Members

Sen. Edward Charbonneau, Chairperson
Sen. Jean Breaux
Sen. James Buck
Sen. Mark Stoops
Rep. David Wolkins
Rep. James Baird
Rep. Sue Errington
Rep. Matt Pierce
Doug Meyer
Dave Wyeth
John Hardwick
Calvin Davidson
Thomas Easterly
Heather Hill
Kyle Hannon

ENVIRONMENTAL QUALITY SERVICE COUNCIL

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Authority: IC 13-13-7

MEETING MINUTES[1]

Meeting Date:	**August 28, 2013**
Meeting Time:	**10:00 A.M.**
Meeting Place:	**State House, 200 W. Washington St., Room 431**
Meeting City:	**Indianapolis, Indiana**
Meeting Number:	**1**

Members Present: Sen. Edward Charbonneau, Chairperson; Sen. Jean Breaux; Sen. James Buck; Sen. Mark Stoops; Rep. David Wolkins; Rep. Sue Errington; John Hardwick; Calvin Davidson; Thomas Easterly; Kyle Hannon.

Members Absent: Rep. James Baird; Rep. Matt Pierce; Doug Meyer; Dave Wyeth; Heather Hill.

Senator Charbonneau, Chair of the Environmental Quality Service Council (EQSC), called the meeting to order at 10:08 a.m. In his introductory remarks, Senator Charbonneau expressed his hope that the EQSC could contribute toward reducing the quantity of recyclable materials that are being disposed of in Indiana's landfills. While noting that solutions to Indiana's recycling problems may be elusive, he stressed the need to examine what the state is doing now to promote recycling and to consider ways in which recycling might be expanded.

First to address the EQSC were Jessica Harmon and Craig Mortell, the Legislative Services Agency fiscal analyst and attorney, respectively, serving the EQSC. They made

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[1]These minutes, exhibits, and other materials referenced in the minutes can be viewed electronically at http://www.in.gov/legislative Hard copies can be obtained in the Legislative Information Center in Room 230 of the State House in Indianapolis, Indiana. Requests for hard copies may be mailed to the Legislative Information Center, Legislative Services Agency, West Washington Street, Indianapolis, IN 46204-2789. A fee of $0.15 per page and mailing costs will be charged for hard copies.

a short presentation on the recycling laws of Indiana, with particular focus on the recycling-related state fees and state funds provided for under current law. (See Exhibit 1.)

Senator Mark Stoops asked about the slide in the presentation that displayed, in a graph, the end-of-year balances in the Recycling Promotion and Assistance Fund (IC 4-23-5.5-14) for 2008 through 2013 and the extent to which those balances had been affected by reversions.

Representative David Wolkins commented that he was instrumental in the establishment of the Waste Tire Management Fund (IC 13-20-13-8) and had promised that he would seek the elimination of that fund when it was no longer needed, but that he now finds that some of his colleagues in the General Assembly are unwilling to eliminate that fund.

Senator Jean Breaux expressed her hope that the EQSC could do something to ensure that money deposited in environmental dedicated funds will remain in those funds so that it can be used for the purposes for which the funds were created.

Next to address the EQSC was Thomas Easterly, the Commissioner of the Indiana Department of Environmental Management (IDEM), who spoke on "IDEM and Recycling: Administrative Oversight" (see Exhibit 2). He made these points:

- The Recycling Market Development Program (IC 4-23-5.5) was used before 2008 for the making of loans and grants involving recycling; the program was suspended in 2008; but the suspension was lifted in 2010 and grants are again being made under the program.
- The Waste Tire Management Grant Program (IC 13-20-13), the Household Hazardous Waste Grant Program (IC 13-20-20), and the Community Recycling Grant Program (IC 4-23-5.5-14) have been suspended since 2008.[2]
- The Electronic Waste Program (IC 13-20.5) requires manufacturers of video display devices to collect and recycle used electronic devices and to report to IDEM on their recycling efforts.

Commissioner Easterly stated that the mandatory reports IDEM receives enable IDEM to know how much solid waste is disposed of in Indiana, but IDEM has no way of knowing how much of Indiana's waste is recycled or of determining how successful the recycling grant programs have been in increasing recycling in Indiana.

EQSC members asked Commissioner Easterly a number of questions about the recycling grant programs and the recent suspension of those programs. Senator Charbonneau pointed out that the suspension of the grant programs in 2008 was a result of the economic crisis. Senator Breaux commented that she, as a member of the Indiana Recycling Market Development Board, had been discouraged by the inability of that Board to award recycling grants to worthy applicants when the amount of funds available for grants was restricted.

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[2]The following statement appears in the fiscal year 2013 annual report prepared for the Indiana Recycling Market Development Program (July, 2013): "In 2008, IDEM suspended many grant and loan programs, including those for business and community recycling grants. In 2010, $500,000 was released by the state for business recycling grants through the RPAF (Recycling Promotion Assistance Fund). This amount was also released for FY 2012 and FY 2013. Community recycling grants, funded through the Solid Waste Management Fund, remain suspended, including those for schools and local governments."

The EQSC next heard from Carey Hamilton, Executive Director of the Indiana Recycling Coalition, who spoke about "the history of Indiana recycling policy, the job growth potential of expanded recycling, and a range of options to grow recycling in Indiana" (see Exhibit 3). Her presentation included the following points:

- Of the eight Midwestern states, Indiana has the second lowest state fee on the disposal of solid waste (under IC 13-20-22-1, fifty cents per ton of material disposed of or incinerated).
- The creation of new products using recycling materials instead of raw materials achieves a savings in energy of 95% in the case of aluminum, 25% in the case of glass, and 85% in the case of plastic.
- The study "The Untapped Jobs Potential of Indiana's Recycling Industry," which was commissioned by the Indiana Recycling Coalition and conducted by the Bowen Institute for Public Policy at Ball State University, concluded that:
  - Hoosiers send approximately 6 million tons of material to Indiana landfills and incinerators each year, and more than 92% of what gets thrown away in Indiana is valuable recyclable and compostable material;
  - recycling of waste materials creates an average of ten times more jobs than sending those waste materials to the landfill;
  - a 50% increase in the recycling of recyclable materials in the waste generated in Indiana would lead to almost 20,000 new Indiana jobs; and
  - Indiana is home to 77 manufacturers that use recycled feedstock, and these manufacturers employ over 30,000 Hoosiers.
- The means by which recycling could be expanded in Indiana include these options: a bar and restaurant container recycling law; a mandatory beverage container deposit law; extended producer responsibility (EPR) laws requiring manufacturers to provide for the proper disposition of their products after consumers have finished using them; and a ban on the disposal of certain recyclable materials, such as paper, cardboard, and containers made of glass, aluminum, or plastic.

Senator Stoops asked Ms. Hamilton about the potential benefit of imposing restrictions on the types of containers that fast food comes in. Representative Wolkins asked Ms. Hamilton whether the studies that predict the creation of new jobs from the expansion of recycling also predict the likely cost to consumers or taxpayers of creating those jobs. Ms. Hamilton acknowledged that there would be expenses associated with expanding recycling.

The next six speakers represented Indiana industries that use recycled commodities. They spoke in favor of efforts to increase the recycling of recyclable materials in Indiana.

Sally Rideout Lambert, representing Alcoa, made these points (see Exhibit 4):

- The demand for scrap aluminum for recycling exceeds the supply.
- A ban on the disposal of aluminum cans in Indiana, even without an enforcement mechanism, would be expected to boost the recycling rate by 15% and generate $7.3 million for the creation of jobs.
- A "pay as you throw" policy under which consumers would save money by reducing their disposal of recyclables would be expected to boost the recycling rate by 15% and generate $3.1 million for the creation of jobs.
- Indiana law could require any apartment complex or condominium development having at least ten units to have collection facilities for recyclable aluminum containers.

Charles Schwarze, representing the Amcor Rigid Plastics company, made these points (see Exhibit 5):

- The Amcor facility in Franklin, Indiana, employs 181 workers and last year

processed more than seven million pounds of recycled PET (polyethylene terephthalate).

- In the U.S., only 29% (approximately) of bottles made of PET are recycled.
- 1.4 billion PET bottles are consumed in Indiana each year and only 7% (approximately 6 million pounds) are recycled.
- Increasing Indiana's recycling rate for PET bottles to 60% would increase the recovery of PET by 50 million pounds, adding an estimated 250 skilled jobs in processing and conversion.

Dave Hudson, representing Strategic Materials, Inc. (SMI), made these points (see Exhibit 6):

- SMI operates two glass recycling facilities in Indiana.
- The supply of recycled glass available to companies like SMI could be increased in Indiana through continued education on the benefits of recycling and through policy solutions like EPR laws, disposal bans, and recycling programs at public events.

Scott Miller, representing Knauf Insulation, made these points (see Exhibit 7):

- Knauf Insulation's North American Headquarters, which is located in Shelbyville, Indiana, has 657 employees and is the largest capacity glasswool insulation plant in the world.
- By using post-consumer recycled glass in making glasswool insulation, Knauf saves 20% on melting energy and avoids the expense of having to remove the bound water that is contained in virgin materials.
- Most of the recycled glass that Knauf purchases comes from states that have enacted mandatory beverage container deposit laws.

Michael Smaha, representing Owens-Illinois, Inc., made these points (see Exhibit 8):

- Owens-Illinois, Inc., has 79 plants in 21 countries.
- Owens-Illinois's plant in Lapel, Indiana, which opened in 1895, has 202 employees, produces approximately 2.2 million bottles per day for industrial customers that include Miller Coors and Anheuser Busch, and in 2011 spent approximately $1.5 million to bring recycled glass (or "cullet") into Indiana.

Steve Segebarth, representing the Verallia corporation, made these points (see Exhibit 9):

- America's 48 glass container plants collectively have approximately 18,000 employees and produce approximately 30 billion glass containers annually.
- Indiana is an important glass container manufacturing state, as glass container plants in Muncie, Dunkirk, Lapel, Winchester, and Lawrenceburg employ more than 1,600 and produce millions of glass containers per day.
- Glass is 100% recyclable and can be recycled endlessly.
- More than a ton of natural resources is saved for every ton of glass that is recycled, and the manufacturing of glass containers from six tons of recycled glass reduces the emission of carbon dioxide (greenhouse gas) by one ton versus the manufacturing of the same number of glass containers from raw materials.
- In Indiana, consumers annually purchase about: 200,000 tons of glass beverage containers; 30,000 tons of aluminum beverage containers; and 38,000 tons of plastic beverage containers.
- The 2012 Municipal Solid Waste Characterization Study conducted by Purdue University, Calumet, found that solid waste disposed of in Indiana contained 16.1% plastic, 5.7% metals, and 3% glass.
- Verallia estimates that about 3 billion aluminum, glass, and PET beverage containers are disposed of in Indiana landfills each year, and those containers would be worth approximately $60 million as recycled feedstock commodities.
- In a poll of Indiana residents conducted in 2012 by Ball State University's Bowen

Center, 85.7% of the participants said that "state legislation promoting more effective recycling programs in Indiana" is very important or somewhat important.

- The ten states that have mandatory beverage container deposit laws have higher recycling rates than the other states, and 65% of all cullet comes from those states.
- Verallia's Dunkirk, Indiana, operations would buy much more high quality Indiana cullet if it were available.

The next speaker to address the EQSC was Patrick K. Bennett, representing the Indiana Chapter of the National Solid Waste Management Association. Mr. Bennett made the following points (see Exhibit 10):

- Options through which recycling could be expanded in Indiana fall within these categories:
  (1) forced recycling through government action, as through a mandatory beverage container deposit law, a ban on the disposal of recyclable materials, or a "pay as you throw " law;
  (2) education about the benefits of recycling and programs to promote voluntary recycling; and
  (3) the free market (i.e., as the market value of recyclable materials rises, recycling may increase).
- Government action to force recycling will adversely affect the existing free market structure.
- We currently lack good data on recycling in Indiana.

In response to a question from Representative Errington, Mr. Bennett said that waste haulers do not measure the quantities of recyclable materials in the waste they haul to disposal facilities.

The EQSC next heard a presentation on Indiana's Solid Waste Management Districts (SWMDs) from Larry D. Barker, Vice President of the Association of Indiana Solid Waste Management Districts (AISWMD) and Executive Director of the Monroe County SWMD, and Jennifer Lawrence, Secretary of the AISWMD and Executive Director of the Boone County SWMD. Their presentation (see Exhibit 11) included the following points:

- In 2012, Indiana's SWMDs collected 220,932 tons of comingled recyclables, 1,923 tons of household hazardous waste, 127,258 tons of electronics, and 2,707 tons of waste tires.
- Based on calculators and factors made available by the U.S. EPA, the collection of these recyclables in 2012 has approximately the same effect in avoidance of greenhouse gas emissions as avoiding the usage of 21,150,000 gallons of gasoline.
- The SWMDs have been involved in recycling education since their inception and their role in education was expanded by Senate Enrolled 131 of 2012 [P.L.37-2012], which requires the SWMDs to implement educational programs that meet the standards of a curriculum model established by IDEM.
- At the AISWMD annual conference on October 2 and 3, SWMDs will discuss a plan to increase the collection of recyclables in Indiana, and the AISWMD will report back to the EQSC about this plan before November 1.

The next to address the EQSC were Matt Grantz and Kira Blacketor of the City of Fort Wayne Solid Waste Department (see Exhibit 12). They made the following points:

- Fort Wayne's current recycling program is operated through a contractor, serves approximately 80,000 households, is financed through a monthly fee that is included on every household's city utilities bill, and includes the collection of each household's recyclables every other week from a single large capacity cart that has wheels and a lid.

- The current recycling program replaced an earlier program under which households were provided with smaller, open-topped bins for recycling (which led to wind-blown debris and water-logged paper), households were expected to separate recyclables by type of material, and the rate of participation "stagnated" at about 33%.
- Under the current program, revenue from the recycling of the collected materials is shared between the contractor and the city, the garbage collection contractor and the recycling contractor each provide $50,000 annually for program promotions, garbage/recycling fees have been lowered from $11.24 to $9.95 per month, and the recycling participation rate has risen to 80%.

