one for every 15,000 residents will increase the driving time required for Greater Minnesota residents to redeem their containers.

MRFs in particular, will need to re-sort containers to pull off any non-beverage containers prior to preparing for delivery to the redemption center. They will also need to return unredeemed containers back to the MRF to prepare for sale to market.

4. Page nine of the report states that the analysis indicates that "enhancements" to only the residential recycling collection infrastructure will not result in an 80% beverage container recycling rate.

The report does not detail the results of the "enhancements" that were analyzed. The report also does not detail the cost associated with the investments in expansion of beverage container recycling opportunities. Would the investments listed achieve the desired 80% beverage container recycling rate at a lesser cost than the proposed recycling refund system?

The goal of the recycling refund system is to create a convenient system to achieve an 80% recycling rate for beverage containers. Recycling opportunities in public offices, commercial properties and in public spaces are severely lacking in quantity and quality. These convenience initiatives should be addressed before a $229 million dollar system is constructed to avoid $4.4 million in disposal costs that only results in minor diversion of materials from the municipal solid waste stream.

The comments above comprise Minneapolis Solid Waste & Recycling's greatest concerns of the proposed Recycling Refund system. We encourage the State and the MPCA to consider investing in commercial and public space recycling programs prior to making a decision. Thank you for the opportunity to provide these comments.

Sincerely,

David Herberholz, Director
Division of Solid Waste & Recycling

CONSERVATION MINNESOTA

January 22, 2014

Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

Dear Mr. Gjerde,

Conservation Minnesota is a statewide conservation organization focused on finding constructive solutions to problems that affect Minnesota's lakes, lands, and quality of life. In communications with our network of over 40,000 citizens, we consistently find that waste reduction is a broadly held concern for Minnesotans.

Most citizens are dismayed by the fact that, despite efforts to make recycling easier through single stream recycling and decades of education and work on recycling issues, less than half our beverage containers are currently recycled. We applaud the state's efforts to solve this problem.

The *Draft Recycling Refund System Cost Benefit Analysis* is a thorough and thoughtful analysis of the issue, and we welcome the study's findings that there are options that can effectively address the need to increase Minnesota's beverage container recycling rates, keep local governments whole, and at the same time create jobs in Minnesota.

We have the following comments on the draft cost benefit study:

- The finding that the draft program design would create over 1,000 jobs in Minnesota (page 23) should more clearly note that these are direct jobs and that there would be additional jobs created through indirect and induced employment benefits.

- The estimated cost of operations for the redemption centers (page 18) is high compared to systems in other states, which often have more complicated structures due to local requirements to sort by brand. The report should examine program costs in other states in more detail and could more clearly indicate that there are a number of factors, such as a hybrid system using at least some automated sorting as well as compacting technologies that would reduce square footage needs, that might enable these centers to operate at lower than estimated costs, thereby reducing the net cost to distributors.

- It is highly likely that many redemption centers will be combined with other collection operations or located adjacent to or with other businesses. In addition, some retailers will choose to operate redemption centers as a service to their customers. The study (footnote 4) notes this likelihood, but adopts a conservative approach that does not factor in the possibility of savings from such pairings. The study could more clearly state that there are significant cost and consumer transportation savings that will result from such combinations.

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CONSERVATION MINNESOTA

- We note that the current recycling rate for beverage containers as discussed in the draft cost benefit study (45%)(page 7) is higher than the MPCA's previous findings of 35% and 27%. It appears that in calculating rates, the consultant used a different methodology that does not factor in other data sets previously included by the MPCA. Because this shift in the reporting of recycling rates is confusing to the public, the final report should note all assumptions used in calculating the rates for all sectors and the existence of other data sets which were not analyzed in calculating the estimated rate.

- In addition to savings from reduced litter clean up (page 30), state and local authorities will also realize an undetermined amount from reduced waste services. For instance, parks crews will not have to empty picnic shelter garbage containers as often if there are few, if any, beverage containers in the waste.

Thank you for considering these comments. Again, we applaud the MPCA's efforts to address these complex but important issues.

Respectfully submitted,

Paul Austin
Executive Director

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January 22, 2014

Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

RE: Comments on Draft Report to Minnesota Pollution Control Agency (MPCA)
Recycling Refund System Cost Benefit Analysis

Dear Mr. Gjerde,

The Container Recycling Institute is pleased to submit our comments on the draft report *Recycling Refund System Cost Benefit Analysis, prepared by* Reclay StewardEdge (RSE).

About CRI

Founded in 1991, the nonprofit Container Recycling Institute is a leading authority on the economic and environmental impacts of used beverage containers and other consumer-product packaging. Its mission is to make North America a global model for the collection and quality recycling of packaging materials. We do this by producing authoritative research and education on policies and practices that increase recovery and reuse; by creating and maintaining a database of information on containers and packaging; by studying container and packaging reuse and recycling options, including deposit systems; and by creating and sponsoring national networks for mutual progress. CRI envisions a world where no material is wasted and the environment is protected. It succeeds because companies and people collaborate to create a strong, sustainable domestic economy. Please visit CRI at www.container-recycling.org and www.bottlebill.org

General Comments

The report, *Recycling Refund System Cost Benefit Analysis* is clear, logical and easy to read. We appreciate that the consultants carefully considered all of the features in their description of the recycling refund system beginning on page 4 (Section 1.3). The list offers valuable insight, which can greatly inform the development and implementation of a "best in class" system.

The findings of the report have been provided in a transparent manner to clearly demonstrate that the vast majority of costs are paid by consumers who choose not to redeem their container (polluter-pays principle), thereby forfeiting their refund to pay for the program. This analysis also clearly demonstrates that participating consumers do not incur direct costs, and producers may incur a net cost about half a penny or less per beverage sold. Furthermore, the report should point out that the proposed system is not funded by taxpayers or ratepayers, and represents a shifting of costs to consumers and producers, as is the case with other Extended Producer Responsibility (EPR) programs.

We also support the finding of job gains to the system from increased material collected. Most of these jobs will benefit Minnesotans from increased collection, transport and processing of material. Jobs are also

supported in secondary processing facilities and manufacturers utilizing recycled content versus virgin feedstock. Recycling glass creates 8.3 jobs per 1,000 tons processed, versus only one-tenth of a job for producing that same glass from virgin materials. Recycling PET creates 9.9 jobs per 1,000 tons processed, versus only 0.6 jobs for creating the same material from virgin resin. Meanwhile, our glass and PET processors in the U.S. and in Minnesota are hungry for more material, and the PET reclaimers nationwide are operating at only about 50% capacity, on average. However, a key to job growth is high quality collection and sorting. CRI's jobs study, *Returning to Work*, found that high quality materials were far less likely to be exported to China, which means that those materials stayed in the U.S. and went on to support U.S. manufacturing jobs, which are high-quality, high-wage jobs.

The report neglects to mention certain environmental benefits of a container deposit-refund system, such as energy savings and reduction of greenhouse gases and toxics. For instance, the increase in recycling created by this proposed system would save energy equivalent to that needed to power over 30,000 homes.

Our comments offer supporting discussion as well as recommendations to make the analysis even more robust, informative and transparent.

1. Program operating costs are high

The greatest cost component of deposit return programs are handling fees paid to collectors, like redemption centers. The overall net system cost is highly sensitive to the estimated handling fees. The study uses only one handling fee scenario, which is an average of 3.91-cents per unit redeemed.

Handling fees for other deposit programs in the U.S. range from zero cents to four cents, though the "4 cent" handling fees are only for a minority of containers in Vermont and Maine. (Commingled containers in VT and ME have a handling fee of 3.5 cents.) Otherwise, Vermont and Maine have handling fees of 3.5 cents. Iowa's handling fee is one cent per container. A handling fee of 3.91 cents would therefore be the highest in the country.

Handling fees in other U.S. states compensate redemption centers for the time-consuming practice of sorting beverage containers by brand, which is a requirement that does not exist in the proposed deposit refund system in this report for Minnesota. If the handling process is proposed to be simpler in Minnesota, then one would expect the handling fees to be lower than in other states, accordingly.

In California, handling fees have decreased twice over the past 5 years as container volumes have increased (which improves economies of scale at the redemption centers).

Also, more efficient operations are possible, and programs in Canada and the U.S. are innovating and reducing program costs. If the proposed system in Minnesota does not allow compaction, then the storage requirements at redemption centers will be much higher, which leads to increased size of the center, and increased rent costs for a larger space. The study envisions redemption centers that are 3,500 square feet. In contrast, many redemption centers in California are less than 1,000 square feet. Even after allowing for larger centers to allow indoor operations in Minnesota, there is an opportunity to scale down the centers, especially if some compaction of containers is allowed.

Handling fees needed to operate reverse vending machines (RVMs) generally falls between 2-cent and 1-cent, depending on the throughput of the machine.

Lastly, in a recent similar study by Resource Recycling Systems (RRS) entitled "Container Redemption System Optimization Study," the study concludes that the collection and processing costs on average are: 1.1-cent/container for manual redemption centers; 1.7-cents for RVM retail locations; and 2-cents for redemption centers.

Compensation of a 3.0-cent average handling fee is probably more reasonable, although still likely too high. The lower handling fee will have a very significant impact, reducing annual program costs by $33 million. (See Table 1.) This would bring net program costs to zero, and would eliminate the estimated cost of the 0.6-cents per beverage price increase. This is consistent with the findings of the recent RRS which reports: "At 10¢ the system is still profitable, however, if recovery rates are greater than 95% the system risks being unprofitable"[1].

Table 1: Total handling costs at 3.9-cents and 3.0-cents scenarios

Units Redeemed (millions)	HF	Total HFs in million $
3,604	$0.0391	$141
3,604	$0.0300	$108
Net Difference		**$33**

Table 2 compares the Vermont program with the proposed Minnesota *Recycling Refund System.* In MN, it is estimated that each redemption center will collect more than double the volume of containers currently collected in Vermont redemption centers (on average). Given the more considerable economies of scale, it is reasonable to model a lower handling fee.

1 *CONTAINER REDEMPTION SYSTEM OPTIMIZATION STUDY*, Resource Recycling Systems (RRS), 2013

Table 2. Minnesota Proposed Redemption Centers Compared to Vermont Existing Redemption Centers

Statistic	Vermont, Existing	Minnesota, Proposed
Population	**.63M**	**5.4M**
Number of Redemption Centers	63	402
Number of Containers through Centers, total	242M	3,604M
Containers per redemption center	3.8M	**9**
Number of Sorts	over 40	**~20**
Handling Fee	**3.5-cents / 4-cents**	**3.9-cents**

Recommendation: Include an alternate handling fee scenario (3-cents average) in the cost estimates, which account for system efficiencies like no brand sorting; reverse vending machines with compaction etc.

2. Projected program costs have very little recognition of potential synergies and efficiencies.
The analysis in the report assumes all new redemption center sites and baling facilities. But according to the recent "working Paper number 2" from Recycling Reinvented, there is an abundance of available capacity at existing Material Recovery Facilities in the state. It would be logical to assume some of these in-state MRFs could serve as baling facilities. It's also logical to assume that some existing small businesses in the state (convenience stores, for example) would choose to expand to become redemption centers, as we've seen in other states. Many of the waste haulers, recyclers and MRFs in the state could choose to operate redemption centers, and offer to provide baling services at their existing operational sites.

Capitalizing on the obvious synergies with the existing MRFs could significantly reduce any losses to MRFs, because they could continue to process many more of the same types of containers. These baling centers/MRFs can also play a key role in the tracking and verification of refunded containers, performing the auditing and anti-fraud procedures that have become best practices elsewhere.

There are also substantial opportunities to reduce transportation costs using in-center or on-truck crushing systems, which have been proven to reduce transportation requirements by as much as 40%. This was the experience in New Brunswick, Canada for example, when the program operator installed "Enviropactor" units in each of their collection trucks. These machines create "mini-bales" which can easily be broken open later and audited as part of the regular verification system.

Recommendation: The proposed Recycling Refund System should be designed as "best in class." The design of the program should be informed by the many innovative measures used in successful deposit return programs all over the world and, wherever possible, use existing capacity in Minnesota.

3. The potential cost savings to the ICI sector is not trivial, and should be estimated for this study.

We have estimated these costs savings to be between $1.8 million to over $4 million per year based on different redemption rates and whether or not savings from recycling are included. The estimates provided in the table 2 below are based on the tons provided in the report table 4 & 5 for ICI generation and recycling of beverage containers.

Savings include avoided tip fees for disposal (valued at $70/ton); recycling costs (valued at $122/ton); and litter abatement (unknown). When litter abatement costs were estimated by KAB in 2009 it was estimated that the lion's share of costs were to businesses that have to clean up parking lots, sidewalks and around storefronts.

Table 3: Estimated costs and savings for IC&I sector

Collection Scenario	Estimated Disposal Costs (based on $70/ton)	Estimated Recycling Costs (based on $122/ton)	Estimated total Costs for IC&I	Net savings from deposit return
33% (status quo)	$2,787,610	$2,432,070	$5,219,680	
77%	$962,104	-	$962,104	**$4,257,576**
84%	$669,290	-	$669,290	**$4,550,390**

Recommendation: Include estimates for avoided costs to IC&I sector and add these savings in the total cost and benefits analysis.

4. Costs associated with number of redemption centers can be reduced and optimized by use of more sophisticated siting techniques.

The study assumes that the system will require 402 redemption centers, with a minimum of one depot in each county, plus an additional redemption center for every 15,000 people. Siting locations for container redemption should primarily be driven by physical proximity (i.e., distance) to people rather than the number of people around the depot. For example, in Canada's largest province, where a deposit-refund system is in place for all beer alcohol containers, 86% of the population of legal drinking age is located within a 5 minute drive from a redemption site.

In Minnesota, in the case of urban areas, redemption centers should be scaled in terms of size to serve a greater number of people, as long as they are within a close proximity. This would suggest fewer, but larger, redemption centers. In more rural areas, where people are used to driving longer distances to go grocery shopping, convenience proximities can be higher. In addition, mobile sites can be used to provide convenience to people in outlying areas, as has been done successfully in Hawaii. Fewer but equally convenient redemption will improve the economic effectiveness of each location and thereby reduce the overall need for a high handling fee.