Finally, the EQSC heard from Melody Park, Director of the Office of Sustainability of the City of Indianapolis (see Exhibit 13). Ms. Park made the following points:

- Indianapolis currently offers:
  - curbside recycling, which is available to all single family residential property owners as a monthly subscription-based service, and in which co-mingled recyclables are accepted;
  - drop-off recycling at 27 sites located throughout Marion County, which is free to the public and has resulted in the recycling of 44,697 tons of materials since 2006;
  - pedestrian recycling of plastic bottles and aluminum cans downtown, in Broad Ripple, and on Massachusetts Avenue; and
  - recycling of electronic waste at the city's five "ToxDrop" household hazardous waste collection sites.
- The total weight of recyclable materials collected annually through the city's curbside recycling program has risen steadily since 2008 and total municipal solid waste collected has fallen nearly 26% during the same period, but limited participation by residents and the cost of implementing the program remain as challenges.

Senator Charbonneau invited public comment from anyone who might want to address the EQSC on the subject of recycling. No one accepted this invitation.

Senator Charbonneau then reminded the members of the EQSC that the second meeting of the 2013 interim period is scheduled for September 13 at 9:00 a.m., Central Daylight Time, at the Indiana Dunes National Lakeshore Visitor Center in Porter, Indiana. The subject of the meeting, he said, will primarily be an update on the Great Lakes, including the threat posed by the Asian Carp.

Senator Charbonneau adjourned the meeting at 1:13 p.m.

Indiana's State Recycling Funds

Legislative History and Fiscal Overview

Presented by the Legislative Services Agency to the Environmental Quality Service Council

August 28, 2013

P.L. 10-1990

- Established the State Solid Waste Management Fund
- Established the Indiana Recycling Promotion and Assistance Fund
- Established the State Solid Waste Management Fee
- Established goals for waste reduction
  - 35% by 1996
  - 50% by 2001
  - Numeric goal replaced in 2012 with goal "to encourage solid waste source reduction, recycling, and other alternatives to conserve environmental resources."
- Established solid waste management districts

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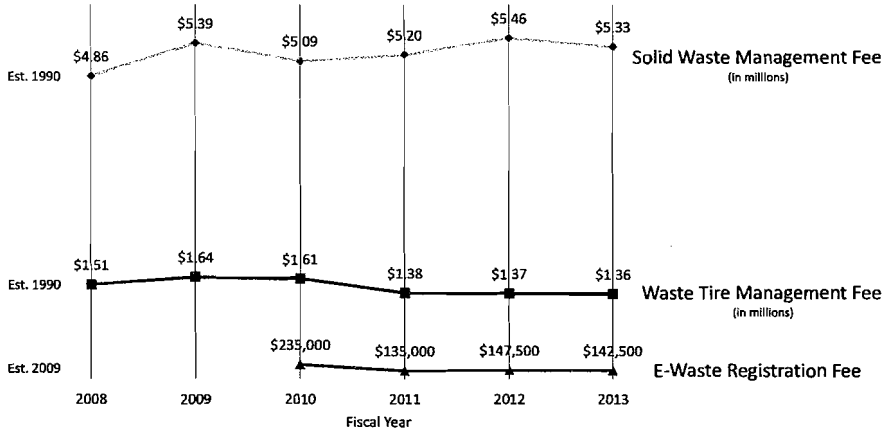
Further Recycling Developments

- 1989:
  Mandatory coding of plastic containers
- 1990:
  Establishment of the Waste Tire Management Fund
  State procurement price preferences for supplies made from recycled materials
- 2001:
  Mercury and mercury product prohibitions and collection programs
- 2006:
  Mercury switches in end of life vehicles
- 2009:
  Establishment of the Electronic Waste Fund to implement the Electronic Waste Recycling Program

3

State Recycling Revenue Sources



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Fund Balances as of August 20, 2013

- Solid Waste Management Fund: $8,105,526
- Recycling Promotion and Assistance Fund: $6,190,512
- Waste Tire Management Fund: $3,360,530
- Electronic Waste (E-Waste) Fund: $419,192

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State Solid Waste Management Fee (IC 13-20-22-1)

Waste generated in Indiana

- Fifty cents per ton
- Delivered in a motor vehicle having a registered gross vehicle weight greater than 9,000 pounds

Waste generated outside of Indiana

- Fifty cents per ton plus amount specified by the State Solid Waste Management Board
- Delivered in a motor vehicle having a registered gross vehicle weight greater than 9,000 pounds

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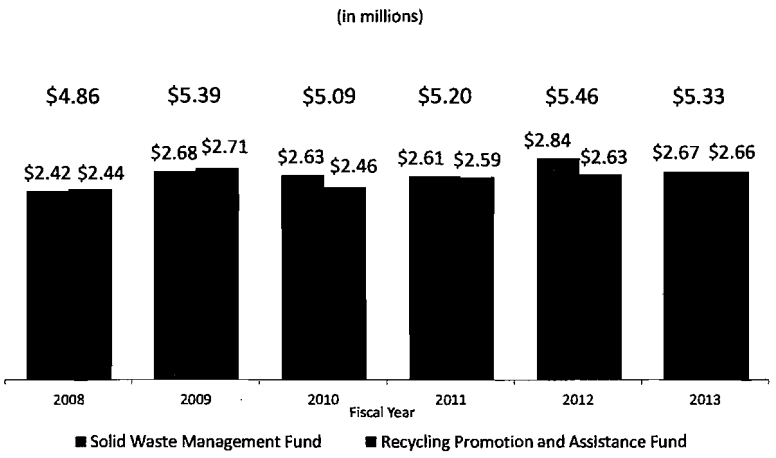
Solid Waste Management Fee Distribution



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Distribution of Solid Waste Management Fees

Solid Waste Management Fund IC 13-20-22-2(a)	Recycling Promotion and Assistance Fund IC 4-23-5.5-14
• **Grants and Loans** • Education • Promote recycling and the use of recycled materials • Waste reduction • Management of yard waste • **Grants** • Household hazardous waste source reduction or recycling projects implementation • Household hazardous waste and conditionally exempting small quantity generator waste collection, recycling, or disposal projects • **Administration of the Fund**	• **Loans** • Establish new recycling businesses • Expand existing recycling businesses • Retrofit equipment to reuse or recycle secondary materials • **Grants** • Research and development projects involving recycling • **Transfers** • Mercury switch remediation through the Solid Waste Management Fund administered by IDEM

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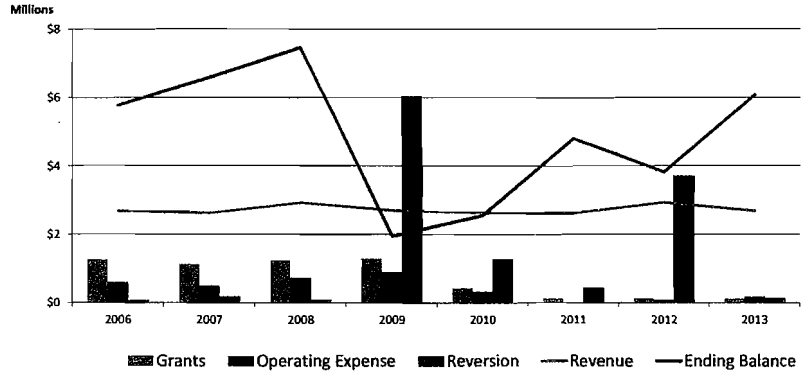
Solid Waste Management Fund Balance



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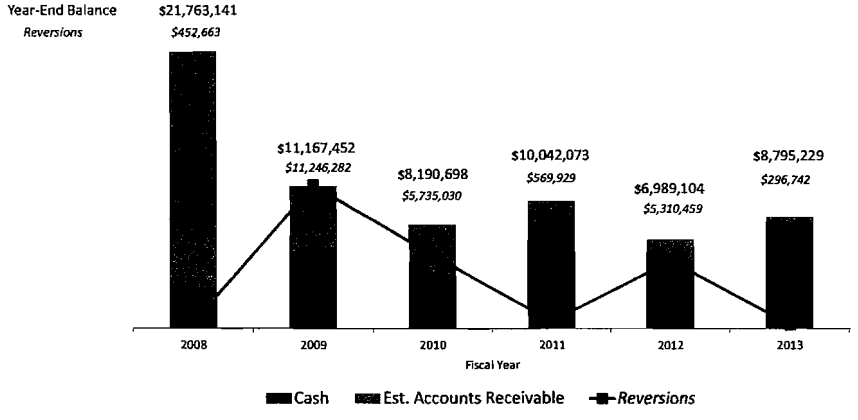
Recycling Promotion and Assistance Fund Balance



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Waste Tire Management Fund Revenue Sources (IC 13-20-13-8)

- 25¢ per tire sold at retail
- Registration and application fees for tire storage, transportation, or processing
- Costs and damages for improper tire storage or failure to remediate
- Civil penalties for violation concerning tire storage and waste tire disposal
- Appropriations and fees established by the General Assembly

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Waste Tire Management Fund Uses

35% of balance	Remaining funds
• Removal and disposal of waste tires that have been disposed of improperly • Waste Tire Education Program	• Grants and loans for waste tire management activities • Costs of administering the Waste Tire Education Program and administering grants and loans

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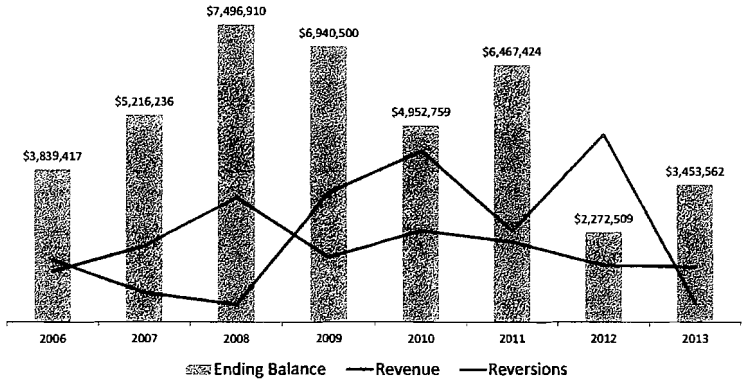
Waste Tire Management Fund Balance



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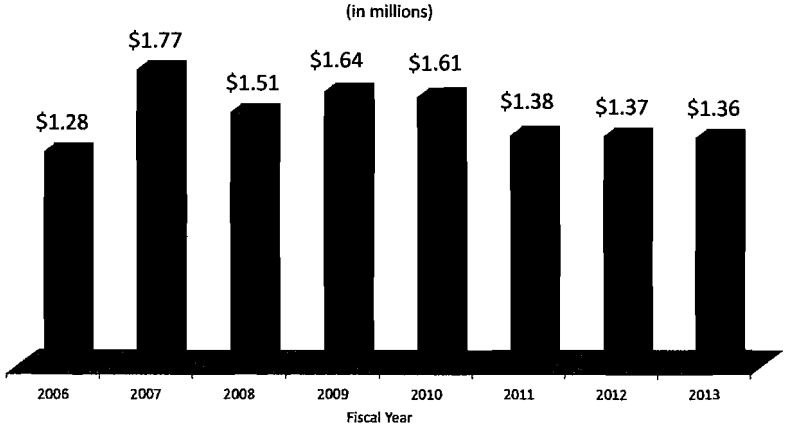
Waste Tire Management Fee Revenues



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Electronic Waste (E-Waste) Fund (IC 13-20.5-2-3)

- Manufacturers of video display devices
- Initial registration fee of $5,000
- $2,500 annual renewal fee
- Variable fee rate for manufactures who fail to meet recycling goal (distributed to the Recycling Promotion and Assistance Fund)
- Funds the E-Waste Recycling Program operated by IDEM

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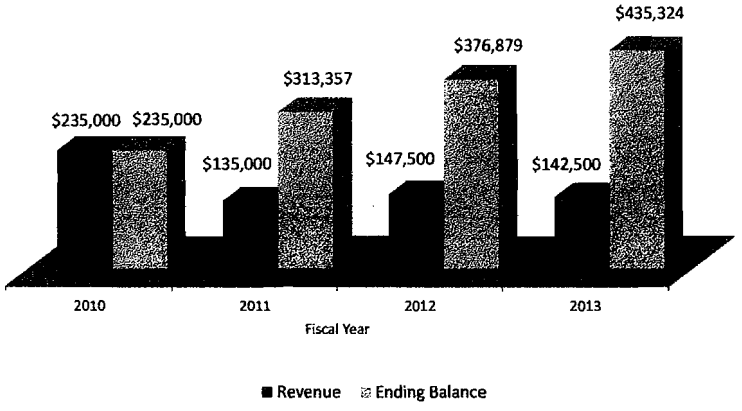
E-Waste Registration Fee Revenue and Year-end Balance



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A State that Works

IDEM and Recycling: Administrative Oversight

August 28, 2013

Thomas W. Easterly, P.E., BCEE, Commissioner
Indiana Department of Environmental Management

Indiana Department of Environmental Management

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IDEM Recycling Programs

- Administered by the Office of Compliance Support
  - Recycling Market Development Program
  - Waste Tire Management Grant Program
  - Household Hazardous Waste Grant Program
  - Community Recycling Grants Program
  - Electronic Waste Program

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Recycling Market Development Program

- Established under IC 4-23-5.5-14 "to promote and assist recycling throughout Indiana by focusing economic development efforts on businesses and projects involving recycling."
- The Recycling Market Development Board (RMDB) sets the criteria for and awards funds to these businesses and projects.
  - Established under IC 4-23-5.5-2

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Recycling Market Development Program

- The focus of the program is to:
  - Build markets for recyclables through economic development
  - Promote the use of recycled-content products
  - Move materials past collection and into the marketplace
  - Encourage waste reduction

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Recycling Market Development Program

- Pre 2008
  - Provided zero-interest loans up to $1 million to attract new recycling businesses, expand existing businesses, and assist manufacturers to retrofit equipment to use recycled materials or reuse materials.
  - The RMDB could also make grants up to $100,000 for research and development projects involving recycled materials. There was no set limit for the amount of funds awarded annually (as long as the funds are available) to support the development of markets for recyclables in Indiana.
- December 2008
  - Program suspended due to economic downturn.
- 2010
  - The suspension was lifted, with $500,000 available in Recycling Promotion Assistance Funding in grants each year to date.

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Waste Tire Management Grant Program

- Program has been suspended since 2008.
- This program provided grant funding on a match basis to help start or expand waste tire recycling programs in Indiana, and target new and innovative projects that reuse or recycle waste tires.
- Entities eligible for financial assistance were Indiana businesses, units of local government, schools and nonprofit organizations with 501(c) status.

Waste Tire Management Grant Program

- Funds may be used for:
  - IDEM approved civil engineering field projects that utilize waste tire material.
  - Research and development efforts that explore the use of waste tire material in high value-added products.
  - Projects that involved the beneficial reuse of waste tires in the construction of sports and other recreational fields.
  - Trial and implementation efforts aimed at converting waste tires into fuel alternatives or supplements for energy generation applications.

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Household Hazardous Waste Grant Program

- Program has been suspended since 2008.
- Household Hazardous Waste (HHW) grants were offered to Solid Waste Management Districts (SWMDs) and other local units of government to establish programs that provide proper disposal of HHW and some small business hazardous waste.
- Funding was also available to support projects that promote the source reduction of household hazardous waste and small business hazardous waste.
- $435,000 was available annually through one competitive grant round. In 2007, funding was reduced to $300,000 annually.

Community Recycling Grants Program

- Program has been suspended since 2008.
- Local units of government, solid waste management districts (SWMDs), K-12 schools, not-for-profit organizations, and colleges and universities were eligible to receive funding for new or expanded source reduction, reuse, recycling, and composting projects.
- Eligible expenses included the purchase of equipment necessary to provide recycling and composting services, and educational efforts to promote participation in waste diversion programs. Two competitive grant rounds were offered each year, with $300,000 available in each grant round.

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Electronic Waste Program

- Established under IC 13-20.5; Effective July 1, 2009.
- The Indiana E-Waste Law establishes a state-wide program for the collection and recycling of e-waste. IDEM was tasked with the implementation and management of the program. Amongst other responsibilities, the law states that the department shall:
  - adopt forms for use by manufacturers, collectors, and recyclers for all registration statements, certifications, and reports required by the law;
  - establish procedures for receipt and maintenance of the registration statements and certifications filed with the department under IC 13-20.5-1; and
  - make the statements and certifications easily available to manufacturers, retailers, and the public

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Electronic Waste Program

- The E-waste Program is an extended producer responsibility (EPR) program in which manufacturers of video display devices (VDDs) are required to collect and recycle e-waste from Indiana households, small businesses, and public schools.
- These manufacturers must register and report to IDEM.
- These manufacturers are required to collect and recycle 60 percent by weight equivalent of the total weight of VDDs they sold to Indiana households during the previous twelve months.
- They can collect and recycle a broader range of "covered electronic devices" of any brand to meet their obligation.

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Recycling Challenges

- We do require reporting of the sources and amount of materials disposed of in Indiana.
- We ask neighboring states how much Indiana waste is shipped out of Indiana for management.
- We do not know how much Indiana waste is actually recycled.
- We generally cannot document the impacts of Indiana's recycling efforts on actual recycling.

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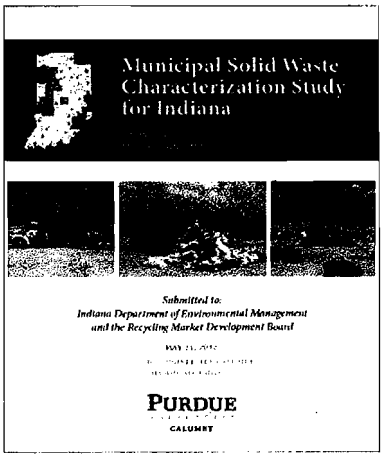

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Indiana Department of Environmental Management

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Questions?

Tom Easterly
Commissioner
Indiana Department of Environmental Management
(317) 232-8611

teasterly@idem.IN.gov

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August 28, 2013

Recycling in Indiana

Policy Background, Job Creation and Solutions

CAREY HAMILTON | EXECUTIVE DIRECTOR
CAREY@INDIANARECYCLING.ORG

Indiana RECYCLING COALITION

ABOUT THE IRC

The IRC's Mission

To advance waste reduction, reuse, composting and recycling activities in Indiana

Indiana RECYCLING COALITION

What is the IRC?

A Statewide Coalition formed in 1989

- Education and Advocacy
- Programs and Projects

Diverse Membership

- Business/Industry
- Governments
- Universities/Non-profits
- Individuals

Indiana RECYCLING COALITION

POLI OVERVIEW

Indiana Recycling Policy

State Waste Reduction Goals est. in 1990:

- Indiana adopted statewide waste reduction goals of 35% by Jan 1, 1996 and 50% before Jan 1, 2001
- According to IDEM - 30% reduction in 1996 and 39% reduction in 2001

Indiana RECYCLING COALITION

Indiana Recycling Policy

Solid Waste Management Districts (SWMDs) est. in 1990:

- Every county required to join or form a SWMD
  - Except Marion County - exempted from requirement
- SWMDs - Local units of government est. to advance waste reduction goals
- Locally funded through a variety of levy options

Indiana RECYCLING COALITION

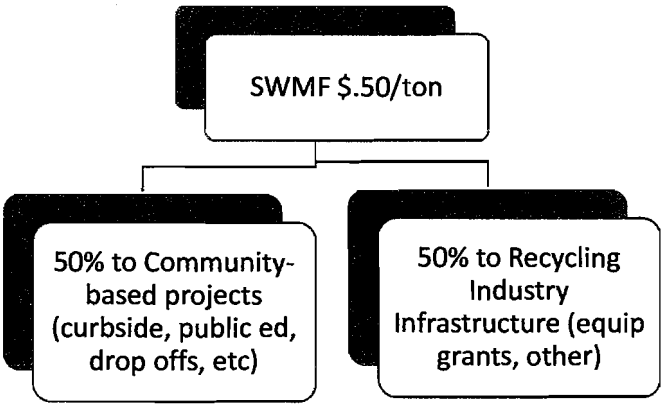
Indiana Recycling Policy

State Solid Waste Management Fund(SWMF) est. in 1990:

- SWMF – .50 cent tipping fee levied for every ton of material that enters an Indiana landfill (as of 2009 incl. Marion Co. incinerator)
- Designed to invest in recycling collection, education and processing infrastructure
- Generates appr. $6 m per year
  - Competitive grants to private sector
  - Competitive grants to public entities such as cities/towns, SWMDs and colleges/universities
- SWMF budget allocation was not appropriated in 2009 due to the state budget crisis

Indiana RECYCLING COALITION

SWMF (Solid Waste Management Fund) – also referred to as the Recycling Fund



Indiana RECYCLING COALITION

Indiana Recycling Policy

State tipping fee comparison

- Eight Midwest states - IN has the 2nd lowest tipping fee
- Average state tipping fee is $3.43/ton
- Lowest is MI with .21 cents/ton - MI also has a bottle deposit law

Indiana RECYCLING COALITION

Recycling in 1990

Landfill Crisis

Environmental Effects of Disposal

Vague Sense of Over-Consumption & Environmental Harm

Challenge: Limiting Flow of Materials to Landfills

Indiana RECYCLING COALITION

Recycling Today

Competing with Virgin Materials

Creating Jobs and Business Opportunities

Supply Chain Management

Capturing the Embodied Energy of Recovered Commodities

Sustainable Materials Management

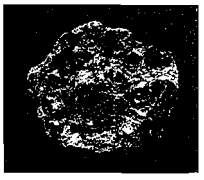
Challenge: Building a Recycling Economy

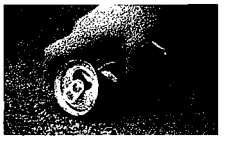
Indiana RECYCLING COALITION

RECYCLING CONSERVATION

Resource Conservation

Hoosier
Resources



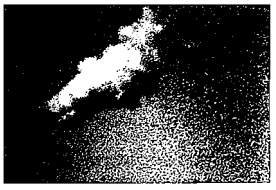


Indiana RECYCLING COALITION

RECYCLING ENERGY

Energy Savings for Manufacturers

- **Aluminum - 95% energy savings** over raw materials
- **Glass - 25% energy savings** over raw materials
- **Paper - 64% energy savings** over raw materials
- **Steel - 74% energy savings** over raw materials
- **Plastic - 85% energy savings** over raw materials



Indiana RECYCLING COALITION

NOW HIRING

RECYCLING & JOBS

Indiana Recycling Jobs Study

"The Untapped Jobs Potential of Indiana's Recycling Industry"

- **Prepared by: Stacy Wheeler, Bowen Institute for Public Policy at Ball State University**
- **Commissioned by: Indiana Recycling Coalition**

Indiana RECYCLING COALITION

Indiana Recycling Jobs Study

"The Untapped Jobs Potential of Indiana's Recycling Industry"

- Objective – To determine the job creation potential of increased recycling in Indiana

Indiana RECYCLING COALITION

Indiana Recycling Jobs Study

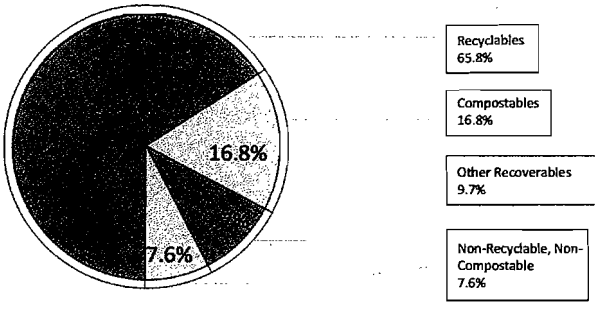
What are we throwing away?

- Hoosiers send approximately 6 million tons of material to Indiana landfill and incinerator facilities each year*
- Over 92% of what gets thrown away in Indiana is valuable recyclable and compostable material*

*Source: Abramowitz, Harvey, and Yu Sun. "Municipal Solid Waste Characterization Study for Indiana." 25 May 2012: http://www.in.gov. Web. Accessed 31 July 2013.

Indiana RECYCLING COALITION

Total Materials Discarded in Indiana Municipal Solid Waste Facilities



Source: Abramowitz, Harvey, and Yu Sun. "Municipal Solid Waste Characterization Study for Indiana." 25 May 2012: http://www.in.gov. Web. Accessed 31 July 2013.

Indiana RECYCLING COALITION

Indiana Recycling Jobs Study

Recycling = Jobs

- The study found that recycling creates an average of 10 times more jobs that sending waste to the landfill
- **a 50% increase in the state's diversion rate of in-state waste would lead to almost <u>20,000 new Indiana jobs</u>**

Indiana RECYCLING COALITION

Indiana Recycling Jobs Study

Estimated Direct Jobs in Indiana:
Potential Jobs Created by Redirecting Waste to Recycling and Composting Businesses

	10% Increase Diversion Rate		25% Increase Diversion Rate		50% Increase Diversion Rate	
	In-State Waste	Total Waste Diversion	In-State Waste	Total Waste Diversion	In-State Waste	Total Waste Diversion
	Jobs Created/1,000					
MATERIALS						
Recyclables						
Paper & Paperboard	1242	1700	3289	4510	6577	9013
Plast	1353	1867	3396	4682	6778	9363
Metals	351	523	889	1302	1759	2617
Glass	187	288	477	709	953	1418
Other						
Wood	247	392	615	977	1224	1954
Textiles	195	304	488	763	966	1524
Rubber	50	62	124	150	250	300
Sub Total	*3625*	*5136*	*9278*	*13093*	*18507*	*26189*
Compostables						
Food Scraps	147	234	367	581	734	1163
Yard Trimmings	105	127	263	317	526	633
Sub Total	*252*	*361*	*630*	*898*	*1260*	*1796*
Total Jobs Created in Indiana (FTE)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Indiana RECYCLING COALITION

Recycling Sector Jobs for Hoosiers

Collection

Transportation

Processing

Manufacture

Vs. **Disposal**

Indiana RECYCLING COALITION

Indiana Recycling Jobs Study

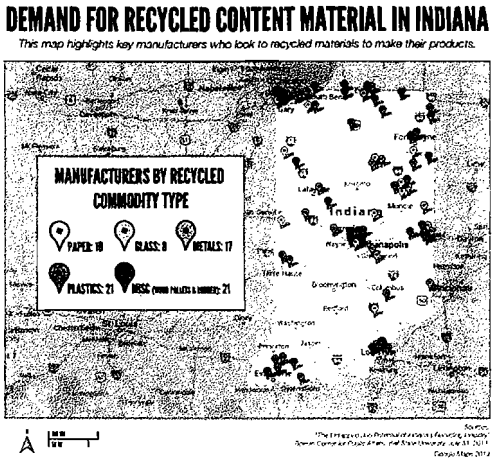
Indiana Manufacturers that Use Recycled Feedstock

- The study found 77 Indiana manufacturers that use recycled feedstock
- These manufacturers employ over 30 thousand Hoosiers

Paper	819
Plastics	2,346
Metals	24,313
Glass	1,881
Other	1,088
Total	**30,447**

Indiana RECYCLING COALITION

77 Manufacturers that Use Recycled Feedstock



Facility locations are approximate

Indiana RECYCLING COALITION

Indiana Recycling Jobs Study

Achievements of Indiana's E-waste Law

- In 2012, 61 Indiana businesses helped recycle over 39,000 tons of e-waste
- Over half reported starting their businesses following the enactment of the 2009 Indiana E-Waste Law

1978-1999	16	20%
2000-2008	13	26%
2009-2012	27	54%
Total (N = 61)	50	100%

Indiana RECYCLING COALITION

THE OPPORTUNITY

Industry Stakeholder Group

2012 - IRC hosts industry stakeholder dialogue to discuss policy options to advance recycling in Indiana

Wide range of ideas discussed

Consensus on need to invest in recycling

January 2013–
Sign on letter to Governor re: State Recycling Fund

Indiana RECYCLING COALITION

Industry Stakeholder Group

Request to re-instate Indiana's Recycling Fund supported by:

- Alcoa
- Verallia North America
- Waste Management of Indiana
- NuGenesis Environmental Services
- Knauf Insulation
- Perpetual Recycling Solutions
- Strategic Materials
- Owens-Illinois
- Omni Source
- Earth First
- Steel Recycling Institute
- Nucor Steel
- Ardagh Group
- Petoskey Plastics
- Republic Services of Indiana
- Electronics Recyclers International
- US Greenworks/RecycledGranite.com
- National Solid Waste Management Assoc. of IN
- Hoosier Beverage Association
- Indiana Beer Wholesalers Association
- Indiana Chamber of Commerce
- Indiana Retail Council
- Indiana Beverage Alliance
- Indiana Recycling Coalition

Indiana RECYCLING COALITION

SWMF (Solid Waste Management Fund) – also referred to as the Recycling Fund

SWMF $.50/ton

- **50% to Community-based projects (curbside, public ed, drop offs, etc)**
- **50% to Recycling Industry Infrastructure (equip grants, other)**

Indiana RECYCLING COALITION

SWMF (Solid Waste Management Fund) – also referred to as the Recycling Fund

- $6 million generated each year by the $.50 fee
- Industry group asked for a modest $3.4 million annual appropriation
- -$1.1 million appropriated annually in current budget
  -Only $100,000 granted so far in current FY
- **Significant opportunity remains to advance recycling via the SWMF**

Indiana RECYCLING COALITION

Policy Options

Invest Existing SWMF Dollars

Est. New Recycling Goals and Data Collection Reqs

- State Recycling Goals (ex. 60% by 2020)
- Reporting – require recyclers to report tonnages

Create New Funding for Infrastructure and Education

- Increase tipping fee

Est. Bar and Restaurant Container Recycling Law

- NC - holders of certain Alcohol Beverage Commission permits by Jan. 2008 req. to implement recycling efforts for beverage containers sold on premises -includes a disposal ban on these materials

Indiana RECYCLING COALITION

Policy Options

Est. Container Deposit Law

- The refund value (usually 5 or 10 cents) provides a monetary incentive to return the container for recycling
- 11 State have container deposit laws

Create Extended Producer Responsibility (EPR) laws

- **Current/common EPR Policies:**
  Electronics/paint/packaging/thermostats/carpet/meds
- **Opportunity: Household packaging & printed paper (PPP)**
  - Mandate producers of PPP to handle & dispose of their products post-consumption.
    - Producers would be expected to contract haulers & local governments to collect & recycle PPP.