5. The benefit of surplus funds in the first few years of the program has been omitted from the analysis, but can play a major role in offsetting future costs and start-up education costs.

Based on Hawaii's experience, a new deposit program may take a few years to reach its target redemption rate. Hawaii's redemption rate grew steadily in the first five years before reaching a plateau of 75% to 80%. Their rates were 61% in 2005, 68% in 2006, 68% in 2007, 72% in 2008, and 79% in 2009.

As a result, there will be more unredeemed deposit revenue collected in Minnesota, and less costs associated with collection, transport and processing, compared with the estimated annual long-term net costs. The potential surplus is substantial. Achieving an 84% redemption rate after two years post program implementation is reasonable, and would render a high amount of surplus funds. Consider the following example to help illustrate.

If the program achieves a 60% redemption rate in the first year, and a 70% redemption in the second year, the surplus revenue from avoided handling fees and increase unredeemed deposits is over $220M million (Table 4). These funds can be used to create a program reserve; fund start-up education; and reduce future costs to beverage producers. For example, if all surplus funds were used to offset producers' costs, then the cost to producers would be zero for six years after the program achieved the 84% targeted maintains a $50M reserve.

When earned interest at a conservative 1% per annum is considered, this generates an additional $14 million in year 1 and $22 million on the accumulated surplus after the end of year 2.

Table 4: Surplus fund in the first two years of the program (scenario 60%; 70%)

Program Year	Redemption Rate	Additional unredeemed revenue, millions	Avoided HFs, millions	Annual Surplus
1	60%	$114	$31	$144
2	70%	$67	$13	$79
Accumulated Surplus after two years				**$223**

Recommendation: Include as a benefit in the analysis any cost surplus revenue, which will be raised during the start-up years of the program, and the potential utilization of those funds.

6. The Kentucky CBER study isn't reliable for this purpose of estimating possible sales losses from the Recycling Refund System.

The Kentucky study didn't study *actual* beverage sales or even actual grocery store sales. The Kentucky study used data on grocery store workers' wages, and used that as a proxy for grocery store sales.

Correlation is not necessarily causation

In the regression analysis, the study authors did not consider other factors that have an impact on worker wages, such as differences or changes in minimum wage laws from state to state, differences in unionization of grocery store workers from state to state, differences or changes in tax rates on food, differences or changes in excise taxes on alcohol, mechanization, or general economic development. Furthermore, the study did not publish or state the "R^2 value" that resulted from performing the regression analysis, so there is no way to gauge whether the correlation between grocery worker wages was a strong or weak correlation, or whether the measured difference was entirely due to other factors.

The Kentucky CBER study found that, over a 24-year period, grocery store wages in border counties in non-deposit states had increased 4.6% more than in border counties in deposit states (with no regard for any other differences that might have occurred in the economies of those various counties). This difference over 24 years equates to 0.2% less growth each year. That small of a difference in growth rates is well below the margin of error for any such measurement – it is simply too small to measure or predict with any accuracy. It is likely that such a slight difference is customary between any two counties, whether in

different states or not. Furthermore, by definition, it is a decrease in future growth, not a decrease in current sales. So it doesn't mean that the study predicted that current jobs would be lost. **It predicted that the future growth in jobs would be very slightly lower, as measured over a 24-year period.**

The use of data from "border counties" is also problematic. In Southern California, there are two extremely large counties, San Bernardino and Riverside counties, and both of these were included in the study. These two counties have a combined population of over 4 million – indeed, the population of each of these counties is larger than the entire populations of the States of Vermont and Maine, which are also included in the study. Yet these populations are in the western edges of these counties, nearly 200 miles from the border with Arizona. Surely these millions of residents do not shop at grocery stores in far-away Arizona.

Recommendation: The discussion in the report related to lost grocer worker wages and subsequent assumed job losses should not be excluded from this analysis (as per discussion above). Instead, the report should consider all of the variables than can affect cross border sales (like different tax levels for example) to be more informative on the subject. The presentation of this discussion should be more qualitative than quantitative (meaning, no exact quantification of "job losses.") This approach is consistent with how the benefits of litter reductions were reported in this study.

7. Status quo recycling rate of 45% is likely overestimated because it does not account for mis-sorted material at MRFs and glass fines destined for disposal.

Beverage container recovery from curbside recycling and recovery from container deposit programs are not comparable. Table 3 on page 7 estimates that the current beverage container recycling rate in Minnesota is 45%. A waste composition study was used to estimate disposal quantities, and recycling quantities were derived from the disposal and generation quantities. There was no allowance for the obvious fact that glass beverage bottles are typically broken en-route from the collection point to the disposal site. Indeed, that is exactly what the on-board compaction equipment is designed to do. Therefore, when it comes time to sort and weigh items in a waste composition study, much of the glass will already be broken and too small to study, or embedded in other items, leading to an underestimate of glass beverage container waste.

Furthermore, there has been no adjustment for losses from mis-sorting represented in these totals. There is always a portion of material that is improperly sorted in a MRF. Cans end up in paper bales, glass in plastic, plastic in cans, etc. In order to accurately estimate a recycling rate, losses during the sorting process should be accounted for. The weight of material recycled into a raw material to supplant virgin feedstock constitutes recycling, not contaminants destined for disposal.

Table 4 shows the rates in the report, and the actual recycling rates, which account for losses from mis-sorting which will be discarded further downstream, usually at glass processor, plastics reclaimer and aluminum smelter. This issue was studied extensively by the State of Oregon Department of Environmental Quality, in their report, "Composition of Commingled Recyclables Before and After Processing," March 2011. The estimates used in the table below are much more conservative than what was found in the Oregon study.

If 19% of the glass originally collected curbside ends up as fines at the glass beneficiator or other processing sites, then the weight of those fines should be subtracted from the total. The current beverage container recycling rate would drop to **40%.** If we deduct contamination for plastics and aluminum, the recycling rate drops to **37%.** (See Table 5.)

In contrast, recycling rates for the beverage container deposit program is reported on a unit basis, at 84%, and there is typically less than 2% contamination in deposit material.

Table 5. Estimates of Recycling, After Accounting for Improper Sorting

Container Type	Generation (tons)	Total Recycling tons	Total Recycling rate	Percent of collected containers that are mis-sorted at MRF*	Revised Total Actual Recycling	Revised Recycling Rate
PET Bottles	41,732	18,532	44%	16%	15,567	**37%**
HDPE Bottles	9,878	4,698	48%	16%	3,946	**40%**
Other Plastic	2,681	536	20%	16%	450	**17%**
Alum Cans	32,087	16,986	53%	15%	14,438	**45%**
Steel Cans	63	37	59%	n/a	37	**59%**
Glass Bottles	155,072	73,052	47%	19%	59,172	**38%**
Aseptic Gable	9,317	382	4%	n/a	382	**4%**
Foil Pouches	261	0	0%	n/a	-	**0%**
TOTAL	251,091	114,223	45.5%	-	**93,993**	**37%**

*A conservative estimate based on claims from glass; plastic and aluminum processing industries.

Recommendation: Add a new column, "Percent collected containers that are mis-sorted at MRF" to Table 3 of the report and re-calculate recycling rate. The entire benefits analysis should be based on the revised lower rate.

8. The report should consider the benefits of cleaner material collected from the *Recycling Refund System* and the benefits to the supply chain.

There are many US glass, plastic and aluminum processors, converters and end-users that use collected recyclables. Each benefits from greater volumes of cleaner material. This means less energy expenses; less emissions; less wear and tear on equipment, less downtime; and greater yield rates. While these benefits are difficult to quantify, the report should provide some discussion at least, and list these qualitatively.

Recommendation: The report should consider the benefits of cleaner material collected from the Recycling Refund System and the benefits to the supply chain.

9. Limited reporting on the costs and scope of impacts from beverage container litter

We recognize that estimating a cost savings from litter reduction is challenging. However, it is worth at least presenting the results of some well-known studies, which do provide some context as to the size and scope of those costs and impacts.

For example, not only does litter cost a significant amount to collect and dispose of, (estimated to cost approximately $10 billion in the US for litter pick-up[2]), but litter-related costs are also borne from storm drain clean up; damage to farming equipment and livestock, and the impacts from marine debris, which beverage containers comprise a significant share of.

Research from the UK[3] identifies and monetizes the "disamenity" associated with uncollected litter. The study found that the average householder would be willing to pay $41 per year (25 pounds sterling) to live in a neighborhood where the streets are kept clean.

As a result of the financial incentive to recycle, deposit-return has reduced littering of beverage containers (metals cans, plastic, and glass bottles) by 70 to 80 percent, and total littering by 30 to 40 percent[4]. These benefits should not be taken lightly in the report and should be explored further.

Recommendation: Expand the discussion in the report on the benefits of reduced litter from the Recycling Refund System. Present the results of some well-known studies that report on impacts of litter from all source points, not only public spaces.

10. "Special trips"

We agree with RSE's decision not to include an additional cost for "special trips" to redeem containers. Best in class deposit return programs, where convenient redemption is available to consumers, is unlikely to cost consumers more money. It is the consumer's choice whether to make a special trip or combine it with other errands, and therefore any extra cost should not be part of the analysis, as they can ultimately be avoided. In 2013, VPIRG – Vermont Public Interest Research Group informally polled redemption center owners and they indicated that the vast majority (80-90%) of redeemers make purchases at their store or near the redemption center during the same trip. One redemption center owner tracked the purchasing habits of customers for an entire day and found that 92% made a purchase at the time of redemption, negating the claim that these were "special trips," which leads to a very different conclusion than the DSM study. Furthermore, the sample size of the store owner's records was far larger than the DSM sample size.

Recommendation: Maintain the current methodology of excluding presumed "special trips" for redeeming container in the cost benefit analysis.

Sincerely,

Susan V. Collins
President

[2] *2009 Visible Litter Survey and Litter Cost Study. Final Report,* September 18, 2009. Prepared by MSW Consultants for Keep America Beautiful, Inc. Stamford, CT.
[3] Cambridge Economic Associates et al (2010) Development Work to Value the Impact of Regeneration, Technical Report: Environmental Quality and Amenity, May 2010
[4] Source1: Container Recycling Institute (CRI); Source2: Perchards (2005) Deposit Return Systems for Packaging

January 20, 2014

Wayne Gjerde
Minnesota Pollution Control Agency
520 LaFayette Road North
St. Paul, MN 55155

Dear Mr. Gjerde:

Thank you for the opportunity to provide comments on the Minnesota Pollution Control Agency's (MPCA) Recycling Refund System Cost Benefit Analysis, by Reclay StewardEdge, which was labeled as a draft report dated January 10, 2014. Dem-Con Materials Recovery, LLC (Dem-Con) is a third-generation, family owned company that has been providing recycling, processing, and disposal services for the Twin Cities metropolitan area since the 1960's. Our operations include a state-of-the-art disposal facility, a Construction and Demolition (C&D) Materials Recovery Facility (MRF), Shingle Processing MRF, and a newly constructed Single Stream Recycling MRF which opened in December 2013. The proposed container deposit system represents a significant threat to our company, and the newly constructed single stream facility, and we therefore offer the following comments for your consideration:

I. **The existing recycling system encourages innovation and investment into the system which has increased the amount of materials we recycle.** Dem-Con has become an industry leader in recycling and processing of waste through a continued focus on investing into recycling and waste processing to increase landfill diversion and minimize disposal. In the last five years alone we have constructed the following recycling/processing facilities:

- Constructed a new C&D MRF in 2008 – added 20 local jobs;
- Constructed a new Shingle MRF in 2008 which added 5 local jobs;
  - Instrumental in working with MnDOT to develop shingle recycling in State of Minnesota and were a recipient of the Governor's Award;
- Constructed a new Single Stream Recycling MRF in 2013 – added 53 local jobs;
  - One of the largest recycling facilities in Minnesota constructed with all private funding.

As can be seen from the recent construction of our Single Stream Recycling MRF, and several others scheduled to be constructed in our market place by other companies, the current system is driving innovation and investment into recycling. Single Stream Recycling has been documented to increase recycling rates by 30-50% in several communities including the City of Minneapolis, which recently switched to single stream recycling. In short, the current system is working and provides a framework for successful public/private partnerships that are continuing to increase recycling rates.

Phone: 952.445.5755 Fax: 952.445.8288 13161 Dem-Con Drive Shakopee, Minnesota 55379

II. **A container deposit system would remove the most valuable commodities from the existing recycling system resulting in an increase in cost to the consumer to recycle the less valuable commodities.** With the current system, the costs of processing recyclables at facilities such as ours are paid by the sale of the commodities with an additional refund typically going back to the municipalities or customers. Without the beverage containers, the cost of processing the other less valuable recyclable materials will be borne by our customers, and ultimately the consumer, increasing their cost to recycle at the curb. These other recyclable materials will still need to be collected from the curbside but at a higher cost. This creates a disincentive for the recovery of these products.

III. **A container deposit system would render significant portions of our facility, which we have invested millions of dollars into, obsolete.** The existing infrastructure at our facility, and others like it throughout the State, have been designed to separate the containers from the other recyclables producing a high quality end products which are desired by the end markets. Specialized equipment such as optical sorters and eddy current separators has been purchased by our facility to separate these containers. The deposit system would render this system obsolete. Additionally, if a container deposit is implemented, given the dramatic change in policy, we would be reluctant to invest in future recycling programs given the uncertain regulatory environment in the future.

IV. **Dem-Con believes that the State of Minnesota should continue to work toward higher overall recycling rates by implementing programs that complement the existing recycling system rather than leaving the existing system, and companies like ours, as a "stranded asset".** Some of these additional measures that would increase recycling could include the following:

- Continue to support and encourage the implementation of single stream recycling;
- Mandated commercial and residential recycling;
- Support and fund local recycling associations and programs such as the Message in a Bottle program;
- Continued education of the community on what can and cannot be recycled as well as the important economic and social benefits to recycling.