Indiana RECYCLING COALITION

Policy Options

Enact Disposal Bans on Certain Commodities

- Ex. Massachusetts bans:
  - Recyclable Paper & Cardboard
  - Glass/Aluminum/Metal/Plastic Containers
  - Leaf and Yard Waste
  - Cathode Ray Tubes (TV's and Computer Monitors) Electronics
  - White Goods (Major Appliances)
  - Asphalt, Brick, Concrete, Wood, Metal & Clean Gypsum Wallboard
  - Tires
  - Lead Acid Batteries

Indiana RECYCLING COALITION

If you agree it is good to…

Conserve natural resources

↓

Conserve energy

↓

Support Hoosier manufacturers

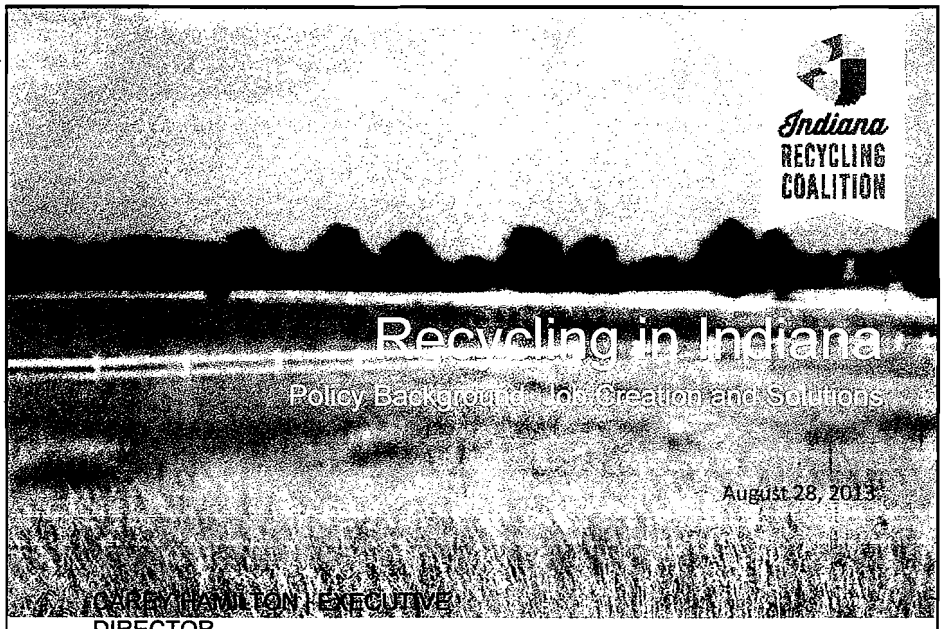
↓

Create new recycling jobs

↓

Then please support policies to advance recycling!

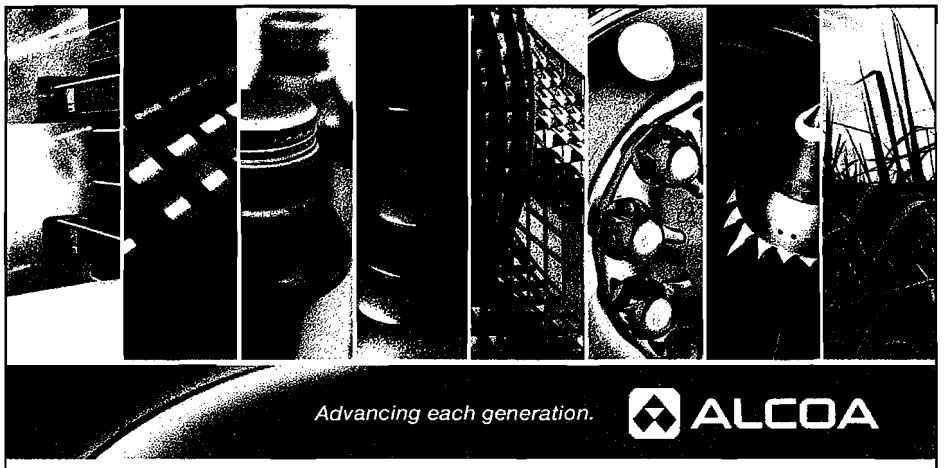
Indiana RECYCLING COALITION



CAREY HAMILTON | EXECUTIVE DIRECTOR
CAREY@INDIANARECYCLING.ORG

INRECYCLING

Exhibit 4
Environmental Quality Service Council, Meeting #1
August 28, 2013



Recycling Aluminum: Putting Cash in Hoosier Pockets

Indiana Environmental Quality Service Council Committee Hearing

August 28, 2013

Alcoa has been leading the aluminum industry for 125 years

- We invented the aluminum smelting process in 1888
- Largest integrated producer of aluminum worldwide
- Leader in aluminum technology and innovation
- Involved in every stage of aluminum production
- Our products:

Upstream

- Bauxite mining
- Alumina refining
- Aluminum smelting
- Energy

Midstream

- Aluminum recycling
- Flat-rolled aluminum

Downstream

- Fastening Systems
- Power & Propulsion
- Wheel & Transportation
- Building & Construction
- Forgings & Extrusions

Advancing each generation. ALCOA

Indiana is home to 3500 Alcoa employees making products for every segment of the aluminum market

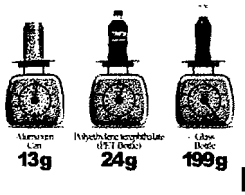
- **Lafayette:** *Extrusions for aerospace, automotive, and oil/gas markets*
- **LaPorte:** *Investment casting for automotive and aerospace markets*
- **Warrick/Newburgh:** *Rolled aluminum sheet for food/beverage markets and lithographic customers.*

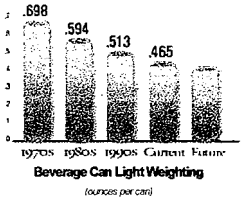
- 3500 active employees
- 3 operating locations, 2 Sales offices
- Coal Mining, power generation, smelting, rolling, extruding, casting
- Aerospace, automotive, defense, lithographic, oil & gas, packaging

Advancing each generation. ALCOA

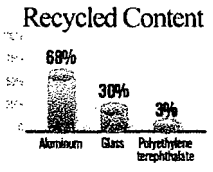
The Aluminum Can Is The Sustainable Beverage Packaging

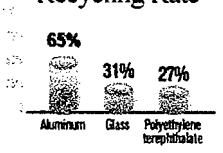
Less material means less weight, less fuel, less waste… creating less impact.





Aluminum cans have the highest recycled content and recycling rate





Aluminum: True Green

- Infinitely recyclable – back on store shelf in **only 60 days**
- Today's aluminum can is
  - **40% lower** GHG
  - **30% less** energy
  - **15% lighter**-than in 1993
- Alcoa certified **Cradle to Cradle**

Advancing each generation. ALCOA

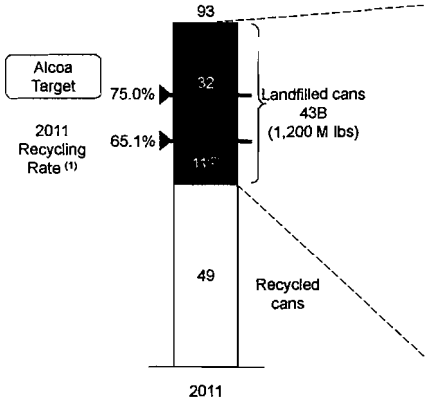
Alcoa is a leader in recycling

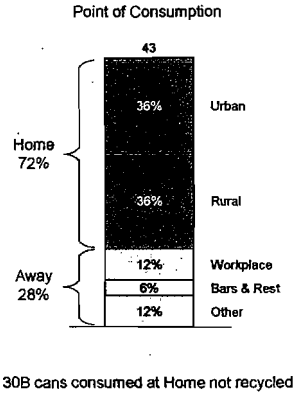
- More than 143 billion cans recycled worldwide in 2011
- 45% capacity expansion at Tennessee
- $24 million investment in crusher and delacquering technology
- Aluminate, first free recycling app for iPhone
- **Our goal: Raise U.S. recycling rate to 75%**

Advancing each generation. ALCOA

Alcoa is pulling many levers to achieve a 75% recycling rate

Disposed cans in the US, 2011, in billions



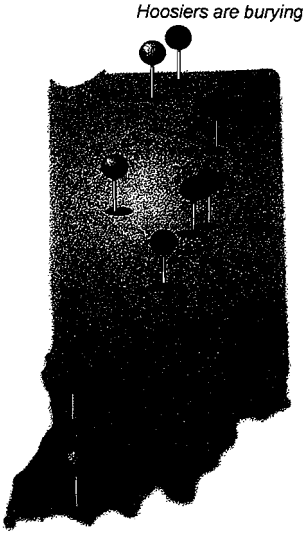


1) Aluminum Association definition, includes imported cans
2) UBC imports credited towards U.S. recycling rate as cans "Consumed by U.S. mills and secondary producer"

Advancing each generation. ALCOA

Scrap processors across the state want more material to drive economic activity

Hoosiers are burying $40 million of aluminum cans every year



Aluminum Scrap Processors

Alcoa Locations

1.7 [illegible]ns

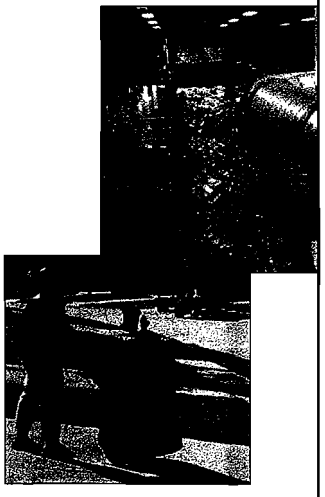
50[illegible]s

$[illegible]

Advancing each generation. ALCOA

The current situation: Demand exceeds supply

- There are at least ten MRFs in Indiana, all with excess capacity, and hundreds of drop offs and/or scrap dealers across the state
- There is more demand for scrap aluminum than there is supply
- Even in a down market, the value of the metal still far outstrips cost of processing.
- The aluminum industry, which is importing used beverage cans from all over the world to feed recycling mills, will buy every good quality can that can be collected in Indiana
- We must find a way to motivate Hoosier consumers to recycle



Advancing each generation. ALCOA

Two key drivers influence consumer recycling

ACCESS: Consumer is able to conveniently use the recycling infrastructure

- Facilitate at-home recycling with increased curbside access
- Install reverse vending machines at beverage retail outlets to collect UBCs
- Provide recycling bins at local parks and other "away from home" sources

COMMITMENT: Consumer is motivated to recycling more

- Legislate landfill disposal of aluminum cans to be illegal
- Create financial incentives for consumer recycling
- Educational campaigns to increase awareness of can's financial value

Advancing each generation. ALCOA

Disposal bans have worked in some states

Key Components

- Simple language that bans aluminum cans from landfills
- Even with lack of enforcement mechanism, it drives the search for solutions

What it means for Indiana

- Anticipated recycling rate increase of 15% points (to ~57%)
- Nearly 9 million pounds of aluminum cans collected
- $7.3 million changing hands and creating jobs

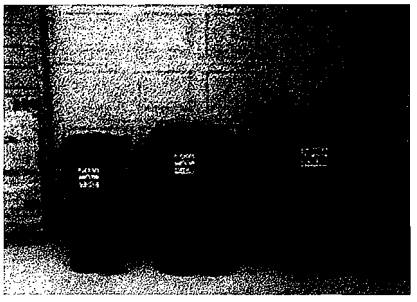
NC Division of Environmental Assistance & Outreach

Advancing each generation. ALCOA

Pay as You Throw policy incents consumers to waste less

Key Components

- Consumers pay for trash disposal based on volume vs. flat fee
- Demonstrated in 7100 cities
- Effective at reducing overall landfill usage by diverting recyclables, yard waste, etc.