Dem-Con appreciates this opportunity to provide comments on the draft Recycling Refund System Cost Benefit Analysis and we look forward to working with the MPCA in the future to help implement strategies to increase recycling that does not undermine the existing recycling infrastructure. If you have any questions or would like to discuss these comments further please feel free to contact me directly at 952-224-7102.

Sincerely,

William P. Keegan, P.E.
Vice President
Dem-Con Companies, LLC

Beverage Container Model within Zero-Waste Context:

Thank you for the opportunity to comment on the beverage container recovery model. We recognize beverage container deposit legislation is an effective tool towards zero waste which is a demonstration of our mission. While the proposed recovery model is a beginning to an important conversation, the economic model misses important opportunities for source reduction and simplifies some impacts that could have greater consequence than has been identified in the model.

As presented, the context around this cost-benefit report is primarily related to the 2007 MPCA recommendation to reach 80% diversion rate while considering direct economic impacts to households, the recycling industry and communities. We believe that there are additional important zero-waste goals that need to be defined to help guide an effective beverage container recovery program. Since we are an environmental, mission-driven organization with a fleet and a MRF (Material Recovery Facility) that help us to demonstrate our mission, we also have some direct experience to speak to the potential impact to these systems.

Recommended Zero-Waste Goals Include:

- Fitting the 80% beverage container recycling goal into the overall waste reduction efforts and infrastructure investments currently working in Minnesota. Learn from the past by addressing prevention first. Co-create this or another system simultaneously to address all packaging—not just beverage containers.
- Prevention again—promotion of refillables and other, more sustainable packaging is missing from this system (protect businesses who invest in refillables by making them have the lowest costs for material handling/value in this system).
- Promoting local markets for recyclable commodities and sustaining or increasing the local economy.

Many have scoffed at the "haulers' " concerns and, while we do not consider ourselves a "hauler," we believe that an authentic conversation about those concerns with an eye to the goal of zero waste may shed some light on parts of this report that miscalculate the impacts of this model. While we operate a fleet and a MRF, our bottom line is and always has been zero waste and if that means that fleets and MRFs will not be needed because we have gotten to zero, then so be it. While we do not agree with all of the claims of the "haulers", which is evident in our general support of container deposit legislation, we will only support a model that truly acknowledges and authentically attempts to address the actual impacts to the system that is in place.

We assume this report will not be supported by haulers who depend on the income that this report suggests will be lost. We think this is because this report provides no evidence to support that. The chambers of commerce and the solid waste organizations won't support this because they traditionally defend the "haulers."

This continued positioning that haulers are self- protecting and their comments are not valid versus hauler's concerns about their businesses and their ability to survive these changes will not get us what we want, to increase recycling and reduce waste.

While there may be some strategy that surmounts the haulers' opposition, what is missed in this accounting is that **any loss of revenue/increased cost that the "hauler" incurs <u>will be passed on to the greatest extent possible, to the customers:</u> the municipalities and the residents of Minnesota.**

Our specific comments about this report are within the context described above: a zero-waste organization with an on-the-ground understanding of the operations that are discussed in theory throughout the report. While the system the report has laid out can likely bring us from our current 45% to 80% diversion for beverage containers, without looking at the bill design within this context, the costs are not reflected accurately. As a result we can expect unintended consequences that will impact the environment, local economy and jobs. We think this can be remedied by the following recommendations.

<u>1. Prevention</u>

A. We can reduce (or even eliminate) the impact of single-use bottles by returning to refillable bottles, where consumers return reusable bottles to the manufacturers to be used again and again. Before the relatively recent introduction of disposable plastic bottles, bottle bills were created to support refillable bottles. According to the Beverage Packaging Environment Council, 31% by amount (34% by weight) of all beverage containers are consumed away from home. According to Fast Company Magazine, Americans went through about 50 billion plastic water bottles—or 167 for each person—in 2006. About 40 billion of these bottles were wasted, becoming either litter or garbage.

   <u>Recommendation:</u> The proposed system would put a deposit on refillables and single use bottles. In order to encourage refillables, we recommend that the refund system incentivize refillables through the unredeemed deposit values and not put the cost of the first deposit for refillables on the consumer.

   <u>Recommendation:</u> The system should include a financial mechanism to charge producers more for non-refillable bottles.

<u>2. Redemption Center Model</u>:

A. On page 10, the report specifically defines redemption centers as "for profit". However, page 5 notes that "Redemption Centers may be operated by retailers (on a voluntary basis), local government, charitable/non-profit

organizations, and solid waste facilities (such as materials recovery facilities or transfer stations)."

> Recommendation: While it may not have been intended to designate only "for profits" on page 10, it should be clear that nonprofit or other structures should not be eliminated from running these facilities.

B. The system is currently designed to encourage independent redemption centers to be created through a financial incentive to collect the handling fee, but specifies that MRFs would be exempt from collecting the handling fee. In some cases, MRFs can more efficiently handle the material with other commodities they are already baling and sorting for end markets (see further comments on baling section).

> Recommendation: Leverage the existing recycling capacity where available by allowing MRFs to collect a handling fee.

C. Because of the significant economies of scale achieved through high volumes, small local companies will struggle to compete.

> Recommendation: A free-market approach to this system will not provide the best local economic development benefits. Create a mechanism to promote smaller (which are generally local) businesses and allow them to compete.

3. Redemption Centers Incentive to Collect from Bars and Restaurants:

A. The report, on page 10, describes a model that will incentivize redemption centers to collect from bars and restaurants, but there is no financial analysis of the impacts of this system. As this is an economic model it should at least be acknowledged that it is not addressed. This system will compete with existing recycling infrastructure, affecting businesses that serve bars and restaurants now, and will affect the local economy. While this may be the intention of this system it is not accounted for in the cost of the program. Beyond losing the direct redeemable bottle stream, we believe that pulling out this valuable material could disincentivize the recycling and composting of other materials at these businesses because of the loss of collection efficiencies and space capacity for these businesses to sort additional streams.

Recommendation: Conduct further analysis on the impact of the proposed collection of redeemable containers from bars and restaurants to the recycling and composting of other materials.

4. Participation Impact of Redemption Center Locations and Convenience Requirements:

A. The voluntary participation of point of sale retailers presents a different convenience scenario as related to other redemption programs. Several studies evaluating drop-off recycling have shown that participation decreases as distance increases. The minimum number of redemption center locations required per population outlined in the report will not provide the level of convenience for bottle returns that is provided by other programs, where bottles can be returned to point of sale. More than two dozen counties in rural parts of the state will only qualify for one redemption center based on the current population requirement. This will require long distance driving to redeem bottles, making it much less convenient than purchasing them.

Recommendation: Provide further analysis regarding the impact of the convenience requirements to participation as well as the resulting environmental transportation costs due to driving to redemption centers.

5. Baling Facilities and Use of Existing Recycling Baling/Sorting Capacity:

A. The baling facilities in the current design will be set-up according to a competitive bid process. We assume that the writers of the report did not intend to create a parallel system of baling to the current infrastructure and local economy, but the report does not make this clear. Another unintended result of developing new baling facilities could be additional trucks shipping material to the same markets resulting in negative environmental impacts.

Recommendation: The system should use existing recycling infrastructure by assigning baling capacity to existing MRFs proportionally based on the amount and type of materials they will be losing.

6. Impact to Existing MRFs and Revenues:

A. The report proposes MRFs be allowed to deliver redeemable bottles directly to baling facilities and receive the redeemable value but not the handling fee. The estimated loss of revenue to MRFs statewide is $0.6 million based on an assumption that MRFs will sort out non-redeemable containers from

redeemable containers, meet the specifications for redemption and receive the redemption value, (this is excluding all glass bottles which are assumed to not be recovered). If this is possible it would obviously be done at a greater cost to the MRF than they now experience but there is no accounting for that in this model.

Recommendation: Do additional analysis around whether such sorting is feasible, financially and operationally, in order to understand the impact to the existing recycling sector and the local economy.

We believe there is an additional unrecognized cost to MRFs that will result from a higher percent of fixed costs being allocated over less tons after losing the estimated tons in this report. In addition, it is unknown what the impact on processing costs for non-bottle bill materials will be from a new composition of materials that will run on equipment built and invested in before the removal of these containers. A possible solution is to allow ownership of the containers to stay with the MRF.

Recommendation: Analyze the cost of allowing MRFs to maintain ownership of the bottles and market redeemable beverage containers and unredeemable beverage containers together and/or other means of making up for this increased cost so that it does not get passed to the municipality. *(The MPCA and BCRO could do periodic composition analysis along with estimates of unredeemed bottles in the state to set what percentage of different material types are redeemable and use that to fairly distribute redemption value to MRFs.)*

7. Additional Costs to Producers and Incentivizing Environmental Packaging:

A. Regarding covering the deficit incurred by the system, the report notes on page 18 that "the method of apportionment of this deficit to distributors will be a decision that the board of directors of the BCRO will make – it is very likely that distributors who package their beverages in low net-cost materials such as aluminum will pay low or no additional fees for their aluminum cans, whereas they will be assessed higher cost rates for materials such as glass." In addition the proposed system gives the BCRO control of where materials are marketed. The proposed structure of the BCRO is an unbalanced slant towards industry control.

Recommendation: The BCRO should be comprised of consumers who pay the deposit by a majority and those consumers should have no ties or interests in the impacted industries.

Recommendation: Create a financial mechanism for refillables that levels the playing field

Recommendation: Create a mechanism to ensure that material is directed to markets most environmentally and economically beneficial to the community (not just financially beneficial to the industry). This would include the creation of minimum definitions for what are acceptable recycling end markets and independent verification and reporting of the ultimate use for material redeemed. British Columbia has very effective reporting requirements that could be looked at.

8. Impact to Municipalities and Households

A. The report notes a potential savings of $0.09 per household per month will be realized as a result of efficiencies in collection due to less volume and getting rid of mid-day dumps. This makes the assumption that any savings will be passed on to households and/or municipalities. There is no mechanism in place that would result in these savings being passed on to municipalities and/or households. The report assumes that the household/municipality will see savings for less volume and tip fees in disposal. Again, it is unlikely that any savings would be passed on to residents without creating an incentive in this system.

Recommendation: Develop a system, such as making the current "Pay as You Throw" system functional, to allow the realization of savings to households through reduced garbage costs.

B. Because the increased processing costs to MRFs are not adequately analyzed the impact of revenue share loss to the cities is not adequately analyzed.

Recommendation: Further analyze the impact of revenue share loss.

9. Further unrepresented impact on Existing Recycling programs:

A. A $.10 deposit encourages residents to participate in deposit system and not to put redeemable bottles in curbside programs. The report does not address the impact of scavenging and how scavenging can impact resident's trust and willingness to put other materials in the recycling. There must be studies that can provide some insight into the impact of this so that the "cost" can be accounted for in this model.

Recommendation: Further analyze the impact of scavenging on participation in recycling.

MBWA
MINNESOTA BEER WHOLESALERS ASSOCIATION

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January 16, 2014

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Mr. Gjerde,

Thank you for the opportunity to submit comments regarding the MPCA's container deposit cost benefit analysis on behalf of the Minnesota Beer Wholesalers Association (MBWA). We believe this study verifies the concerns that we pointed out in our previous letter about a statewide container deposit program.

While the report indicates that recycling rates for certain containers will undoubtedly increase, it proves that this will come at a great cost to consumers and the industry. Off the bat this program will run at an annual projected deficit of $29 million which your report indicated would be paid by beverage distributors. Additionally, by creating a whole new system of recycling for one portion of the recycling stream you would be shifting valuable products away from private recyclers and forcing consumers to pay "undetermined costs" to transport the beverage containers to redemption sites.

Minnesota enjoys some of the highest recycling rates in the country and while there is still a ways to go to realize maximum capacity and effort, we strongly encourage the MPCA to continue to educate producers and consumers on the benefits current recycling programs have. In addition, we should continue to study the programs that are working now and implement ways to make them better. In fact the Aluminum Association just this past year released results from aluminum recycling in 2012. According to their release "industry recycling of aluminum beverage containers in the United States continued its decade-long upward trend in 2012 with a rate of 67%, according to data released by the Aluminum Association, Can Manufacturers Institute (CMI) and Institute of Scrap Recycling Industries (ISRI). This is the highest recycling rate since the early 1990s and the second highest rate reported since the survey began in 1972." Again, proving the point that recycling rates can and do in fact increase with continued effort at marketing and educating the public on the importance and positive aspects of current recycling efforts.

Fraud is also an issue we mentioned in our previous letter and your report states, "the potential for fraud will be higher in Minnesota than in other U.S. deposit states because the ten cent deposit is double that of the five cent deposits in those other states." Your report goes on to explain that the expansive program you are proposing makes fraud detection far more difficult.

This will have an adverse impact on retailers and consumers and contributes to the $29 million annual deficit this program begins with.

We continue to have serious concerns about a container deposit program. Higher costs, fraud, potential negative impact on current successful recycling programs are just a few. Your report itself says "estimates of the impacts of a recycling refund system in Minnesota that are provided in this report are highly sensitive to the details of how such a system may be structured and operate." A container deposit program has huge impact on the members of MBWA. All of our members are small to midsize family owned businesses who care about the economy and the environment.

Our members are strong advocates in the cause to ensure recycling programs succeed in Minnesota. It is our belief that maximizing recycling efforts help sustain a healthy environment and a healthy economy. However, implementing a drastic change to a system that is working will only cause undue hardship to business owners and consumers and in the end may not be beneficial.

Sincerely,

Mike Madigan
President, Minnesota Beer Wholesalers Association

MINNESOTA BEVERAGE ASSOCIATION

Representing the bottlers & distributors of non-alcoholic beverages

January 21, 2014

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

Dear Mr. Gjerde:

Attached please find the written comments from the Minnesota Beverage Association regarding the MPCA's draft cost-benefit analysis. Some of our top concerns include:

- The report misrepresents the $29 million deficit created by the proposal as the cost of the proposed scheme. The actual cost of the deposit system would be $219 million per year ($179 million in operating costs documented in the report plus $40 million in travel costs for consumers to drive to redemption centers but not quantified in the report). The bulk of the cost of this system would fall on Minnesota consumers. This compares unfavorably to the $74 million that it currently takes to run the entire residential recycling system.

- While we believe the incremental recycling benefits projected are overstated, even using the optimistic figures in the report, the deposit/refund system would increase Minnesota's recycling rate by less than two percentage points – from 46 percent to 48 percent.

- By reducing the number of redemption centers by two-thirds from the original MPCA proposal, the cost-benefit analysis greatly reduced the cost of the proposal, but in doing so shifted the costs onto the consumer in the form of longer trips to the redemption center. The report assumes just 47 redemption centers for rural Minnesota – less than one per county. This problem is magnified by assumptions that limit the number of containers consumers can redeem in each trip, leading to more trips.

- The proposal creates a new tax on beverage distributors which will get passed through to consumers in the long term. A new non-elected entity with taxing authority is also created.

- The impact of fraud is significantly underestimated since Minnesota has nearly double the share of population living in border counties compared to California and the higher 10¢ deposit provides for an increased incentive to commit fraud.

Sincerely,

Tim Wilkin
President

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Comments on
Recycling Refund System Cost Benefit Analysis[1]

The Minnesota Pollution Control agency (MPCA) has developed a unique and unprecedented scheme for a beverage container deposit/refund system for Minnesota and released a draft report projecting the impacts of that system on January 9, 2014. This document reflects comments made at MPCA's January 14 public meeting as well as additional detailed questions and alternative analysis.

The consultants had a difficult task to simulate the impact of an untested deposit/refund system. We find that the way in which the results are presented minimizes and mis-states the actual cost of the system, especially the burden on consumers. Our primary analytical concerns are (1) omitting the critical consumer travel/redemption cost (referenced in the draft, but not quantified) and (2) overstating the incremental recycling impact of the proposed scheme. We have expanded on these concerns below and addressed a number of additional issues.

1. The proposed scheme would cost $219 million per year – not the $29 million cited in the report's Executive Summary.

- The report documents **$179 million** in annual costs to operate the scheme devised by MPCA (p.23), principally to fund more than 400 newly-established redemption centers.

- The report excludes "undetermined costs incurred by consumers in transporting beverage containers to redemption sites." We estimate that cost conservatively at **$40 million** per year.[2] **The consumer costs should be included in the analysis.** While not a convenient truth for deposit advocates, consumer research in multiple states indicates that incremental travel/special trips for redemption are common, even in a state like Iowa where virtually all redemption occurs at retail stores.

- The combined **$219 million** cost reflects the development and operation of a completely new system to handle recycled beverage containers – despite the fact that the existing recycling system could handle these containers today.

- This is a system cost and does not consider the incidence of costs across different stakeholder groups, although as noted below, consumers would bear most of the cost.

[1] Based on January 2014 draft by Reclay StewardEdge for MPCA; comments prepared by Northbridge Environmental for the Minnesota Beverage Association.

[2] Research on consumer redemption costs has been conducted in California, Iowa, Massachusetts, Rhode Island, and Vermont with Vermont being the most recent and applicable given a nearly identical population density and a similar heavy reliance on redemption centers as opposed to retail redemption. Vermont's consumer costs are just under $200 per ton ("Systems Analysis of the Impact of Act 148 on Solid Waste Management in Vermont," Vermont Agency of Natural Resources, October 21, 2013, Table 46). $40 million is the product of $200 per ton and 200,000 tons modeled as being returned for redemption. Because the Minnesota scheme would provide for many fewer redemption opportunities than Vermont on a per capita basis, travel distances and costs would likely be higher in Minnesota, so this is a conservatively low estimate.

- Characterizing the operating cost of the system as $29 million is misleading at best. The $29 million figure is simply the amount of outside subsidy required to operate the system after all other revenue sources are exhausted; the report asserts that covering this shortfall would be the responsibility of beverage distributors as the operators of the proposed system.

2. The scheme would cost Minnesota consumers $178 million per year.

Consumers would directly or indirectly fund most of the cost of this new system through forfeited deposits on containers they do not redeem and through the cost to travel to designated redemption locations to collect refunds.

- According to the study, consumers would **forfeit $109 million in deposits** each year: $74 million worth of dimes would not be redeemed at all and $35 million are assumed to be redeemed by MRFs or others, but all $109 million would come from Minnesota consumers.[3]

- Many consumers that do redeem containers would make special trips to do so or would travel out of their way to redemption centers. **$40 million in travel costs** (see footnote 2) is a conservative estimate given that Vermont (on which the estimate is based) has many more redemption opportunities per capita than Minnesota would have.

- Finally, consumers would ultimately fund the **$29 million shortfall** required to operate the system, since producers would likely incorporate those costs into prices over the long term.

3. The proposed scheme would nearly triple the cost of recycling in Minnesota, but increase the recycling rate by less than two percent.

- The net cost of the system after scrap revenue is deducted would be $143 million.[4] That compares to a cost of the current residential recycling system of between $61 million and $74 million.[5] So adding a deposit system would triple the state's recycling spending.

- The incremental recycling projected from deposits is 107,000 tons (likely overstated as noted below), but that is only 1.9 percent of MSW, so to use deposits to move the state's recycling rate from 46 percent to 48 percent would take three times the spending.

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[3] Unclaimed deposits are not an indication of laziness or disinterest by consumers, but more a reflection of the burden associated with redemption. Consumers that forfeit deposits are making a rational economic choice that claiming the refund is not worth the time, space, travel cost, and other aggravations – especially when the containers can be simply recycled at home for virtually no effort. The existence of the deposit mandate coerces the consumer into paying the deposit (which for them is effectively a tax).

[4] $219 million gross system cost minus $76 million in scrap revenue.

[5] "Extended Producer Responsibility Cost-Benefit Study – Working Paper 2," Recycling Reinvented, January 11, 2014, http://marketbasedrecycling.com/marketbasedrecycling/wp-content/uploads/2014/01/RR-EPR-MN-Study-Working-Paper-2.pdf

4. The draft understates baseline recycling and therefore overstates incremental recycling from the deposit scheme by between 42% and 75%.

By overstating the incremental effect of deposits, the study inflates the benefits attributed to the proposed system.

- Current beverage container recycling is underestimated based on our analysis of MPCA's Statewide Waste Characterization report released in October; we were unable to reconcile discrepancies between the draft and the waste composition data. Detailed calculations and comparisons are shown in Attachment A.

- For aluminum, the beverage can recycling rate in Minnesota should be 62% according to sales data used in the draft report and the waste composition study results. The draft report, however, shows only a 53% rate.[6]

- For glass, the waste composition report data indicate that the beverage container recycling rate should be between 66% and 75% rather than the 47% in the draft.[7] The range for glass results from an "exception to the methodology" made in the draft report. This special assumption makes the deposit proposal appear more effective.

- The net effect of these discrepancies is that the draft overstates the recycling impact of the proposal by between 42% and 75%. As noted earlier, even at the overstated figure in the draft, the impact on the state's recycling rate would be less than two percentage points.

5. The report soft pedals the impact of fraud.

- Fraud is a pervasive problem with deposit/refund systems and the magnitude of the 10¢ deposit provides a powerful incentive for fraud within the redemption system and from across Minnesota's long border. Every fraudulent redemption increases the program's deficit and adds more to the bill consumers must pay for this scheme.

- In the draft, fraudulent redemption is counted in the benefits attributed to the deposit scheme. We do not believe this is appropriate, especially if the containers in question were already destined for recycling in another state.

- We also believe the report understates the magnitude of fraud. For example, the total recycling rate for aluminum cans is projected to be 90% (Table 6), but the recycling rate in California was 94% in 2012 with only a 5¢ deposit (10¢ on 24 oz and larger). Having twice as high a deposit would induce significantly more fraud than experienced in California, driving up the apparent redemption rate. An individual defrauding the

[6] Table 3 implies disposal of 15,101 tons of aluminum cans in contrast to 12,200 tons in the waste composition study Table 5-1 – see Attachment A for detail.

[7] Table 3 implies disposal of 82,020 tons of glass beverage containers in contrast to 53,000 tons from the waste composition study at the 90% percentile level of 1.8% of total disposal (Table ES-1). The draft implies that disposed glass beverage containers account for 2.81% of all MSW disposed. See Attachment A for detail.

California system stands to earn the 3¢ difference between a 5¢ "refund" and the roughly 2¢ per pound available for aluminum scrap. In Minnesota the incentive would be 8¢.

- In addition to the stronger economic incentive, Minnesota has nearly double the share of its population living in counties bordering other states compared to California. So the demographics also argue for fraud being an even greater issue in Minnesota.

- Finally, the report should explicitly address the problem of scavenging, even though quantifying the impact would be difficult. Scavengers already despoil parks and neighborhoods rummaging through recycling and trash bins for containers where refunds are only 5¢. The 10¢ deposit would compound the scavenging problem and likely divert to redemption some of the materials and funds modeled as going to MRFs.

6. Costs to operate the redemption system reflect an optimistic "best case."

The analysis reduced the number of redemption centers modeled by two-thirds compared to the original MPCA proposal as a way of reducing the cost of the system. This change makes the cost of the system appear artificially low because it shifts more of the cost burden to consumers to travel longer distances to redeem, yet those costs are excluded from the draft analysis. The net effect is that the report masks the full costs of the system.

- The projected operating costs of the redemption system are substantial ($141 million to centers alone), but assuming the creation of a relatively small number of very large redemption centers keeps that cost comparatively low.[8] The explicit reason for reducing the number of centers was to minimize operating costs, but there is a critical, hidden trade-off of convenience and travel time/costs for consumers.

- The consumer burden of redeeming containers (quantified conservatively at $40 million per year) would be greater than in other deposit jurisdictions. While the draft notes that California and Hawaii have comparable numbers of residents per redemption site (12,000 to 15,000), the population *densities* of those states are four to five times higher than Minnesota's. That means that Minnesota consumers would face much greater distances to reach the typical redemption site.

- The burden on rural consumers seems particularly severe. The analysis identifies only 47 redemption centers in "rural" areas. It is hard to imagine how the state's rural population can be served by so few sites without requiring very long driving distances.

- Our use of Vermont as a proxy for consumer cost is very conservative given that the Green Mountain state has roughly one certified redemption center for every 6,000 residents (twice as many as modeled for Minnesota) as well as hundreds of retail locations where containers can be redeemed.

[8] The magnitude of costs appears reasonable given the scale of these operations; if assumptions were changed to increase the number of redemption centers and the convenience for consumers, then costs per unit redeemed would rise.

- It is worth emphasizing that the approximately 4¢ per container redemption center cost is achieved largely because of the assumption that the redemption centers would have very high throughput of 6 to 10 million containers per year. The average certified center in Vermont handles about 1.7 million. More numerous, smaller centers would mean higher costs.

7. Costs to existing recyclers are understated.

Separating deposit containers at MRFs would be more costly and more difficult than assumed in the analysis, driving up costs.

- The draft assumes MRFs would virtually break even, losing more than $15 million in commodity value but receiving nearly $15 million in "refunds" for deposit containers they pluck out of their recycling facilities.

- We believe that the effort of separating those containers would impose a significant cost on facility operators, leading to either a net loss to these facilities or a lower share of the material being removed for "refunds." In either case, the impact on existing recyclers would be greater than estimated.

    - The analysis does not include any cost associated with the largely manual recovery of 150 million bottles, cans, and cartons. Since facilities would have to make facility and staffing changes to accommodate the required sorting, they would incur at least some premium above normal operating costs to handle these containers, separate them, secure them, and transport them.

    - It is likely that these costs and physical limitations would render some MRFs incapable of separating the containers, so the "redemption" of 150 million units from these facilities may be overly optimistic.

- As noted earlier, scavenging would be a particular problem for containers left out for municipal recycling collection. Experience in other deposit jurisdictions indicates extensive scavenging of recycling carts, creating messes for residents and short-changing MRFs on the material they expect to receive, a problem that would be exacerbated by the higher 10¢ deposit

- Accepting MRF-sourced containers for refund may pose an audit challenge for redemption centers and the system administrators. Given the condition of these containers, it may be very difficult to distinguish these containers from material that had previously been redeemed or recycled. Accepting flattened, crushed, or de-labeled containers for redemption opens up enormous potential for fraud and is not allowed in many deposit jurisdictions.

8. Other benefits attributed to the proposed system are also overstated for a variety of reasons.

- **Residential disposal savings are overestimated** to the extent that incremental recycling is overestimated (see earlier point). Given our calculations, instead of $4.4 million the disposal cost savings would range between $2.5 million and $3.1 million. This needs to be compared against the $178 million cost to consumers (since consumers and local taxpayers/ratepayers are one and the same). The draft concludes that residential collection costs for recycling and trash are effectively unchanged, which is reasonable.

- **Estimated job impacts come at an extremely high cost.** The system cost of this scheme would be $219 million. That cost is equivalent to $206,000 for each of the 1,065 jobs created – jobs that would mostly pay minimum wage and likely not provide any benefits. It is likely that far more cost-effective job creation programs are available to the government and citizens of Minnesota.

- **Litter study data used to show benefits are irrelevant.** Using data from litter studies from the 1970s and 1980s to estimate litter reduction is not appropriate. Just as dated sales data were deemed inappropriate for quantifying sales impacts, the same is true for litter.

    - Beverage markets, consumer attitudes, litter control programs, the real value of the deposit, and social norms are radically different now than they were then and many of these studies were conducted using less than rigorous analytical approaches.

    - Statistically valid comparisons between states do not indicate that deposits necessarily lead to less litter. The 2010 litter survey across northern New England states found that adjusting for differences like population and traffic, New Hampshire (no deposits) had less litter than Maine (the most comprehensive deposit program in the US) or Vermont (deposits on beer, carbonated soft drinks, and liquor).[9] And Vermont actually had more beverage container litter than New Hampshire.

9. Additional Comments

- The incremental recycling estimates used in Chapter 4 (93,000 tons) are not consistent with those in Chapter 3 (107,000 tons).