What it means for Indiana

- Anticipated 15% increase in aluminum can recycling (to ~50%)
- Nearly 4 million pounds of aluminum cans collected
- $3.1 million changing hands and creating jobs

Advancing each generation. ALCOA

Creating access for those in Multi-Family Homes

Key Components

- Targeted to multi-family complexes with 10+ units
- Requires owners to create access for residents
- Designed to reach the ~6 million cans consumed in these multi-family units in Indiana

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Bold action is required

Increasing Consumer Access and Commitment are the keys to future growth

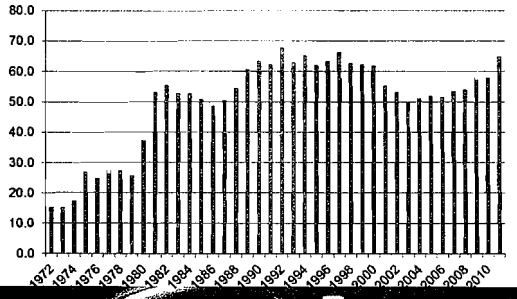
Implementing Public Policy

1% Increase in US Recycling Rate

Generates 936 Million Cans (27 Million pounds)

Drives $22 Million of economic activity

Percent of Aluminum Cans Collected



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Advancing each generation. ALCOA

Exhibit 5
Environmental Quality Service Council, Meeting #1
August 28, 2013

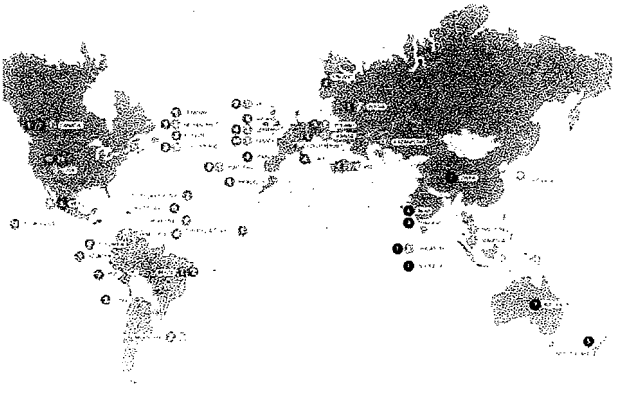
Plastics Recycling – Importance to Amcor and Indiana

Environmental Quality Services Council Meeting - August 28, 2013

amcor

Amcor – The World's Largest Packaging Manufacturer

- Global market leader
- #1 Food flexibles
- #1 Healthcare flexibles
- #1 Tobacco Packaging
- #1 Rigid Plastic containers



Flexibles Europe & Americas
68 plants
21 countries

Flexibles Asia Pacific
30 plants
7 countries

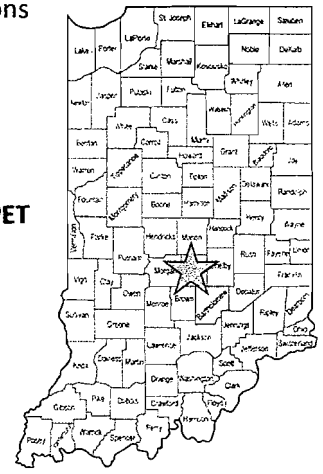
Rigid Plastics
61 plants
13 countries
*Includes one Rigid Plastics Plant operated by Flexibles Asia Pacific

Tobacco Packaging
23 plants
19 countries

Slide 2 Amcor Rigid Plastics amcor

Amcor Rigid Plastics

- 6000+ employees in 60 manufacturing operations in 13 countries
- Over $3 billion in revenue last year
- 181 Hoosiers employed in Franklin, IN facility
- Production of over 1.1 million bottles last year alone, with over **7 million pounds of recycled PET**



Slide 3 Amcor Rigid Plastics amcor

PET and Recyclability

- Polyethylene Terephthalate (PET)– the world's **number one recyclable plastic**
- Capable of being reused in bottles up to 100%
- Post consumer recycled (PCR) material allows a **50% carbon footprint reduction** over virgin PET plastic
- In the U.S. we only recycle about 29% of PET bottles
- The remaining 71% is an **untapped economic resource and potential environmental success story**

Slide 4 Amcor Rigid Plastics amcor

Two million PET bottles – consumed in Indiana

Slide 5

Amcor Rigid Plastics

amcor

Two million PET bottles – consumed in Indiana

1.4 billion PET bottles consumed in Indiana each year

Slide 6

Amcor Rigid Plastics

amcor

amcor

Current PET Plastics Recovery

7% recycled = 6 million pounds

Slide 7

amcor

Current PET Plastics Recovery

93% to landfill or waste-to-energy

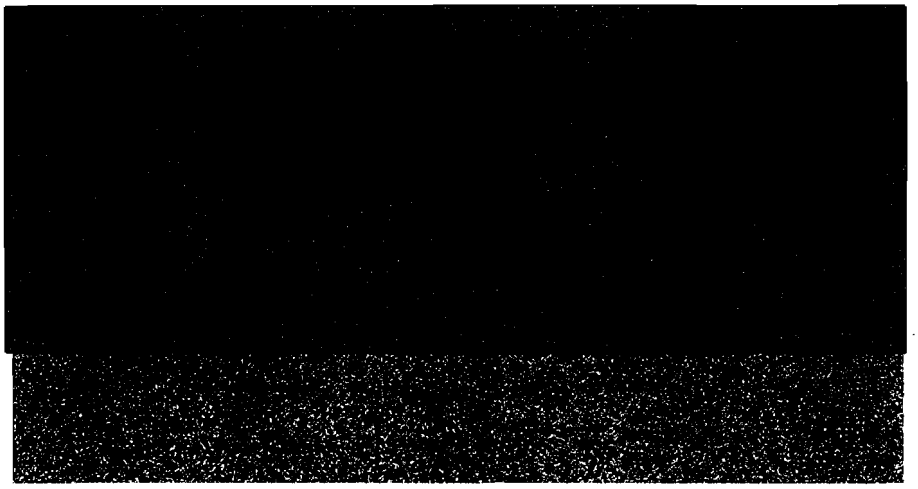
Slide 8

Amcor Rigid Plastics

amcor

amcor

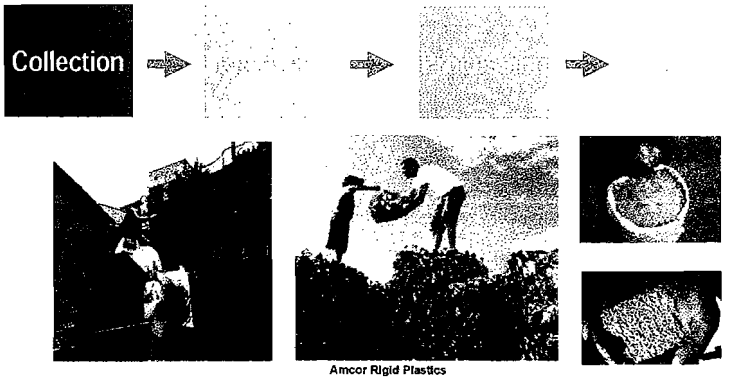
Current PET Plastics Recovery in Indiana



Slide 9 Amcor Rigid Plastics amcor

PET Recycling Value Equation

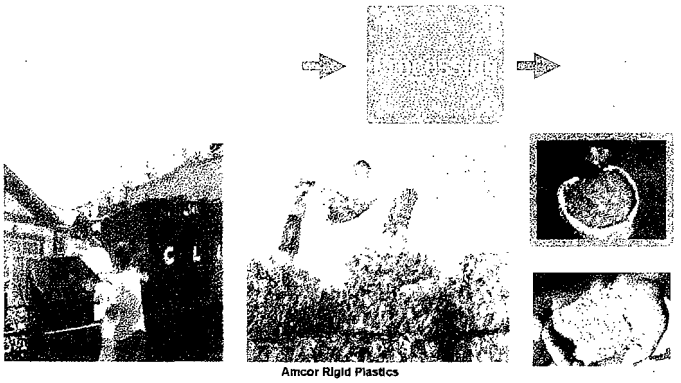
- $0.20 per pound can increase in value to $0.75 per pound as a bottle becomes recycled resin pellets, the precursor of bottles
- Can this potential $45 million value addition stay within Indiana?



Slide 10 Amcor Rigid Plastics amcor

The value capture is already is taking place

- Perpetual Recycling is making use of recycled material in Richmond, IN, with **120 million pounds of capacity per year** (20 times Indiana's yearly PET recycling amount)



Slide 11

Amcor Rigid Plastics

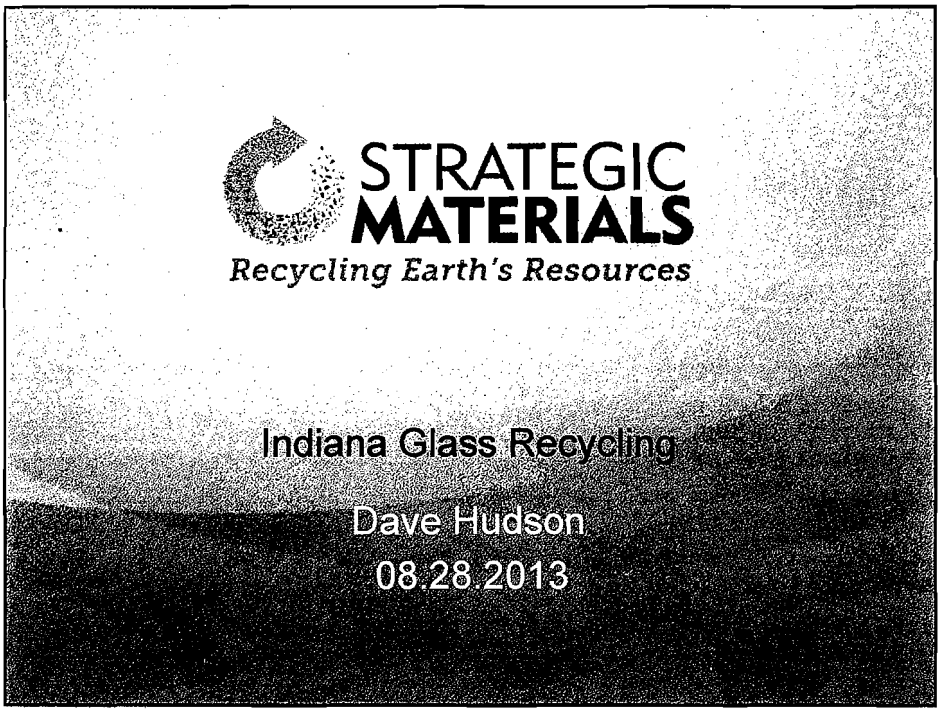
amcor

Our economic and environmental responsibility

- A 60% recycling rate would increase recovery of PET by 50 million pounds, adding an **estimated 250 skilled jobs** in processing and conversion of this valuable resource
- The numbers don't lie
  - Current 7% recycling rate returns only 6 million pounds of PET per year
  - Amcor uses 7 million pounds of recycled PET in Franklin alone
- An economic treasure is waiting to be exploited by tackling the issue of recycling head-on
- **Amcor is eager to assist in any way possible in order to efficiently and cost-effectively increase recycling rates of our packaging**

amcor

Exhibit 6
Environmental Quality Service Council, Meeting #1
August, 28, 2013



Outline

- Who We Are
- What We Do
- Glass Recycling in Indiana
- Improving Glass Recycling in Indiana

STRATEGIC MATERIALS

2

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Who We Are

- Largest glass recycler in the world
- A top ten plastics processor
- One of the three largest operators of redemption centers in California
- Established in 1896, SMI has experienced over a century of market changes and has been proven and tested with each passing decade

STRATEGIC MATERIALS

3

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SMI Glass

STRATEGIC MATERIALS
Recycling Earth's Resources

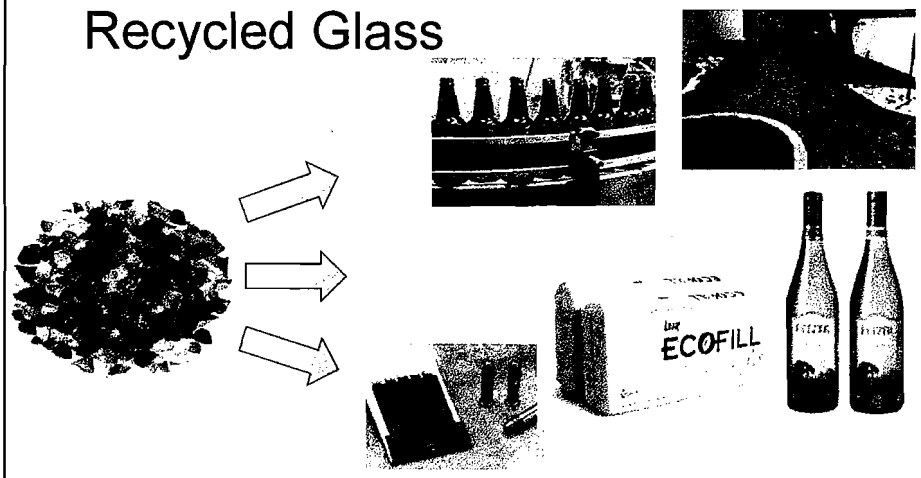
- The premier North American supplier of recycled glass cullet and specialty powders
- Operates over 40 glass recycling plants across North America
- Recycling over 3.0 million tons of glass each year
  - Largest cullet supplier to the container, fiberglass and specialty markets
- Provide both pre-consumer and post-consumer glass cullet and specialty powders for all types of industry
- Owner and operator of American Specialty glass, producer of specialty glass for:
  - landscapes, terrazzo, swimming pools, fire pits, aquariums, and more

STRATEGIC MATERIALS

4

© Copyright 2011 Strategic Materials Inc.

What We Do – Products Using Recycled Glass



STRATEGIC MATERIALS

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Sourcing of glass

- Container Deposit
- Plate Glass
- Curbside Collection

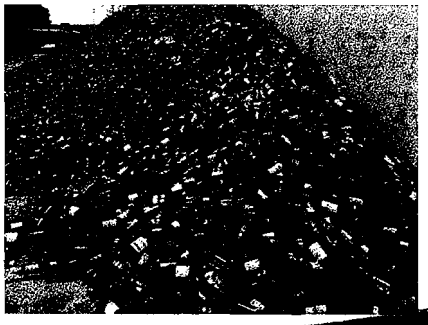
STRATEGIC MATERIALS

Importance of Glass Quality

A Tale of Two Piles…

3-Mix Glass

Deposit-Grade Bottles

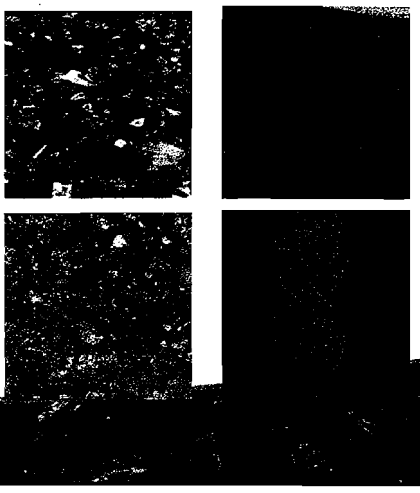


STRATEGIC MATERIALS

Recycled 3-Mix Cullet

Before

After



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Glass Recycling in Indiana

- SMI operates three facilities that recycle glass that originates in Indiana
  - Ashley, IN – Plate Glass, Windshield Glass (Pre & Post Consumer)
  - Indianapolis, IN – Plate Glass, Mirrored Glass, Whole Bottle (Mixed & Sorted)
  - Chicago, IL – Curbside Collected Glass (Single & Dual Stream)

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Why Such Demand?