- The types and share of containers that could not be handled through reverse vending machines are too limited. Other examples: the family-size fruit beverage category (≥32 oz) is dominated by PET bottles with non-cylindrical shapes, handles molded into the bodies, and other complications for traditional bar-code reading in a RVM; small (5.5 oz or 6 oz) and large (46 oz) metal cans; many single serve juices in PET and HDPE are

[9] "Northeast 2010 Litter Survey," Environmental Resources Planning, LLC for the American Beverage Association.

non-cylindrical; and large format (1.75 liter) liquor bottles. In any event, however, we agree there would be a very limited role for reverse vending machines in the proposed system.

- Scrap prices are overstated given the years selected for the average. More importantly, the implied PET premium (which appears to be about 10¢ per pound) is extremely high and well above what we typically see in the northeast. A premium of 3¢ for deposit material is much more typical.

- The report indicates that fraud can be reduced by "…limiting the number of containers that individuals can return to redemption sites…" This is yet another program design component that would shift costs onto consumers as they are forced to make additional trips due to these limits. The burden of these limits would especially be felt in rural Minnesota, which would be served by fewer redemption centers.

Summary

Developing the performance, cost, and benefit parameters around an unprecedented deposit scheme is a challenging exercise. It is important that the report emphasize the impact on key stakeholders, especially those like Minnesota consumers who are not represented in these policy discussions. Consumers clearly bear the brunt of this proposal in terms of financial and time/convenience impacts.

Using data consistent with the waste composition analysis, the incremental impact of the proposed scheme would be minimal, especially if incremental recycling tonnages were limited to Minnesota material and did not also include fraudulent redemptions from other jurisdictions.

Putting the cost and impact of the proposal into perspective, the net cost of MPCA's model redemption system (after scrap) would be $143 million – about twice the estimated cost of the entire residential recycling system in Minnesota today. For that massive expenditure, using the study's optimistic figures, the state's recycling rate would rise by less than two percentage points – from 46 percent to 48 percent. This is clearly a poor investment.

Fraud would likely be the fiscal undoing of this proposed system given the 10¢ per container incentive, the border population, and the extent of scavenging that would occur. Ultimately the system would likely refund more deposits than it collected unless massive resources were devoted to intercepting fraud.

The assumptions about operating relatively few, large redemption centers artificially drive down the cost of the system, especially where consumer costs are left unquantified in the analysis. Especially in rural Minnesota, consumers would spend a lot of time in their cars driving around their bottles, cans, and cartons.

Ultimately, there are far more cost effective ways to increase recycling of not just beverage containers, but other materials as well – especially those high volume paper and plastic products called out in the waste composition study as top priorities. These more effective approaches build on the existing infrastructure instead of detracting from it and optimize consumer

convenience and minimize consumer costs. Using the inflated estimate of incremental recycling from the proposed system, the net cost (net of scrap) to recycle a new ton of material through this program would be more than $1,300 per ton; using estimates consistent with the waste composition study, the costs would approach or exceed $2,000 per ton. It is possible to do much more with much less.

We appreciate the opportunity to comment on the draft report. For questions or further information contact Tim Wilkin (tim@mnbev.com) or Kevin Dietly (kdietly@nbenvironmental.com).

Attachment A:
Reconciling Current and Incremental Recycling Estimates

Our review of the current recycling data in the report and the description of the methodology indicates inconsistencies with the data in the waste composition report. We have detailed our calculations and questions below in hope of understanding where the discrepancies are.

Given the unreliability of the beverage-specific recycling data available to the consultant, the approach described in the report was to take consumption/generation data derived from the Container Recycling Institute's model and subtract disposed quantities to back into the recycling quantities.[10] We focused our review on aluminum, glass, and PET and found the reports were consistent with regard to PET, but not with aluminum and glass. The draft describes making an exception to the methodology for glass, but even accounting for that exception (the validity of which is somewhat suspect) we could not reconcile the data.

Baseline Recycling

The draft computes a recycling rate of 45 percent for beverage containers (draft Table 3) and the components of the calculation are shown in Table A-1 below, columns A through C.

Turning to the waste composition study, the tons of beverage container material disposed for PET, aluminum, and glass were taken directly from Table 5-1 (see Table A-1, column D; we assumed disposal of other materials was equal to what was in the draft report).

- PET disposal is identical between the two reports.

- Aluminum disposal is 15,101 in the draft and 12,200 in the waste composition study for a different of 2,901 tons. Using the waste composition study figure results in an aluminum can recycling rate for Minnesota of 62 percent, not 53 percent as shown in the draft.

Glass is more complicated because the draft describes a deviation from the methodology because the glass recycling rate was "higher than could reasonably be expected." We would argue that this is not the first waste composition study in recent years that has found surprisingly high collection of glass and RSE should not be so quick to discount the validity of the data. The fact that much of that glass does not enter conventional recycling markets because of its low value and high transportation cost means that much of it is used locally for beneficial uses, avoiding disposal costs and avoiding use of alternative material such as gravel or other fill. In prior research we have consistently found lower reported glass recycling (such as in the EPA national data) than is actually collected and diverted from disposal.

To address their concerns, RSE elected to use the 90 percent confidence level for the share of glass in MSW disposal, thereby driving down the estimated baseline recycling. The reason

[10] As noted, the beverage industry performed a limited survey of Minnesota beverage markets in 2009. While there are areas of disagreement between the CRI estimates, which are effectively population-adjusted figures from national data, and the Minnesota-specific data we collected, those differences are dwarfed by the impact of the discrepancy on disposal quantities.

presented for this exception, that waste composition results are 'based on a statistical analysis based on a limited number of field samples," is not unique to glass. The same could be said of all of the materials in the study. Why glass alone was selected for an exception is not explained.

Even using the alternative assumption, however, we are unable to reconcile the draft report with the waste composition study. We used the waste composition study (Table 5-1 for the mean and Table 4-5 for the 90 percent confidence interval) and computed glass beverage container disposal as shown in Table A-1 columns D and F. Even at the 90 percent figure, we compute glass beverage container disposal at 53,000 tons, not 82,020 as shown in the draft – a difference of 29,020 tons. Using the mean (consistent with the other materials in the analysis), disposal is 38,900 tons, a difference of 43,120 tons. Using these values, the glass beverage container recycling rate is between 66 percent and 75 percent, compared with 47 percent in the draft.

Between glass and aluminum, we calculate a difference of 32,000 to 46,000 tons in the amount disposed/recycled. Those differences would move the baseline beverage container recycling rate from 45 percent shown in the draft to between 58 percent and 64 percent.

If the waste composition study is deemed to be valid and is, indeed, the best available resource for computing recycling rates for beverage containers, the study should show a baseline recycling rate of 64 percent.

Incremental Recycling

The draft suggests that beverage container recycling would increase by 107,000 tons (see Table A-2 below) with a deposit system (the difference between recycling in Table 7 and Table 3).[11] Using our analysis from Table A-1, we calculated two alternative recycling totals using glass at the mean level measured in the waste composition analysis and at the upper limit of the 90 percent confidence interval.

At the mean, baseline recycling would be 160,000 tons so the incremental impact of the deposit system would be an additional 61,000 tons. The report's estimate of 107,000 tons is 75 percent higher than this – a dramatic overstating of the impact of the system.

If RSE's justification for using the upper bound of the confidence interval is valid, then baseline recycling would be 146,000 tons and the modeled deposit system would increase recycling by 75,000 tons. Even in this instance, the draft overstates the effect of deposits by 42 percent.

[11] As noted earlier in the comments, the report has a second set of incremental recycling figures used in Chapter 4 and summarized in Table 13; we are unclear why these figures are different from those described here.

Table A-1

Report Understates Current Recycling/Overstates Incremental Effect of Deposits -
Reconciling Baseline Recycling with the 2012 Waste Composition Study

	Draft Report Table 3			*Glass and Aluminum Disposal per Waste Comp Study*				*Revised Recycling Tonnage and Rates*				
Material	**Generation**	**Recycling**	**Disposal**	**Disposal: Glass at Mean**	**Discrepancy at Mean**	**Disposal: Glass at 90th %ile**	**Discrepancy at 90th %ile**	**Recycling: Glass at Mean**	**Recycling: Glass at 90th %ile**	**Rates: Report**	**Rates: Glass at Mean**	**Rates: Glass at 90th %ile**
PET	41,732	18,532	23,200	23,200	-	23,200	-	18,532	18,532	44%	44%	44%
Aluminum	32,087	16,986	15,101	12,200	2,901	12,200	2,901	19,887	19,887	53%	62%	62%
Glass	155,072	73,052	82,020	38,900	43,120	53,000	29,020	116,172	102,072	47%	75%	66%
All Other	22,199	5,652	16,547	16,547	-	16,547	-	5,652	5,652	25%	25%	25%
Totals	**251,090**	**114,222**	**136,868**	**90,847**	**46,021**	**104,947**	**31,921**	**160,243**	**146,143**	**45%**	**64%**	**58%**
Column	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*
Source	*Table 3*	*Table 3*	*Col A - Col B*	*Table 5-1; glass beverage containers at 1.3% of disposal*	*Col C - Col D*	*Table 4-5; glass beverage containers at 1.8% of disposal*	*Col C - Col F*	*Col A - Col D*	*Col A - Col F*	*Col B / Col A*	*Col H / Col A*	*Col I / Col A*

Table A-2

Report Overstates Incremental Effect of Deposits by 42% to 75%

Draft Report Tables 3 and 7				*Glass and Aluminum Disposal per Waste Comp Study*					
Material	**Baseline Recycling**	**Projected Recycling**	**Increase**	**Baseline Recycling: Glass at Mean**	**Deposit Increase: Glass At Mean**	**Difference from Draft**	**Baseline Recycling: Glass at 90th %ile**	**Deposit Increase: Glass at 90th %ile**	**Difference from Draft**
PET	18,532	34,604	16,072	18,532	16,072	0%	18,532	16,072	0%
Aluminum	16,986	29,348	12,362	19,887	9,461	31%	19,887	9,461	31%
Glass	73,052	141,582	68,530	116,172	25,410	170%	102,072	39,510	73%
All Other	5,652	16,084	10,432	5,652	10,432	0%	5,652	10,432	0%
Totals	**114,222**	**221,618**	**107,396**	**160,243**	**61,375**	**75%**	**146,143**	**75,475**	**42%**
Column	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*
Source	*Table 3*	*Table 7*	*Col A - Col B*	*Table 1 Col H*	*Col B - Col D*	*(Col C - Col E) / Col E*	*Table 1 Col I*	*Col B - Col F*	*(Col C - Col H) / Col H*

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January 15, 2014

Commissioner John Linc Stine
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Dear Commissioner Linc Stine,

On behalf of the Minnesota Grocers Association, we would like to continue to voice our concerns on the recycling refund program for beverage containers proposed by the Minnesota Pollution Control Agency.

The Recycling Refund System Cost Benefit Analysis report recently completed for the Minnesota Pollution Control Agency confirms our previous concerns of building an unnecessary recycling infrastructure funded by Minnesota consumers and businesses. As the report indicates, the proposed system would be costly to consumers, result in significant job losses for the retail food industry, and opens the door for rampant fraud while diminishing a holistic approach in promoting recycling initiatives.

As active members of our local communities, the Minnesota Grocers Association and its members are at the forefront in supporting a sustainable environment in Minnesota. The retail food industry is a leader in providing voluntary, innovative tools to allow our customers a variety of ways to make environmentally friendly choices.

The Minnesota Grocers Association Foundation has partnered with the Recycling Association of Minnesota (RAM) to work in collaboration with our members to provide easy access to recycling opportunities, which increases recycling, creates awareness, and educates the public on recycling initiatives. We are proud of our previous partnership with the Minnesota Pollution Control Agency and our collective work to achieve measurable outcomes without costly mandates and onerous regulations.

Proven initiatives, such as single sort recycling, work within existing structures to expand on our successes, allowing consumers greater ease and access to recycling, while promoting an efficient system with tangible results. The continuation of established successes is the logical strategy to achieve higher recycling rates and supports the entrepreneurial spirit that makes Minnesota great.

The proposal on beverage containers poses strong concerns that duplication of efforts for a small portion of the waste stream will create unintended consequences. Creating an entirely new system, based on the recent report, costs Minnesotans at least $219 million a year. With consumers bearing the brunt of the expense, this proposal would severely threaten our state's

economy. Higher costs to consumers, damage to current recycling infrastructure, and significant border issues, in relation to fraud and competitive disadvantages, are just a few of the foreseeable consequences a bottle deposit program will create in Minnesota, all of which are affirmed by the Recycling Refund System Cost Benefit Analysis.

Approximately 90% of all Minnesotans live within one and a half hours from a bordering state; consumers will make the choice to drive across the border to purchase beverages at a lower price. The Recycling Refund System Cost Benefit Analysis states that the retail food industry would see a .5% reduction in sales across the state resulting in 214 lost jobs for the industry. It was also articulated that these 214 jobs would go to neighboring states which are competing directly with Minnesota. According to our experiences with the recent tobacco tax increases, we believe these numbers to be significantly understated.

Forced deposit programs with increased regulation create direct and indirect costs on consumers and disincentivize an already working system. This burdensome, expensive, and complicated proposal will counteract current recycling efforts by taking resources away from already successful recycling programs. Statistics show that a bottle deposit refund on beverage containers encourages criminal activity and fraud, with our border communities at the highest risk. The report states that Minnesota would be particularly vulnerable to fraud; this would create severe fiscal consequences on the industry and state.

Higher costs of goods will shrink consumer's basket size, hurting Minnesota families, businesses, and our state's economic vitality. Incentivizing consumers to shift their purchasing trends will be detrimental to Minnesota and counterintuitive in promoting sustainability. The retail food industry typically operates on a profit margin around one percent. The loss of revenue would severely affect the retail food industry's ability to succeed in this challenging marketplace.

We appreciate the opportunity to again voice our opposition to this onerous recycling refund program for beverage containers, and look forward to being included in any future discussions. If we can provide any additional information to your agency, please do not hesitate to contact us.

Sincerely,

Jamie L. Pfuhl
President
Minnesota Grocers Association

The MGA is a state trade association representing the retail food industry since 1897. We have over 200 retail members with nearly 1,100 stores statewide, as well as approximately 115 distributors and manufacturers. Our member companies employ over 125,000 union and non-union Minnesotans. We actively advance the common interest of all those engaged in any aspect of the retail food industry as a leader and advocate in government affairs.

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January 22, 2014

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N.
St. Paul, MN 55155

Re: Recycling Refund System Cost Benefit Analysis ("Cost Benefit Analysis")

Dear Wayne:

The following comments are submitted on behalf of the Minnesota Resource Recovery Association (MRRA). The MRRA supports the State's hierarchy and particularly its recycling goals. A recently updated national study shows that on average, counties participating in waste to energy recycle more than other counties. That is the situation in Minnesota where almost 1/3 of all counties are involved to some extent in waste to energy facilities.

The draft Cost Benefit Analysis for a container deposit refund system acknowledges certain tonnages separated and recycled from waste deliveries to waste to energy facilities. This separation occurs at a variety of facilities including: two refuse derived fuel facilities (Elk River and Newport) and the operations of front end processing equipment including magnets and eddy current separators for aluminum and steel cans operating at the Polk County Resource Recovery Plant, the Pope Douglas Waste to Energy Facility, the City of Red Wing Integrated Solid Waste Management Campus and the Prairie Lakes Municipal Solid Waste Authority's facility in Perham. Both Polk County and the City of Red Wing also receive single sort recyclables that are processed through their systems. Recovered materials from both waste and single sort are marketed together.

MRRA members are concerned that the draft program treats containers separated at MRRA facilities differently from containers separated from single sort curbside programs. If the goal of the refund program is to separate and recycle as many containers as possible, then it seems illogical to limit participation in this way.

MRRA members have made significant investment in separation and recycling technologies that are a valuable asset to the state's integrated waste management system. As the Cost Benefit Analysis points out that 2,249 tons of aluminum cans are separate from our facilities each year. This represents over 15% of all cans currently recycled in the entire state.

The Cost Benefit Analysis states:

"According to the Minnesota 2012 SCORE data, 22 percent of generated municipal solid waste (39 percent of non-recycled waste) goes to waste-to-energy and refuse-derived fuel plants located in the state. RSE reviewed information on these plants and identified the extent to which aluminum and steel cans are separated from the waste. The waste composition disposal

estimates were adjusted by RSE to reflect additional recycling of metal beverage containers that results from the percentage of waste processed for energy production in the state".

On page 7 in Table 3, Estimates of Existing Beverage Container Generation and Recycling, 2,249 tons of aluminum cans and 6 tons of steel cans are identified as being recycled each year at MRRA's facilities.

Notwithstanding this contribution to recycling that MRRA's facilities make (and landfills, we note, do not), the Cost Benefit Analysis does not account for any container deposit refund to waste to energy facilities for steel and aluminum cans removed from the waste and recycled. In addition, there is no accounting for plastic containers that some facilities' programs could recover if the market justified it. In Figure 1, Recycling Refund System and Existing System Material Flows, waste to energy facilities are identified as providing recycled aluminum and steel cans to end markets. Recycling MRFs are also identified on this table but because it is assumed their cans will go to a baler, they receive a refund. This is an inefficient, expensive and unrealistic system assumption even though the Cost Benefit Analysis does account for $200 per ton to handle, sort and bale.

Almost all MRFs and waste to energy facilities use balers on their sites. Material handling costs increase significantly if loose cans are trucked to a baler in some other location for the alleged purpose of being sorted "by material type and delivered loose for inspection by recycling refund baling sites to ensure the containers are beverage containers only." These inspection needs can be addressed by relying upon the end markets and their specifications to assure that steel and aluminum cans are baled and are not contaminated with other material. Based upon the ability to rely on the market place, the next step would be to then set a number of cans/ton in order to calculate the container deposit refund. The MRRA is open to discussions on who ultimately markets the recycled materials in recognition of the Cost Benefit Analysis' assumption that better market pricing will be available to the Beverage Container Recycling Organization.

The Cost Benefit Analysis identifies the desired recycling goal of the State at 88% for which it states 4% is derived from containers recycled from waste to energy facilities. MRRA supports allowing a bulk redemption option that would allow all recycling systems to efficiently participate in a rebate program. Utilizing Minnesota's existing infrastructure represents a very cost effective mechanism for the collection and recycling of beverage containers. The MRRA requests that the MPCA reconsider its redemption approach and recognize waste to energy plants as equivalent to recycling MRFs in terms of payments received for participation in the program.

Sincerely,

Trudy J. Richter
Executive Director

the
RETAILERSedge
Minnesota Retailers Association

January 22, 2014

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155

Dear Mr. Gjerde:

Thank you for seeking public comment on the draft cost-benefit analysis relating to the Minnesota Pollution Control Agency's (MPCA) proposed beverage container deposit-refund recycling program (hereafter referred to as "program"). I am writing today to share the Minnesota Retailers Association's observations on the cost-benefit analysis (hereafter referred to as "analysis"). Thank you to your staff and contractor for producing the analysis and the resulting presentation on January 14.

This issue is important to us because 788,000 jobs across the state depend on the economic viability of retailers. Minnesota Retailers Association (MnRA) members work each day to enhance our economy through the maintenance and growth of these jobs. It is our general position that the proposed program stands to stifle our economy by increasing consumer prices, threatening retail jobs, and harming our border communities.

Massive Infrastructure Costs $219 Million A Year
The analysis puts the cost of the program at $32 million a year, representing the program's projected deficit. We contend that the real annual cost of the program should include the operating infrastructure costs. When doing so the program cost is actually $219 million a year. Clearly this massive amount of infrastructure comes at a very high cost to Minnesotans. Counting beverage container deposits needed to fund the entire program, the per-year cost is staggering at over half a billion dollars.

Consumer Price Increases Underestimated
The analysis states that the anticipated price impact to consumers is less than a penny per beverage container. This assumes that wholesale-level administrative costs do not impact the price of a beverage in Minnesota. We are concerned that the actual price impact to the consumer would be more if the analysis were to estimate deposit administration and remittance costs at the wholesale level. The less-than-penny conclusion also fails to factor in the actual dime price increase that will occur as a result of the deposit. As such, we feel the ten cent deposit, the program operating deficit likely to be passed on to consumers, and the wholesale-level administrative costs (also likely to be passed down to consumers) should all be factored in to an anticipated consumer price increase.

Retail Job Impact Understated, Unknown
A dime deposit per beverage container adds up. Minnesotans can count on an added $2.40 for a case of water. These increased prices will cause consumers to look for cheaper outlets in nearby states or change their spending habits. We appreciate the effort put forth to estimate retail jobs lost as a result of the program and we understand the difficulty in estimating job impacts across all retail sectors. In the analysis, an available study led to the conclusion that Minnesota will shed an estimated 214 grocery jobs. While grocery jobs are at risk as a result of the program, we know other retail sector jobs will be impacted negatively, including those in convenience retail. We would like the report to acknowledge that job ramifications in other retail areas are possible and likely given a presumed statewide sales impact. Also we think it is important to consider not only direct jobs lost, but also indirect jobs.

Border Community Impact Goes Beyond Beverages
Minnesota price increases will undoubtedly cause consumers to shop in nearby states, especially when you consider the large percentage of Minnesotans that live within an easy drive of a border. Unfortunately when a consumer crosses a boarder they may also buy their gas, groceries, and other items. Because of this, border communities will suffer at a disproportionate rate as pointed out in the analysis, and retail jobs will be lost in vital Minnesota communities. We simply cannot afford to add this disadvantage to our border communities today.

Minnesota Is A Recycling Leader
Currently Minnesota is working in the right direction with the expansion of single-sort, curbside systems which represent convenience for our citizens. The deposit-refund system represents inconvenience and expense when considering unanalyzed storage and transportation costs for consumer redemption. In addition, Minnesota is already a national leader in recycling based on the systems we have in place. Can we do better? Absolutely, but we need to give our current expanding system and our recycling infrastructure time to show results as we continue to talk about options other than one modeled off a costly deposit-refund system.

As an association representing more than 1,500 retail storefronts statewide, we remain opposed to Minnesota's implementation of the deposit-refund recycling program. My organization looks forward to continued dialog with MPCA on this issue, and thank you again for the opportunity to comment.

Sincerely,

Bruce Nustad
president

January 22, 2014

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Dear Mr. Gjerde:

Thank you for the opportunity to provide comments regarding the MPCA's draft cost-benefit analysis relating to the draft container deposit program. The Minnesota Licensed Beverage Association and Minnesota Municipal Beverage Association represent both private and public retail liquor stores and bars across the state of Minnesota. Members of our organizations are active members of their communities participating through various activities and the responsible sale of alcohol.

In general, we have serious concerns related to the draft container deposit program. As retailers, we are concerned about the increased cost to consumers which will be imposed at the retail level. Our members have a strong history of recycling cans and bottles with a high level of beverage containers used in on-sale premises being recycled by the retailer.

The draft cost-benefit analysis estimates an increase in Minnesota's recycling rate of two percent – from 46 percent to 48 percent. This incremental benefit does not outweigh the hidden tax on Minnesota businesses and consumers.

Finally, we are extremely distressed about the potential job losses in Minnesota due to the implementation of a beverage container deposit program. Today's economic conditions and the tight job market should cause any policy maker to pause before adopting a program that could lead to job losses in the retail industry.

Sincerely,

Mr. Paul Kaspszak, Executive Director
Minnesota Municipal Beverage Assoc.

Mr. Frank Ball, Executive Director
Minnesota Licensed Beverage Assoc.

Minnesota Municipal Beverage Association
P.O. Box 32966
Minneapolis, MN 55432
Phone (763) 572-0222

Minnesota Licensed Beverage Association
St. Paul Business Center East, Suite 15
St. Paul, MN 55117
Phone (651) 772-0910

M E M O R A N D U M

To: **Wayne Gjerde, MPCA**
From: **Resa Dimino, NAPCOR**
Re: **Comments on *Recycling Refund System Cost Benefit Analysis***
Date: **January 22, 2014**

Thank you for providing NAPCOR with the opportunity to comment on the cost benefit analysis prepared for your agency by Reclay StewardEdge. We appreciate the agency's efforts to define a new and innovative beverage container refund system, and to fairly evaluate its costs. For the most part, the analysis is sound and represents a fair representation of the costs and benefits of such a system. What follows is a summary of the areas where NAPCOR suggests the agency refine or clarify its approach.

1. *Redemption Center Cost Assumptions:* It appears, from the narrative in the study, that the analysis assumes that the redemption centers will be completely manual. That is supported by the costs presented in Table 8, where the major expense is labor (though no detail is provided on the assumptions behind those labor costs). While the report acknowledges that reverse vending machines (RVMs) may be utilized, it does not account for any of the cost savings that would accrue from at least partially automating the redemption centers. Furthermore, the report includes a discussion of the Oregon Bottle Drop model, and some of the technological and customer service innovations it has operationalized, yet does not model the use of any of these new strategies in the envisioned Minnesota system. Reportedly, the Oregon system is operating at a cost of approximately $.02 per container—nearly a 50 percent savings over what the study proposed. Based on experience and trends in other states, it is fair to assume that at least some, and perhaps most, of the redemption centers would operate more efficiently and cost-effectively than a the completely manual facilities envisioned in the current analysis. Developing a realistic assessment of redemption center costs is critical to the accuracy of the analysis.
2. *Mechanism for Reimbursing MRFs for Deposit Containers Handled*: The mechanism for reimbursing MRFs for the deposit value of the containers they handle (described on page 10) is not practical. Given the throughput of most Minnesota MRFs, it is unlikely that removing deposit containers by hand, and delivering those to a redemption center, will be feasible or cost-effective. The analysis should explore other mechanisms for ensuring that MRFs get the value of the deposit containers in their system, such as periodic audits to derive percentages of deposit containers present in the system.

National Association for PET Container Resources (NAPCOR), PO Box 1327, Sonoma, CA 95476
tel: 707/996-4207 fax: 707/935-1998 www.napcor.com

3. *Impact on MRF revenues*: It would be helpful if the analysis clearly presented the material mix in a typical MRF ton now, and associated "basket of goods" revenue, and compared that to what that mix and revenue would be after the system envisioned was implemented. This would go a long way to providing transparency and answering some of the key questions raised by municipalities and MRF operators.
4. *Sorting and Baling Facilities:* The study appears to assume that no compaction or consolidation happens at the redemption center, and that all containers will need to be transported to another facility to be prepared for market. This is a flawed assumption that leads to an increase in the reported system costs. At $200 per ton, the modeled costs are extremely high. The report notes that much of this cost is related to sorting plastic resins. However, the vast majority of plastic beverage containers are PET and could be separated as such at the redemption center level. With the addition of dairy products in the envisioned MN system, there will be greater amounts of HDPE than is seen in other states, however, it is unlikely that there will be large quantities of other resins. To develop an entire infrastructure to sort these materials out seems to be an over-engineered, and costly, solution. As noted above, it is likely that at least some redemption centers will utilize RVMs, which provide for compaction. If the Oregon Bottle Drop model is used, additional consolidation and market preparation can happen on the redemption center site. Furthermore, the proposed throughput of these facilities, reported at 3,800 tons per year, is extremely low. If they are needed, they should be larger and more efficient than what is described.
5. *Material Revenue Assumptions:* The material revenue assumptions for PET (both curbside and deposit) are not representative of the current marketplace, or average conditions. The time period captured (2010-2012) includes a period during which PET bale prices hit historic highs, but does not include a corresponding low period. NAPCOR recommends that a five year time period (2007-2012) be used for the revenue assumptions. That time period would capture both high and low market conditions.

January 23, 2014

Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155-4194

RE: Comments on Draft Report to Minnesota Pollution Control Agency (MPCA) Recycling Refund System Cost Benefit Analysis

Dear Wayne:

Novelis is the world's largest recycler of aluminum. We recycle more than 40,000,000 cans annually around the world.