- Industry Set Goals are High
  - Glass – 50%, Plastic – 50%, Aluminum – 75%
- Consumers Demand Sustainable Packaging
- Using Recyclables:
  - Drives Manufacturing
  - Saves Energy
  - Creates Jobs
  - Reduces reliance on foreign-sourced materials & energy
  - Prolongs equipment life
  - Reduces emissions

STRATEGIC MATERIALS

Improving Supply in Indiana

- Continued education around the benefits of recycling
  - Schools
  - Public Space / Awareness Campaigns
- Policy solutions to increase recycling
  - Extended Producer Responsibility Programs
    - Container Deposits
  - Landfill/Disposal Bans
  - Expansion of Single-Stream Programs
    - A great utilization of grant monies
  - PAYT Systems
  - Public Space/Event Recycling

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Recycling Earth's Resources

THANK YOU

[illegible] Hudson

dhudson@strategicmaterials.com

713.443.3519

Exhibit 7
Environmental Quality Service Council, Meeting #1
August 28, 2013

Knauf Insulation Stands in Favor of Recycling

The Techno-Economic Advantage of Using Recycled Content

with ECOSE

About Knauf Insulation.....

- North American Headquarters Located in Shelbyville, IN
  - 657 Employees
  - Largest capacity glasswool insulation plant in the world
  - Fastest growing insulation company in the world
  - In 2008 -Launched one of the largest green chemistry initiatives in the U.S. called Ecose Technology

with ECOSE

The Importance of Building Materials

- Our economy is very much dependent on the building industry
- Building materials are one of the last remaining strongholds for U.S. industry
- **Using Post Consumer (PC) Recycled glass (cullet) helped Knauf Insulation remain viable through the economic devastation of the "great-recession"**

with ECOSE

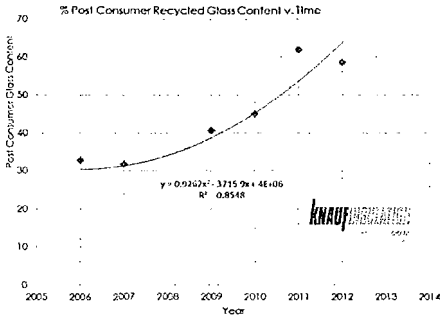
Use of Post Consumer Glass

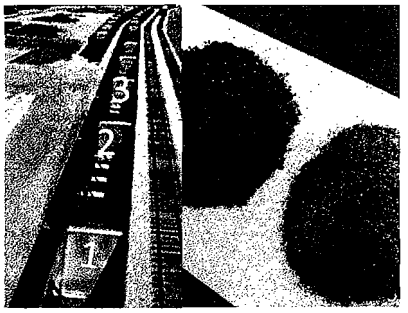
- More than 1,000,000 post consumer bottles melted each day
- Using post consumer recycled glass cullet has huge economic benefits
  - We save 20% melting energy
  - Virgin materials have bound water that costs energy to drive out of the product
- Business model dependent on Post Consumer (PC) Recycled glass content
- Knauf leases up to 200 railcars to deliver post consumer glass to our facilities each day
- Future expansion will undoubtedly consider the availability of post consumer glass

with ECOSE

Use of Post Consumer Glass v. Time

- The majority of our purchased glass cullet comes from States that have enacted bottle bills.
- We would be at 85% recycled content if it were available





with ECOSE TECHNOLOGY

Techno-Economic Value of Recycled Glass

Just 1 Bottle

= 0.6 MJ of Electricity
(0.167 KWH)

Just 1 Bottle

= $0.07 gallons\ H_2O$
(about 7 ounces)

Just 1 Bottle

= $(-0.33\ lb. CO_2eq)$

with ECOSE TECHNOLOGY

Techno-Economic Value of Recycled Glass

Just 1 Bottle X 1,000,000/day

= 167,000 KWH
= 70,000 gal H_2O
= -330,000 lb CO_2

with ECOSE TECHNOLOGY

Techno-Economic Value of Recycled Glass

Just 1 Bottle X 10^6 X 365

= 60,955,000 KWH
= 25,002,500 gal H_2O
= -120,450,000 lb. CO_2

with ECOSE TECHNOLOGY

Help Us

- Save resources for our children and grandchildren
- Recycle more than 1 million beer bottles a day
- Divert a huge amount of waste from landfill
- Save 25 millions gallons of water every year
- Save people money by insulating with waste
- Reduce our Nation's reliance on foreign energy
- Fight the potential of climate change

Exhibit 8
Environmental Quality Service Council, Meeting #1
August 28, 2013

Owens-Illinois, Inc. – Lapel, IN

Michael Smaha, U.S. Government Affairs
August 28, 2013

O-I: GLASS IS LIFE

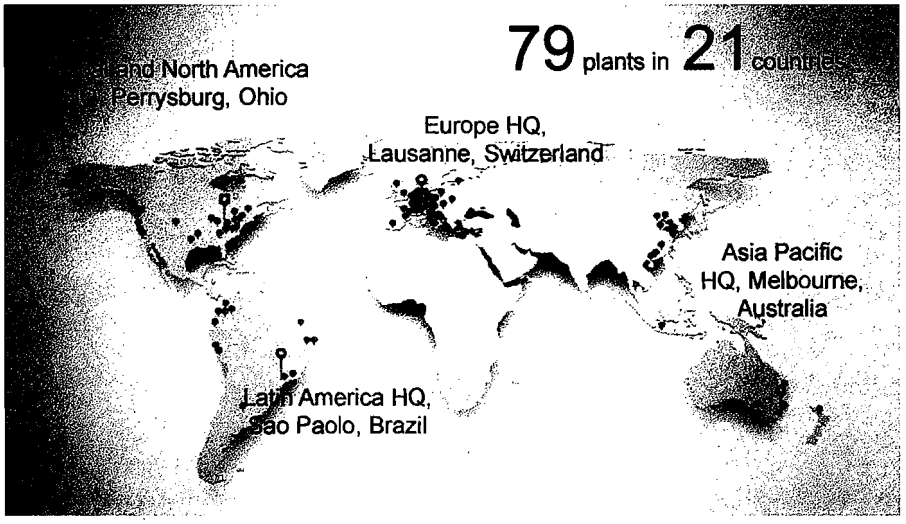
O-I at a glance

- World's leading maker of brand-building glass containers
- Fortune 500 company, 2012 sales of $7 billion
- 22,500 employees
- Reputation for high quality glass containers
- Proud to make the most sustainable packaging on earth

We know glass and we love glass

O-I GLASS IS LIFE 2

Our global presence



OI GLASS IS LIFE

3

Lapel, IN

OI GLASS IS LIFE

- Opened in 1895
- 202 employees
- State and Local Taxes 2012: over $609,000.
- Produce approx. 2.2 million bottles a day.
- Primary Customers: Miller Coors, Anheuser Busch, Goose Island Brewing and Schlafly.
- 2011, spent approx. $1.5 million to bring cullet into Indiana.

4

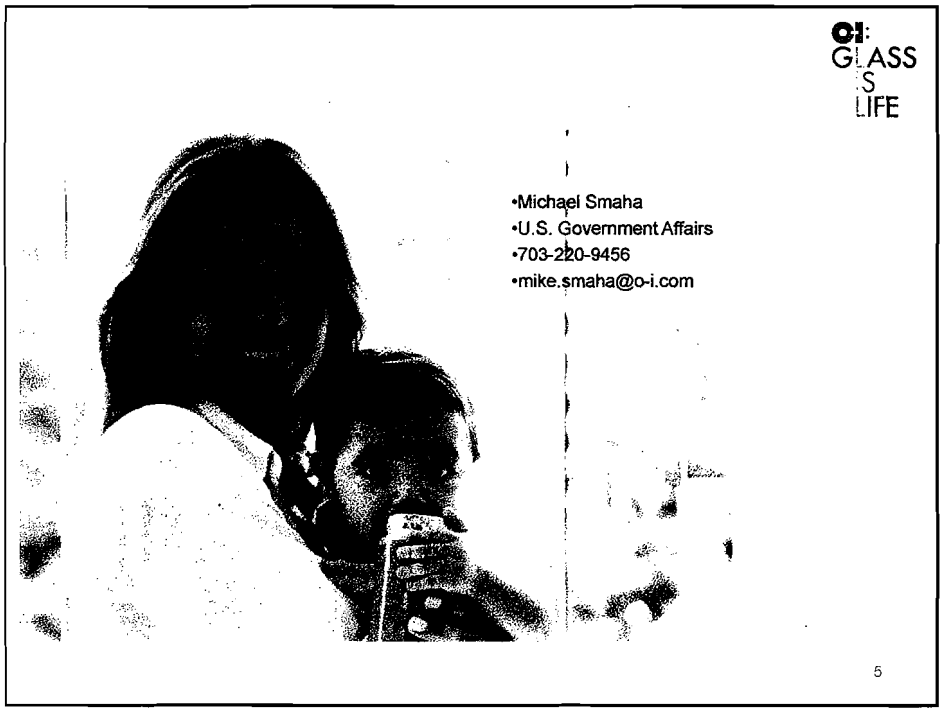

GLASS
S
LIFE
•Michael Smaha
•U.S. Government Affairs
•703-220-9456
•mike.smaha@o-i.com
5

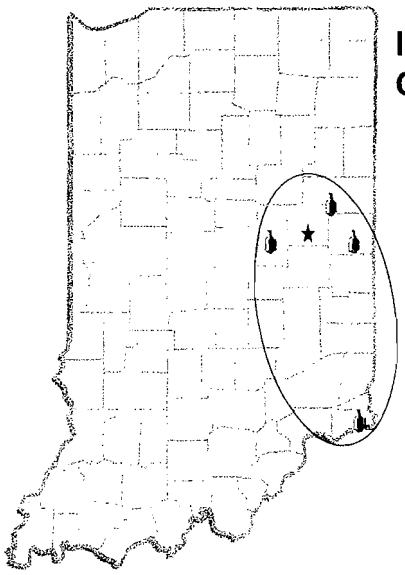
Exhibit 9
Environmental Quality Service Council, Meeting #1
August 28, 2013

Environmental Quality Service Council
"Buried Treasure in Indiana Landfills"
Stephen Segebarth
August 28, 2013

United States Glass Container Manufacturing

- 48 glass container plants in 22 states comprise a $5,500,000,000 dollar industry.
- 102 U.S. glass container furnaces produce approximately 30,000,000,000 glass food, beverage, cosmetic, spirits, wine, and beer containers annually.
- The U.S. industry employs approximately 18,000 salaried and represented hourly employees in its glass container plants, warehouses, sales forces ... along with thousands more in its supplier companies.

Source: GPI



Indiana Is An Important Glass Container Manufacturing State!

- Verallia Muncie (North American Headquarters)
- Verallia Dunkirk (beer & food containers)
- O-I Lapel (beer, food and spirit containers)
- Ardagh Winchester (food and spirit containers)
- Ardagh Lawrenceburg (spirit containers)
- *Millions* of glass containers produced each day
- ***JOBS*: OVER 1,600 INDIANA EMPLOYEES**

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Sustainability and Business Case for Recycled Glass

- → **Recycled glass (i.e., "cullet"): 100% recyclable, and can be recycled endlessly.**
- → **Over a ton of natural resources is saved for every ton of glass recycled.**
- → **Energy usage drops 2-3% for every 10% recycled glass used in the manufacturing process...and reduces NOx, SOx & PM emissions.**
- → **Six tons of recycled container glass remelted equals one ton of carbon dioxide / greenhouse gas reduced.**

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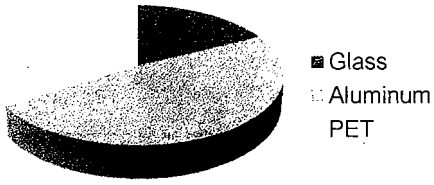
Annual Beverage Container Sales in Indiana in Units



- Glass beverage container annual sales: about 200,000 tons or 720,000,000 units.
- Aluminum beverage containers sales: about 30,000 tons or about 2,000,000,000 units.
- Plastic beverage containers sales: about 38,000 tons or 1,400,000,000 units.
- Totaling over 270,000 tons or over 4,200,000,000 aluminum, plastic, glass, and BIB beverage containers sold annually in Indiana.

Source: DOC, MINIMAX – U.S. Based Manufacturers, EUROMONITOR

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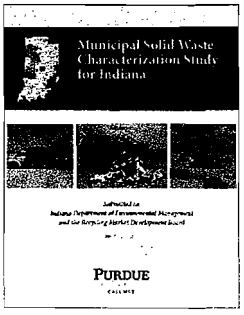
Purdue University
2012 Municipal Solid Waste (MSW) Study

- A rigorous study looking at Indiana solid waste at four landfills.
- Landfilled MSW was sorted:
  - By category (type)
  - By origin (location) of material
- The study indicates that about 8,600,000 tons of MSW are landfilled in total each year.



http://www.in.gov/idem/recycle/2358.htm

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Purdue University
2012 Municipal Solid Waste (MSW) Study (continued)

- MSW Composition by weight
  - Plastic = 16.1%
  - Metals = 5.7%
  - Glass = 3.0%

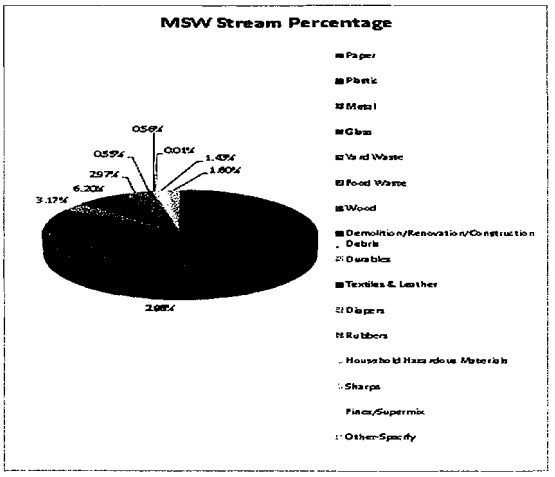

Figure 3-3 Overall MSW Composition for the State of IN (excludes imports)

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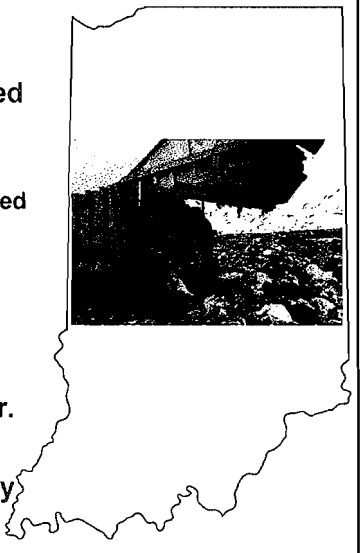
Verallia Analysis Indicates That:

- Based on industry data about **3,000,000,000** aluminum, glass, and PET beverage containers are landfilled in Indiana every year - more than **200,000** tons of material.
  - Worth approximately ***$60,000,000*** as recycled feedstock commodities.
- Based on the Purdue Study about **5,000,000,000** (or 260,000 tons) of aluminum, PET and glass beverage containers worth more than ***$100,000,000*** are landfilled every year.
- Whether the number is *3* or *5* billion, nobody thinks it's a good idea to bury treasure in landfills.
- ***Is there support to stop burying this treasure NOW?***



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Source: CRI, Glass MINIMAX, Beverage Handbook, DOC Imports, Can Mfrs Institute, Purdue University

Indiana Poll Summary

- Managed by Ball State University Bowen Center using Princeton Survey Research Associates
- 600 sample (4.5% M of E); Conducted 12/12 – 12/16/2012
- 85.7% say "state legislation promoting more effective recycling programs in Indiana" is very or somewhat important
- 79% say they recycle; of these, 87% say they recycle on a regular basis
- 59% are somewhat or very familiar with deposit and redemption programs
- 73% say they support deposit and redemption programs, with 24% saying they are opposed
- Preference to return beverage containers / receive deposit refund: Take to redemption center (45%); return where bought (36.3%); Either place (12.6%)

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Indiana Poll Summary (continued)

- Tested seven possible outcomes associated with a refundable deposit program - very strong support for all (87% - 78%)
  - Keeping three billion beverage containers out of landfills (87%)
  - Reducing litter (86.9%)
  - Creating new jobs associated with redemption (86.2%)
  - Protecting existing jobs and attracting manufacturing and transportation jobs (86.1%)
  - Dollars for church groups, Boy and Girl Scouts, etc. (85.9%)
  - Increasing recyclable materials for manufacturers, thereby reducing energy use and pollution (80.5%)
  - New revenue to State to improve other environmental programs (77.9%)

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Indiana Poll Summary (continued)

→ Other key results associated with a refundable deposit program:

- No, it is not a tax (67.7%); Yes, it is a tax (26.4)
- Support for a refundable deposit program: No effect on voters (62.1%); Voters more likely to support candidate (29.5%); Less likely to support candidate (4.5%)

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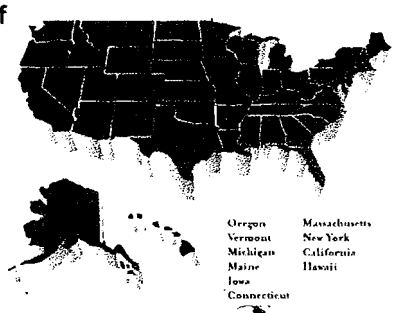
Recycling and Recovery of Beverage Containers Today

→ What stands out as the most efficient / effective beverage container collection / recovery system today?

- The demand for recycled aluminum, plastic, and glass is "HIGH" and exceeds supply.
- The recycled content is "low" compared to what it could / should be.
- Recovery rates and the quality of recovered beverage container material are, without question, highest in "bottle bill" states.
- 65% of all US glass cullet comes from just 10 'bottle bill' states.



Source: Container Recycling Institute 2013, GPI

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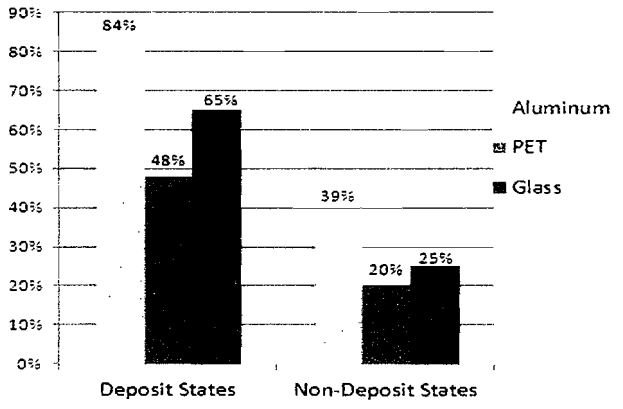
Deposit States Have Higher Beverage Container Recycling Recovery Rates



Source: Container Recycling Institute, 2013

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Order of Magnitude:

Verallia – Dunkirk Operations Would Buy Much More High Quality Indiana Cullet If Available

- Two very large state-of-the-art Oxy-fuel furnaces
  - Production about 360,000 tons of glass per year*
  - Produces about 4,000,000 units (bottles/jars) per day
- In 2012 Dunkirk purchased about 58% virgin materials (i.e., sand, soda ash and limestone), plus 42% cullet
  - About 15% of this cullet originated in Indiana ... most was sent to Illinois for contamination inspection / color sorting
  - About 85% of cullet was imported from IL, MI, NY, OH & PA
- Dunkirk could use up to 90% cullet
- Broad Ripple Bar & Restaurant Glass Collection ... a successful program, but
  - Generates 5.6 tons per month, or 67 tons annually
  - Equates to 97 minutes of Dunkirk's 24 / 7 / 365 production

* Based on Title V permit

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Three States Recycling Systems
Single Stream vs Bottle Bill and A Projection

Minnesota Actual
Population 5,300,000
State-of-the-Art Single Stream
All public entities are responsible for recycling;
Must have a plan and set goals.
Must have recycling available for residents.
Includes schools, cities, towns, counties, airports, etc.
75 Material Recovery Facilities (MRF's), developed at great expense
Pay As You Throw Law (PAYT)
Landfill ban on source separated materials
$7,000,000 in recycled materials sold annually
Education = 17% of recycling budget
Spent $3,300,000 on education
Total recycle budget was $20,300,000
Recovers **38%** of all glass
74% live in 6 MSA's – urban systems

Iowa Actual
Population 3,000,000
1979 Bottle Bill Recovers **86%**
Commodities worth over $30,000,000 and Unredeemed deposits of: $14,000,000 each year
56% live in 9 MSA's, rural systems

Indiana Projected
Population 6,500,000
Implement a Bottle Bill - Average Recovery 82%
Commodities worth approximately $60,000,000. Unredeemed deposits, $38,000,000 each year
73% live in 17 MSA's,, urban system

Sources of MN information:
http://www.pca.state.mn.us/index.php?option=com_k2&view=item&id=219
https://www.revisor.mn.gov/statutes/?id=115a.&view=chapter
http://www.pca.state.mn.us/index.php/data/score/recycling-in-minnesota-the-score-report.html

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Recycling / Recovery Rates
Next Step – Evaluating Opportunities and Challenges

- **No changes in Indiana over the next decade will mean:**
  - **About 30,000,000,000 aluminum, plastic, and glass beverage containers will needlessly / wastefully end up in landfills.**
  - **Wasting approximately $600,000,000 of commodity feedstock.**
  - **Foregoing $380,000,000 in projected unredeemed deposits.**
- **Why not build on the experience of the 10 bottle bill states ... avoid landfilling billions of aluminum, plastic, and glass beverage containers over the next decade?**
- **An Indiana bottle bill would not only support Indiana business and jobs, but would also demonstrate a commitment to sustainability through reduced energy consumption, air emissions, use of virgin raw materials, and waterway and roadside litter.**

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Recycling / Recovery Rates
Next Step – Evaluating Opportunities and Challenges (continued)

- Continuing status quo / stalemate...what are the 'real' roadblocks to dramatically improving rates for high quality/high quantity commodity feedstock?
  - Is a bottle bill really a tax?
  - Does a bottle bill reduce brand owner sales?
  - How much fraud is there in a bottle bill state?
  - Is there a cleanliness issue at redemption centers in bottle bill states?
  - Are bottle bills compatible with single stream systems?
  - Are bottle bills compatible with Extended Producer Responsibility (EPR) systems?

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Verallia's Commitment

- Verallia stands ready now to actively participate in any dialog / process to materially improve the recycling / recovery rates of high quality aluminum, plastic, and glass feedstock commodities.

- Continued stalemate should be unacceptable to all stakeholders.

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Exhibit 10
Environmental Quality Service Council, Meeting #1
August 28, 2013

NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION

Indiana Chapter

Patrick Bennett

Environmentalists. Every Day. AMERICA'S SOLID WASTE INDUSTRY
www.environmentalistseveryday.org

NSWMA WASTEC

SCOPE

- Trends and Data
- Recyclables at the Landfill
- Suggestions to "Increase Recycling"

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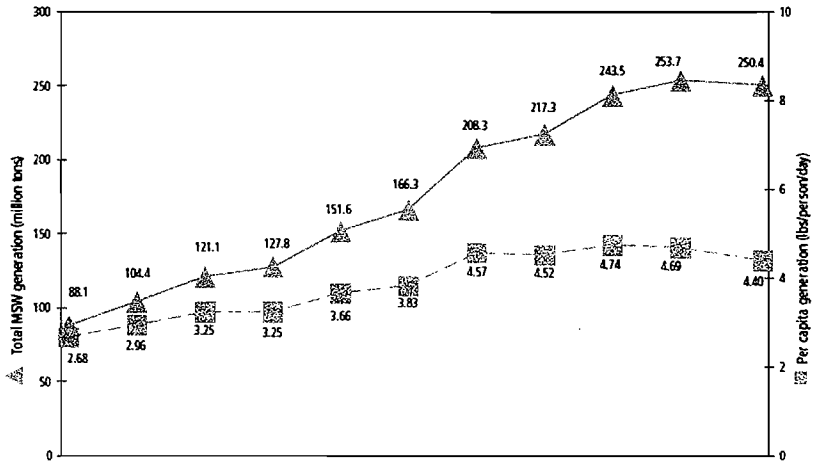
NSWMA WASTEC

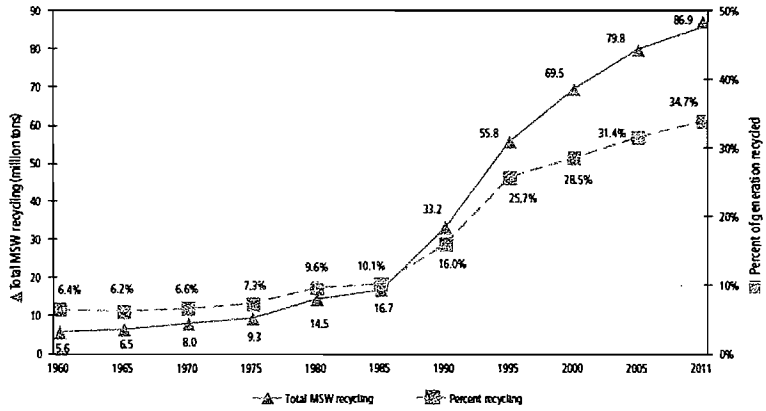
Trends and Data
How Much Waste?



Source:
http://www.epa.gov/osw/nonhaz/municipal/pubs/MSWcharacterization_508_053113_fs.pdf

Trends and Data
How Much Recovery?

Figure 2. MSW Recycling Rates, 1960 to 2011



Source: US EPA, Id.