With our aggressive goal to increase the recycled content of our products to 80 percent by 2020, there is strong demand for UBCs to feed our highly-efficient recycling plants in New York, Kentucky and Georgia. As you know, the life cycle of an aluminum beverage can is just 60 days from “can to can.” In this short time, a beverage can goes from the grocery store shelf to the consumer, and then on to a recycling facility where it can be remelted into can sheet and reformed into another aluminum beverage can with exactly the same physical characteristics as the original can. Because aluminum can be recycled with no degradation in quality, aluminum cans are the ideal product for a closed-loop approach to recycling.

The industry is committed to recycling aluminum without compromising on energy conservation or natural resource protection; Novelis is focused on increasing the end-of-life recycling of our products in partnership with other stakeholders in the aluminum production and recycling chain globally.

Alternative forms of recycling such as "waste-to-energy" conversion that's detailed in the report, "Comments on Draft Report to Minnesota Pollution Control Agency (MPCA) Recycling Refund System Cost Benefit Analysis," are potential sources of aluminum for recyclers, like Novelis. However, the by-product of these waste-to-energy plants are generally low-quality and have much lower recovery levels as compared to UBCs. There will typically be an outlet for this type of material, but the value will depend heavily on aluminum content and freight cost to consumption points. Traditionally this material has been "down-cycled" into lesser-quality products, losing its value in the recycling supply chain permanently.

We applaud Minnesota's commitment to recycling and support its efforts to increase collection rates in the state. As you know, aluminum cans in particular deliver high value as part of a closed loop recycling system. We are committed to collaborating with a range of stakeholders to support expanded post-consumer collection and recycling infrastructure and to develop partnerships that facilitate efficient recycling.

We are happy to provide any additional information as you consider your path forward.

Regards,

John Gardner
VP and Chief Sustainability Officer
Novelis Inc.

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Atlanta, Georgia 30326

Telephone +1 404 760 4000

Website www.novelis.com
Email info@novelis.com

National Waste & Recycling Association

Collect. Recycle. Innovate.

Minnesota Chapter (formerly NSWMA)

January 17, 2014 VIA: Email – hard copy to follow

Wayne Gjerde
Minnesota Pollution Control Agency
520 LaFayette Road North
St. Paul, MN 55155

Dear Mr. Gjerde:

Thank you for the opportunity to comment on the Minnesota Pollution Control Ageny's (MPCA) recently released draft report "Recycling Refund System Cost Benefit Analysis", by Reclay StewardEdge (January 10, 2014). The Nation Waste & Recycling Association (formerly NSWMA) represents nearly 800 private sector companies operating across the United States. Our Minnesota members help residents and businesses manage their recyclables, construction and demolition debris and solid waste generated by Minnesota's residents and commercial and industrial businesses. The proposed container deposit system, as presented in the draft ReClay StewardEdge report represents a significant threat to to the viability of the private sector recycling infrastructure and we therefore provide the following comments for your careful consideration.

I. Minnesota has one of the highest recycling rates in the nation, at 45.6%. Minnesota's high recycling rate is the result of a public and private sector partnership, a shared responsibility for educating our residents, collecting and processing the material and re-investing in the recycling system. Working together, we have made recycling easier and more convenient for homeowners, we have gotten cleaner and higher quality recyclables, and one of the highest recycling rates in the nation.

But, we need to do more. We need to build on the existing infrastructure and finish what we have started with Single Sort recycling. Currently, 60% of the state has Single Sort recycling, with some of the major cities just starting Single Sort. We need to fully realize these benefits before we embark on a major overhaul of our recycling system that undermines the current recycling infrastructure.

The recycling industry believes there are better, less costly and more convenient ways to increase recycling than the MPCA recommendation to implement a Container Deposit system. We can do more by educating our residents, recycling more and new materials, and by focussing on multi-family and commercial recycling. We provide the following comments on the details of the proposed system which were released on January 10, giving us just three business days to comment.

II. The Cost Benefit Analysis identified the cost of the program as $179 Million for a container deposit system, not just the $29M shortfall needed to have the program break even. The ReClay StewardEdge cost benefit analysis is overly simplistic, did not include many of the costs to residents, to the recycling industry, and to businesses. The transportation costs alone are estimated at approximatley $40 Million bringing the total cost of the program to $219 Million. In general, the proposal is unlike any container deposit system nationwide because it establishes a high 10

cent deposit and overlays a very complicated deposit system that requires residents to return a wide variety of beverage containers. The association believes the cost of this system will be much higher than the projected $179 Million because the Cost Benefit Analysis did not include the following additional costs:

1) Transportation costs for citizens are not included in the calculation. These costs are dependent upon the distance to redemption centers. An estimate of these costs are approximately $40 Million bringing the total cost of the program to an $219 Million;

2) The cost impacts for MRFS are underestimated because most of the containers will be damaged when they flow through the recycling facility and will not be accepted at redemption centers. All types of containers are crushed, mangled and broken through the recycling process. These costs are not covered by handling fees;

3) Costs to communities with revenue sharing contracts are not included in the report. Container deposit will remove the most valuable materials from the recycling stream, thereby affecting the current recycling system by reducing the revenue from the sale of the remaining, lower value commodities. The result will be lower profits to be shared with communities, such as the City of Minneapolis, which is conservatively estimated to lose about $400,000 a year in revenue. This lost revenue will result in increased costs to residential and commercial recyclers in order to maintain the current curbside collection recycling system.

4) The Cost Benefit Analysis does not include overall recycling system costs to both the public and private sector that will "erode" due to container deposit essentially undermining the profitability of the current, highly successful public-private recycling infrastructure. This "erosion" will occur due to lower profit margins and the inability to innovate and re-invest in the system.

5) Transportation costs for Recycling Facilities (MRFs) who transport containers to redemption centers are not included in the cost of this system;

6) Stranded assets of the private recycling industry, including optical sorters at recycling facilities and other sorting and collection equipement are not included in the cost benefit analysis of the proposed system. Private recyclers may not be able to compete in government managed system and may end up losing their businesses or shutting down recycling facilities;

7) Additional sorting equipment at redemption centers may be required. Optical sorters may be required at the cost of approximately $3 Million at each redemption center.

8) The cost of the duties and powers of the Beverage Container Recycling Organization (BCRO) are not adequately accounted for and are likely much higher due to the complexities of monitoring and subsidizing markets, varying subsidies given to the redemption centers, contract management for transportation of loose beverage containers to the beverage container processing center and from the processing center to end markets and overall auditting of many aspects of the system.

9) The purchase of trucks and transportation costs by redemption centers who will collect from businesses "in the vicinty" of the redemption center are not accounted for in the cost benefit analysis.

III. While the Container Deposit system may increase the recovery of beverage containers to 80%, when put in the perspective of the entire recycling system, the increase in the recycling rate is 1.8%, for a cost of over $219 Million. A Container Deposit System will increase our current 45.6% recycling rate to just over $47%.

The MPCA 2012 SCORE (annual statewide recycling report) calculates the recycling rate as follows:

$$\frac{\text{2.6M tons total material recycled}}{\text{5.7M tons total waste generated}} = \textbf{45.61\% current recycling rate}$$

With container deposit, an additional approx. 100,000 tons of beverage containers will be recovered, resulting in the following overall recycling rate:

$$\frac{\text{2.6M tons + 100,000 tons with Container Deposit}}{\text{5.7M tons total waste generated}} = \frac{\text{2.7M tons total material recycled}}{\text{5.7M tons total waste generated}} = \textbf{47.4\%}$$

IV. The Container Deposit System sets up a non-profit, government managed Beverage Container Recycling Organization (BCRO) that eliminates private sector competition by subsidizing redemption centers with handling fees and manipulates the commodity markets through subsidies. The primary question is whether these responsibilities are legal.

1.) The BCRO Board is composed of representatives from redemption centers who decide what their own handling fee rate will be and what different fees/subsidies their competitors will recieve. In essence, the BCRO decides how much subsidy participants in this new recycling system will receive, and puts Board members in the position of affecting the viability of their competitor redemption centers by subsidizing them at a lower rate;

2.) The BCRO will use unredeemed deposits to subsidize commodity values for beverage containers. This will give redemption centers a commodities marketplace advantage over the private sector recyclers who must weather changes in commodity prices and creates a recycling system that is financially dependent upon residents not recycling their containers.

3.) The BCRO has the power to decide if supplemental fees from the beverage industry are requried to support the system. The BCRO, then, essentially has taxing powers;

4.) Private sector recycling facilities who are not part of this system will not receive handling fees for their materials and will have to pay for additional transportation of beverage containers from their recycling facilities to the redemption center. This sets up a competitive disadvantage for private recyclers;

5.) The BCRO will allow redemption centers to buy trucks that will collect from commercial businesses within the vicinity of the redemption center. Redemption centers will be taking over private sector accounts because they will be providing this service for free for bars and restaurants "in the vicinity".

6.) The state or the BCRO will selectively grant licenses to an exclusive universe of potential redemption centers, preventing some businesses who may want to become a redemption center from getting into the business.

V. NWRA would also like to comment on the foundation for this report, the assumptions and data used, and the transparency of the modelling established by ReClay StewardEdge to arrive at the $179 Million cost of the proposed Container Deposit System. The computer modelling is extremely sensitive, as shown by using a 5 year blended commodity rate versus a 3 year commodity rate which results in an additional $10 million cost to the system;

1) Although the report lists many sources for information supporting the analysis and conclusion, the report really only relies on a one time waste sort conducted in the summer of 2013 and a broad based, national study, conducted by the Container Recycling Institute, which supports container deposit systems.

2) There is no beverage container specific recycling data collected by the State of Minnesota. This required ReClay StewardEdge to use National Container Recycling Institute data and to use a one time waste sort, The 2013 MPCA Waste Composition Study, conducted in five areas of the state in the summer of 2013;

3) Recycling commodity values used to project the $179 Million cost of a Container Deposit System were from years 2010, 2011, and 2012. This is only a 3-year average commodity value, using 2011 commodity prices which was a peak commodity price year. This timeframe is not representative of what commodity values have been in for the past year, or what the system will likely have to subsidize with unredeemed deposits in the future;

4) The modelling of costs by ReClay StewardEdge are not transparent, making it difficult to analyze whether blended commodity values were used in the model, what was included in collection cost savings or what specific costs were not estimated in the report (See page. 13, Section 3.3.1).

VI. In conclusion, NWRA submits that overlaying a container deposit system on top of an existing, very successful public-private recycling system is duplicative, extremely expensive, at over $219 Million, and will cause unnecessary cost and inconvenience to the residents of Minnesota. The 1.8% increase in the overall recycling rate is not worth the $219 Million price tag. The recycling industry believes we have an opportunity to divert more material through:

- continued and completed implementation of Single Sort recycling;

- recycling of additional, new materials through shared partnerships with local government to continue to innovate and invest in our recycling system infrastructure;

- continued education of our citizens;

- mandate commercial and residential recycling;

- bans on recyclable material directed at residential and commercial generators.

We believe that we can achieve much higher recycling goals through these efforts.

The Minnesota Chapter of the National Waste & Recycling Association appreciates the opportunity to provide these comments on the container deposit system. We hope that we have highlighted concerns about how a bottle bill will compromise the current, very successful recycling system. The solid waste and recycling industry continues to be committed to the safe, economical, and environmentally sound infrastructure that invests in efficienies and innovations and jobs.

Sincerely,

William P. Keegan, P.E.,
Vice President
Dem-Con Companies
Chair – Minnesota Chapter of National Waste & Recycling Association

Cc: MPCA Commissioner John Linc Stine
MPCA Asst. Commissioner Kirk Koudelka
Peggy Macenas, Region Manager, National Waste & Recycling Association
Doug Carnival, Chapter Lobbyist

ALLIED WASTE SERVICES

A REPUBLIC SERVICES COMPANY

January 22, 2014

Mr. Wayne Gjerde
Minnesota Pollution Control Agency
520 Lafayette Road
St Paul, MN 55155

Dear Mr. Gjerde,

Thank you for allowing us the opportunity to comment on the Cost-Benefit Analysis of MPCA's container deposit proposal. We believe the cost-benefit analysis fails to take into account the full economic impact of a container deposit program on Minnesota's economy.

We strongly disagree with the assertion that a container deposit program will have no effect on revenue at advanced recycling facilities (MRFs). A container deposit program takes the most valuable commodities (aluminum, PET & HDPE) out of the curbside recycling stream. Companies (like Republic) who operate MRFs will have no choice but to pass our increased costs on to our customers and municipal partners. Consumers, businesses, and public entities will all see their monthly recycling costs increase. Additionally, the cost-benefit analysis fails to put any number on the losses to cities with revenue sharing agreements (where cities receive a portion of the value of recyclable materials recovered).

The cost-benefit analysis also fails to quantify the cost to future investment in our recycling system. Our current single-sort system "lives or dies" on high-tech MRFs. A container deposit bill will stop recycling progress and investment in Minnesota. Private sector recyclers will be prevented from investing in new high-tech MRFs when the most valuable materials are taken out of the curbside recycling stream.

Not only will a "bottle bill" strictly limit virtually all incentive to invest in (and improve) the recycling system—it will also cost consumers hundreds of millions of dollars—and all for an increase of only 1.8% in overall recycling. We urge the state, and others, to look at ways to increase the recycling of **all** materials, not by 2%, but by 10% or more.

Furthermore, the cost-benefit analysis alludes to increases in some costs, but fails to put actual values on these costs. This includes the cost to consumers (and the environment) caused by additional vehicle trips to return containers for their deposit. Others have estimated this cost alone to be $40 million.

Other costs not quantified in the cost-benefit analysis include: the actual decrease in state sales tax revenues, the actual cost the system (and ultimately to consumers) caused by fraud, the actual cost to consumers in higher beverage prices, the actual lost revenue to grocery and convenience stores in border counties, and the cost to families, communities, and Minnesota's unemployment insurance system due to at least 395 lost jobs.

As we indicated in our October 31, 2013 letter to MPCA, our business goal is the same as the state's goal—to increase recycling. We are proud of our work to lead the Minnesota market in advances in recycling. We are proud of our work to divert a growing volume of recyclable material from the waste stream.

We stand ready to work with the state, and others, to increase recycling. Unfortunately, this container deposit system will turn our current recycling system upside-down—and ultimately jeopardize our ability to make significant progress in the recycling in Minnesota.

Sincerely,

Rich Hirstein

Rich Hirstein
Senior Area Municipal Services Manager
Republic Services of Minnesota

January 22, 2014

Wayne Gjerde
Recycling Market Development Coordinator
Minnesota Pollution Control Agency
520 Lafayette Road N
St. Paul, MN 55155

Re: MPCA Recycling Refund System Cost Benefit Analysis

Dear Mr. Gjerde,

I am pleased to submit comments on behalf of Strategic Materials, Inc. (SMI) to the *Draft Recycling Refund System Cost Benefit Analysis* Report released earlier this month. SMI is the largest glass recycler in North America processing more than 3 million tons a year saving nearly 951,000 metric tons of carbon dioxide equivalents. This equates to removing nearly 190,000 automobiles from our roadways. The Company operates 40 materials processing plants in the United States, Canada, and Mexico. Our plants create products that are used to make fiberglass insulation, food & beverage containers, reflective materials, abrasives and other consumer and industrial products.

We have extensive experience operating redemption centers and processing container deposit generated glass, aluminum, and plastic. Today we operate more than 300 redemption centers in California stretching from San Diego to Cloverdale, 70 miles north of San Francisco. Our company was one of the first and now we are one of the largest convenience zone recyclers. Go to www.nexcyclecalifornia.com for more information. SMI processes glass containers from every bottle bill state in the US including Hawaii and the Canadian Province of Ontario where we are processing plastic and aluminum containers as well.

In 2011 we set a zero landfill goal for our plants leading us to find innovative ways to recover additional material streams such as clean UBCs and new markets for existing materials such fines, low grade metals, and PET.

We appreciate MPCA's efforts to find innovative ways to recover beverage containers and to fairly evaluate the costs. For the most part, the report is very thoughtful and shows innovative thinking. Below are our questions and comments to the report:

- **No glass should go to waste:** There are no justifications behind the mileage splits on glass transportation presented in the report. SMI currently receives glass at our Twin Cities beneficiation plant from distances greater than 270 miles. Glass can be economically transported by end-dump trailers 20 to 24 tons at a time long distances. From an environmental perspective, the end-use for glass is more important from an energy-savings stand point than the energy used to transport it (Oregon DEQ). SMI is willing to help develop higher volume sites that could

transport this way. It would be helpful to evaluate the system being proposed to understand how many facilities and what volumes are estimated to fall into each split.

- **Recycling rate for glass:** SMI believes the recycling rate for glass in the report is too high. While we don't have an exact number, we believe the 47% rate quoted in the report is over stated.
- **Material flows:** Almost all non-aluminum beverage containers are subject to some sort of secondary processing prior to reaching final end-use markets. PET and HDPE bottles must be washed, flaked and in some cases pelletized prior to being made into new products. There are steps in the system (and therefore costs) to clean up these materials to make them ready for end-use markets that must be recognized equal to the beneficiation of glass.
- **Financial flows:** The financial flows diagram leaves off the revenue received by glass beneficiation (and other materials beneficiation – see above) from end markets.
- **Jobs:** What is the basis for the 14 new jobs projected to be created in glass beneficiation impact analysis? Using the Container Recycling Institute's "Measuring the Impacts from Recycling on Jobs Calculator," the 53,000 new tons of glass should generate closer to 20 jobs. Further, if the goal is to create jobs; more jobs could be created by having staffed redemption centers.
- **Fraud:** Not enough state resources are given to identify, fight, prevent, and prosecute fraud. The Beverage Container Recycling Organization cannot be expected to police itself and the state must provide that oversight. The support for the oversight and fraud protection should come from the regulated industry.
- **Capital:** From what I can tell, the cost benefit analysis does not take into account capital expenditures required to retool glass beneficiation plants to process a greater mix of bottle-bill material.
- **Glass processing costs:** SMI believes $21 per ton for processing glass in the northwest part of the state may be too low. In addition no costs are estimated for partially breaking glass at the baling facilities in the 160 to 270 mile range.
- **Material revenue assumptions:** The material revenue assumptions for glass are not representative of the current marketplace. In our opinion the price per ton for bottle bill grade glass might be slightly too low.

Finally, based on my experience, the MRF redemption program presented in the report is very unrealistic and is actually a disincentive for MRF operators to recover redeemable material that come through their facility. Modern MRF's are designed to make money processing high volumes of materials at high speeds. In order to implement the proposed redemption program they would have to slow down their lines and reduce their efficiency and therefore revenue. In addition, they would have to incur added capital costs to modify processing lines to store (and protect from theft) separated redemption beverage containers. In addition, material would have to be delivered to the redemption system. A simpler, more efficient system such as letting MRF operations redeem containers based on weight should be developed. Such a system, if implemented would allow for additional material to be redeemed upping the redemptions by an additional 10,600 tons.

Thank you for the opportunity to comment on the *Draft Recycling Refund System Cost Benefit Analysis*. Please feel free to contact me if you have any questions. I can be reached at 281-647-2774 or rabramowitz@strategicmaterials.com.

Sincerely,

Richard Abramowitz

Richard M Abramowitz
Vice President of Government Affairs

verallia

STEPHEN A. SEGEBARTH
Sr. Vice President, Government Relations, Regulatory Affairs and Law

January 22, 2014

Via e-Mail to Wayne.Gjerde@state.mn.us
Wayne Gjerde
Recycling Market Development
Minnesota Pollution Control Agency
520 Lafayette Road North
St Paul, MN 55155-4194

Dear Mr. Gjerde:

Verallia North America (VNA) operates 13 glass container manufacturing facilities in 11 states. The company's 4,500 U.S. employees produce approximately 9.1 billion endlessly-recyclable glass containers, primarily for the U.S. beer, food, beverage, spirits, and wine industries each year.

Verallia filed initial comments on the Minnesota draft Recycling Refund Program for Beverage Containers on 11/4/13. Also, the glass container manufacturing industry is represented by the Glass Packaging Institute (GPI), which filed comments on September 30, 2013 on the same draft. VNA supports those comments and offers the following further comments on the recently released draft Recycling Refund System Cost Benefit Analysis (Analysis) for your consideration.

VNA purchases large amounts of recycled glass containers (known as cullet) as a recycled commodity feedstock for use in its manufacturing plants across the United States. Cullet is an important ingredient in VNA's glass production process because it replaces virgin raw materials along with reducing energy consumption and air emissions, including greenhouse gases. The demand for cullet in the U.S. today far outstrips the supply for a number of reasons. Today we know that more than 65% of all the glass containers recovered come from the 10 Bottle Bill states.

While we do not have a production facility in this state, Verallia is an active buyer of substantial quantities of cullet collected and processed in Minnesota. We ship that material to a number of our production facilities located in other states as highlighted in Steven Smith's testimony before the Minnesota House Environmental, Natural Resources and Agriculture Finance Committee on January 14, 2014. A copy of that testimony was sent to you on 1/15/14.

Verallia applauds Minnesota's ongoing efforts to improve recycling and the recovery rate for valuable feedstock commodities such as glass. Unfortunately, those efforts have not, as measured against Minnesota's own objectives, achieved an acceptable recovery rate. Accordingly, the initiative currently underway to identify improvement opportunities is very important and the Analysis is a key element in that effort. We do, however, have some concerns with the data on glass recycling reported in the Analysis as summarized in the paragraphs below.

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Page 7 of the Analysis, Section 2.2 Beverage Containers Collected for Recycling, and Table 3: We track not only glass container recycling but also have a working model for aluminum and polyethylene terephthalate (PET) containers. The tons reported in Table 3 for those commodities align very closely with our own data. However, in Section 2.2, paragraph 2 it is stated, 'One exception to the methodology for estimating recycling quantities was made for glass.' While we are not sure what this exception was, it appears it has yielded unreliable data as to glass. That is, the data we know best, i.e., "Glass 'Bottles' Generation" data, appears to be understated by more than 7% (see below). We also have a good understanding of the amount 'Collected in Recycling Programs' and this appears to be overstated by more than 12% (see below). This means that the "Total Recycling Rate" of 47% is also significantly overstated, i.e., based on our figures the Total Recycling rate for Glass is 38% (see below). This data is consistent with what we see in the Minnesota 2012 SCORE Program report.

Verallia shows this to be 64,000

Table 3 Estimates of Existing Beverage Container Generation and Recycling

Container Type	Generation (tons)	Collected in Recycling Programs[1] (tons)	Source Separated Recycling Rate	Separated From Waste[2] (tons)	Total Recycling (tons)	Total Recycling Rate
PET Bottles	41,732	18,532	44%	0	18,532	44%
HDPE Bottles	9,876	4,698	48%	0	4,698	48%
Other Plastic Bottles	2,681	536	20%	0	536	20%
Aluminum Cans	32,087	14,777	46%	2,249	16,936	53%
Steel Cans	53	21	40%	6	27	50%
Glass Bottles	155,072	73,052	47%	0	73,052	47%
Aseptic/Gable-top Cartons	49,317	382	1%	0	382	1%
Foil Pouches	261	0	0%	0	0	0%
TOTAL	251,090	111,967	45%	2,255	114,222	45%

1 Includes residential, private ICI, and public spaces recycling collection programs.
2 Recovered from municipal solid waste sent to refuse-derived fuel and waste-to-energy plants.

Verallia shows this to be 167,000

Equates 38%

Page 19, Section 3.3.6 Beverage Container Recycling Organization Costs, Table 10. Based on footnote #1 it appears that the 'Glass Bottles' category is represented differently than the other identified commodities and that there are errors in this Table 10 as to glass. For example, we do not understand the basis for the $19 per ton "Market Value" for deposit quality glass. Cullet from bottle bill states is highly valued because it is far less contaminated and requires considerably less processing than glass collected at curbside and then processed through MRF's / beneficiators (to the extent possible) as part of the single stream model. Accordingly, it appears that the $19 per ton may reflect the value of single stream "tri mix" (a very difficult to sort mix of small pieces of paper, plastic, glass etc.). Tri mix requires further processing by a beneficiator to recover some glass (usually in the range of 30 - 40%) while the remainder of that tri mix is usually sent to the landfill. While cullet pricing is subject to a variety of marketplace influences, based on our cullet buying experience across many markets we believe deposit-quality, furnace-ready cullet will certainly have a market value of considerably more than $19 per ton … perhaps in the range of $45 - $55 per ton (see below). We also note that cullet losses in a bottle bill state are very small … especially when compared to single stream (see below).

Table 10 Average Annual Materials Market Revenues

Container Type	Market Value[1] ($/ton)	Marketed Quantity (tons)	Revenues
PET Bottles	685	34,066	$ 23,344,896
HDPE Bottles	448	8,240	$ 3,695,086
Other Plastic Bottles	40	745	$ 29,801
Aluminum Cans	1,576	28,890	$ 45,530,844
Steel Cans	249	45	$ 11,187
Glass Bottles	19	128,855[2]	$ 2,480,460
Aseptic/Gable-top Cartons	193	3,424	$ 626,808
Foil Pouches	-150[3]	117	$ (17,600)
TOTAL		207,565	$ 75,719,082

1 Based on average market pricing for deposit-quality recyclables over the three year period from 2010-2012. Prices are freight-on-board origin, except for color sorted glass, which is destination delivered.
2 Excludes quantity of glass crushed for local uses, which is assumed to have zero value.
3 Assumes statewide average disposal tip fees of $70 per ton plus average collection service costs of $80 per ton.

Verallia believes the Market Value for furnace ready cullet is **$45- $55**

Verallia shows this at **161,000.**

Losses in Bottle Bill material ranges from 0.6 to 4.5%.

Thank you for allowing us to provide comments on this important effort. We look forward to responding to any questions you might have.

Sincerely,

Stephen A. Segebarth
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SAS/sf

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Comments on the cost-benefit analysis of the Minnesota Draft Recycling Refund Program Design

On behalf of our membership of 920 California wineries of all sizes, Wine Institute submits the following comments on the cost benefit analysis of the MPCA's "Draft Program Design for a Recycling Refund Program for Beverage Containers in Minnesota."

The Wine Institute is committed to environmental stewardship. Through our Sustainable Winegrowing Program, we provide California vintners and growers with information on how to conserve natural resources, protect the environment and enhance relationships with employees, neighbors and local communities. We, therefore, support efficient and cost-effective mechanisms to increase the recycling of wine bottles and believe that resources in Minnesota would be better dedicated to promoting the state's curbside recycling program rather than creating and implementing a beverage container redemption program.

While the analysis' projected cost of the MPCA's proposed beverage container deposit system is substantial, it still falls far short in estimating the total costs for this new program, including the numerous costs incidental to implementing and operating this program which will ultimately be borne by Minnesota consumers. Out of the total of 10 states that impose container deposits, only two, Maine and Iowa, include wine bottles in their redemption laws. Based on our experience in those states, wineries pay wholesalers to open each case of wine and place the specific redemption sticker on each bottle before it goes to retailers. One large California winery reports paying 34 cents per bottle for this work in Maine. To demonstrate the magnitude of the cost, 54,715,200 750 ml bottles of wine were consumed in Minnesota in 2012 based on data from the *2013 Wine Handbook*. Therefore, the estimated cost to wineries, and ultimately Minnesota consumers, to comply with the proposed bottle deposit program would be an additional $18.6 million annually. There would also be added costs associated with wineries collecting and remitting deposits on winery direct sales to Minnesota consumers.

Curbside is ideal for recycling wine bottles, since pick-up is made where the product is primarily consumed – at home. Wine bottles are heavy, breakable and take up household storage space, so they are not well suited for recycling programs that require consumers to return them to a retail location or redemption

center. Raising awareness of and promoting the use of comprehensive curbside recycling would be more effective in increasing recycling rates, rather than simply putting a “fee” on every bottle that will probably not be returned by the average consumer.

Given the combination of the state’s excise, sales and gross receipt taxes as well as added hospitality taxes that are levied in some metropolitan areas, Minnesotans already pay high prices for alcohol beverages. This new program would add significant costs, resulting in higher prices for consumers.

On behalf of the Wine Institute and our members, thank you for your consideration of our serious concerns with imposing a Minnesota beverage container deposit.