THE PRIVATE SIDE OF RECYCLING

Environmentalists. Every Day.
AMERICA'S SOLID WASTE INDUSTRY
www.environmentalistseveryday.org

NSWMA WASTEC

INCREASING RECYCLING RATES

Programs

Environmentalists. Every Day.
AMERICA'S SOLID WASTE INDUSTRY
www.environmentalistseveryday.org

NSWMA WASTEC

NEXT STEPS

- What we know & don't know
- We can't manage what we don't measure
- Continue this effort at recycling data
- Find NSWMA Members willing to participate

Environmentalists. Every Day. AMERICA'S SOLID WASTE INDUSTRY
www.environmentalistseveryday.org

NSWMA WASTEC

Patrick Bennett
Patrick@pkbconsulting.net
317-695-3746

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NSWMA WASTEC

Exhibit 11
Environmental Quality Service Council, Meeting #1
August 28, 2013

DISTRICT RECYCLING

Association of Indiana Solid Waste Management Districts

August 28, 2013
Environmental Quality Service Council

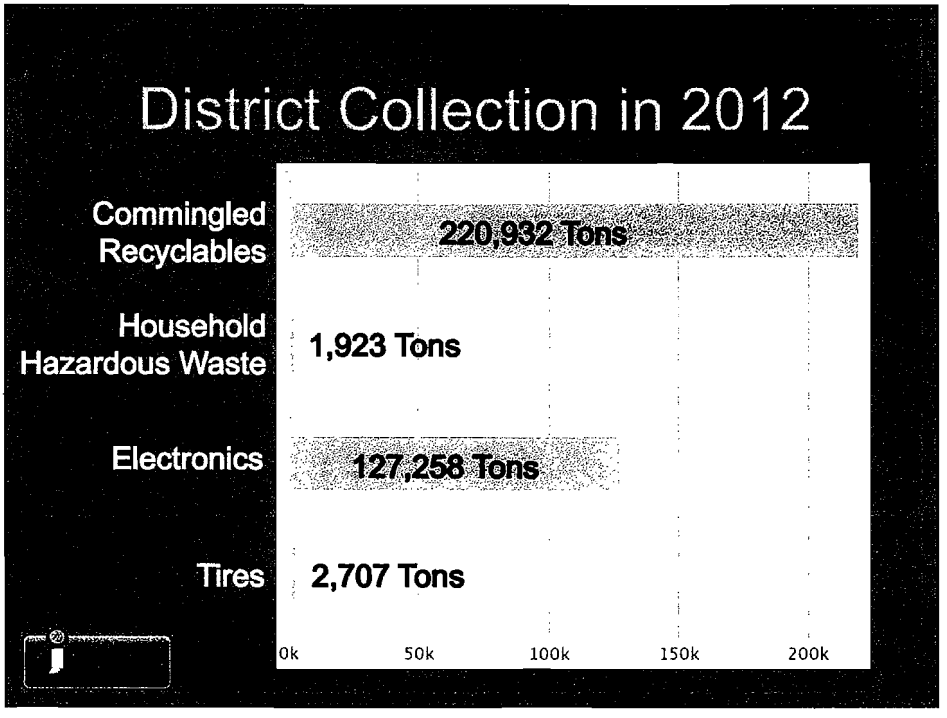
History

Intra-State Commerce Concerns
Districts Established in 1990
- House Enrolled Act 1240
- Indiana Code 13-9.5-2

20 Year Solid Waste Plans Established
- SB131 (2012) – Five Year Reviews

Current Solid Waste Management Districts
- 63 Single County Districts
- 7 Multi-County Districts

Recycling Collection in Indiana
Solid Waste Districts


District Collection in 2012
Commingled Recyclables
220,932 Tons
Household Hazardous Waste
1,923 Tons
Electronics
127,258 Tons
Tires
2,707 Tons
0k
50k
100k
150k
200k

Environmental Equivalences

District Collection Efforts in 2012

21,150,000 Gallons of [illegible]
emissions per gallon of gasoline [illegible]

Based on the calculations and factors
made available by the U.S. EPA for
WARM version 12 (February 2012) [illegible]
Greenhouse Gas Calculator (October 2012)

District Education Curriculum

HISTORY & UPDATE

IC-13-20-17.5-6 Revisions
- SB131 (2012)

Curriculum Topics
Curriculum Guidebook
Approval by IDEM
Educator Trainings
Implementation

CURRICULUM TOPICS

- Landfills, Incineration
- Renewables
- Non-Renewable Natural Resources
- Pollution
- Composting
- Household Hazardous Wastes

NSWMA

IDEM

District Education

District Recommendations

Annual Conference – October 2 & 3

- District roundtable to conceptualize a plan to increase the collection of recyclables in Indiana

Continue to increase & solidify Public/Private Partnerships

Report back to EQSC with our findings before November 1

CITY OF FORT WAYNE

It's Easy...
One Cart Recycling

A SUCCESS STORY

Matt Gratz-Solid Waste Manager

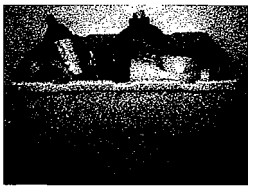
Kira Blacketor-Solid Waste Program Manager

BACKGROUND INFORMATION

- Contract out collection, disposal, and processing services for residential garbage and recycling
- Serve on average 80,000 residential households of 4 units or less
- Monthly fee on City Utilities Bill
- 1x per week unlimited garbage service (96/48-gallon cart provided)
- Every other week collection for recycle (96/48-gallon cart provided)

PREVIOUS RECYCLING PROGRAM

- Program implemented in 1995
- Contractor provided residents with (2) 18-gallon bins
- Curb collection only
- Materials required sorting
- Accepted plastics #1 & #2 only
- Wind blown debris in neighborhoods
- Water logged paper

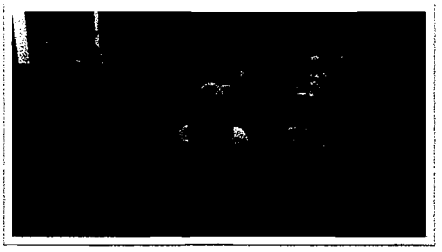


DECISION MAKING PROCESS

- Collection Contracts were set to expire Dec. of 2010
- Participation stagnant 33%
- Decline in annual recycle tonnage (8,800 tons annually)
- Mayor forms Solid Waste Committee
- Community input

SOLID WASTE COMMITTEE DECISIONS

- Single Stream Collection Program (One Cart Recycling)
- Profit sharing with Recycle Processor
- Garbage and Recycle Collection Contractor to provide ANNUALLY $50,000 each for program promotions



IMPLEMENTATION OF NEW PROGRAM

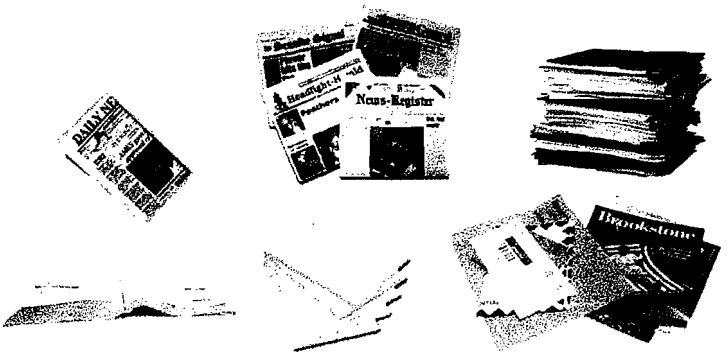
- Implementation of the Program was City's responsibility NOT the Contractor
- Everyone Pays for service whether they use it or not
- Program is still optional
- Provide residents with Option on cart sizes 96/48-gallon
- Same cart different lid

Recycle Cart

Garbage Cart

WHAT CAN BE RECYCLED?

Clean Dry Paper



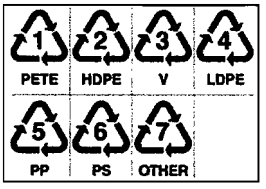
CARDBOARD & FIBERBOARD

Paper board & Cartons

Flattened cardboard boxes

PLASTICS #1 - #7

Empty Plastic Container #1-7



Remove lids & caps and recycle

METAL CANS

Empty Steel Cans

Empty Aluminum Cans

Aluminum foil and food pans

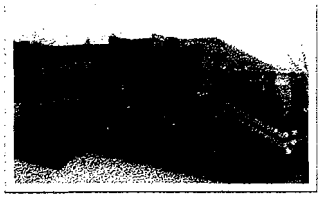
GLASS

Empty glass containers
clear, brown, green & blue

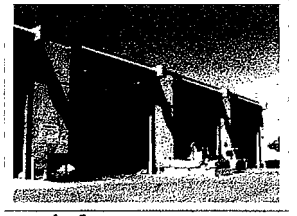
PROGRAM BENEFITS

CONVENIENT FOR THE RESIDENT

- It's easy – no sorting materials
- Materials contained (clean & dry)
- Accepting more materials (plastic #3-#7 & poly-coated cartons)
- Alley and curb collection



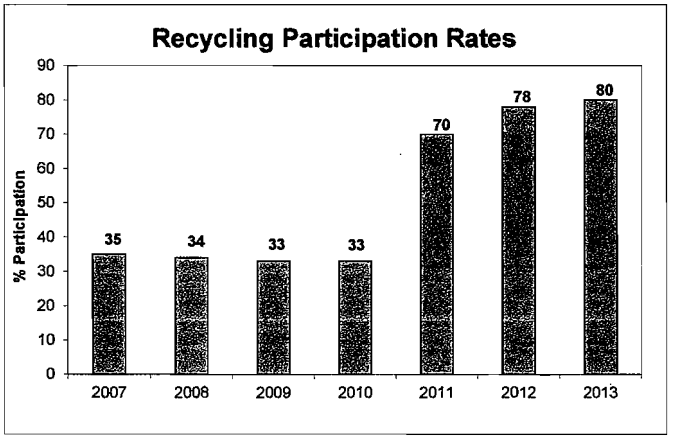
PROGRAM BENEFITS



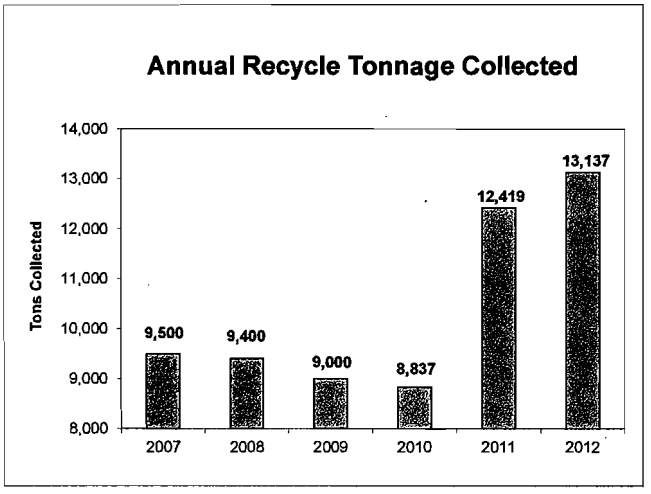
ECONOMIC BENEFITS

- Revenue Share
  - 2011 – received $428,008
  - 2012 – received $755,186
  - 2013 – received $ 353,555 (as of June)
- Garbage/Recycle fees lowered to $9.95/month from $11.24/month
- Job Creation
- Investment in Community
- Landfill cost $26.81/ton –vs.- $20.85/ton to process recyclables

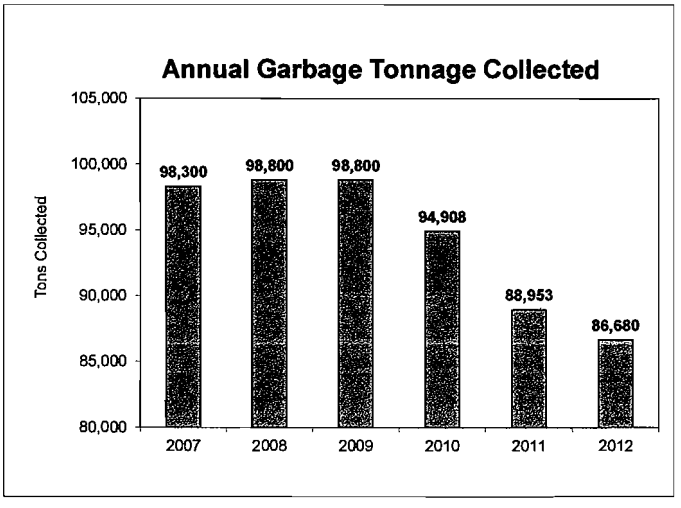
SUCCESSFUL RESULTS



SUCCESSFUL RESULTS



SUCCESSFUL RESULTS



WHAT'S NEXT

- Continual Promotion of the Program
- Increase Participation
  - Maintain current participants
  - Capture more recyclables from the garbage
  - Reduce Contamination (current level is 6.15%)
- Rewards Program
  - This could provide another incentive for residents to recycle
- Organics Collection Program

QUESTIONS?

Matt Gratz – Solid Waste Manager
matt.gratz@cityoffortwayne.org
(260) 427-2474

Kira Blacketor – Program Manager
kira.blacketor@cityoffortwayne.org
(260) 427-2715

Indianapolis Mayor Gregory A. Ballard
SUSTAINDY
Department of Public Works

Recycling in Indianapolis

Growth, Opportunities and Challenges

Melody Park P.E., Director
City of Indianapolis – Office of Sustainability
August 28, 2013

Recycling Services Offered in Indianapolis

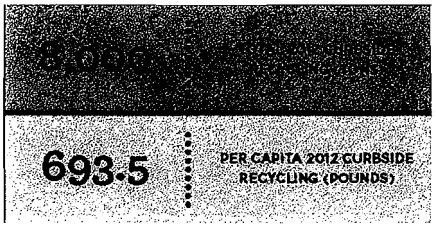
Indianapolis Mayor Gregory A. Ballard
SUSTAINDY
Department of Public Works

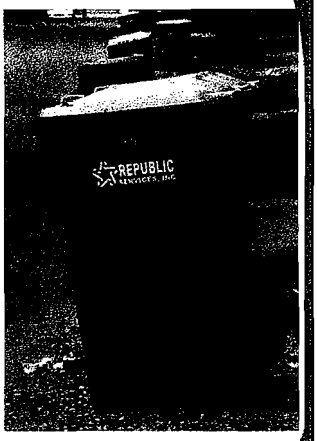
- **Curbside Recycling**
  - Monthly subscription-based service
  - Available to all single family residential property owners
- **Drop-off Recycling**
  - 27 Drop-off sites
  - Free of charge
- **Pedestrian Recycling**
  - Located in Downtown, Broad Ripple and Mass Ave.
  - Accept bottles and cans
- **eCycle**
  - Offered through ToxDrops
  - 5 drop-off sites

Curbside Recycling

Indianapolis Mayor Gregory A. Ballard
SUSTAININDY
Department of Public Works

- **Subscribership is up, as are materials collected**
- **Co-mingled recyclables accepted, more convenient for residents**

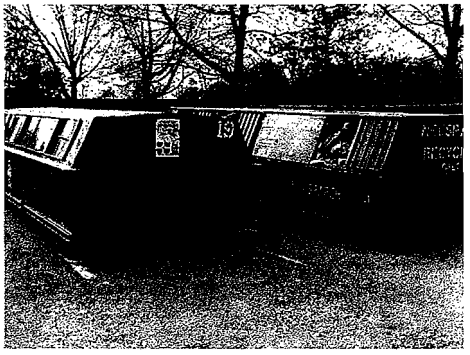




Drop-off Recycling

Indianapolis Mayor Gregory A. Ballard
SUSTAININDY
Department of Public Works

- **Sites located across Marion County**
- **44,679 tons of recycled material collected since 2006**



Pedestrian Recycling

Indianapolis Mayor Gregory A. Ballard
SUSTAININDY
Department of Public Works

- **Strategically placed in high pedestrian traffic areas within Downtown, Broad Ripple, and Mass Ave**
- **Accepts plastic bottles and aluminum cans**

eCycle

Indianapolis Mayor Gregory A. Ballard
SUSTAININDY
Department of Public Works

- **Offered through the City's 5 "ToxDrops" household hazardous waste collection sites**

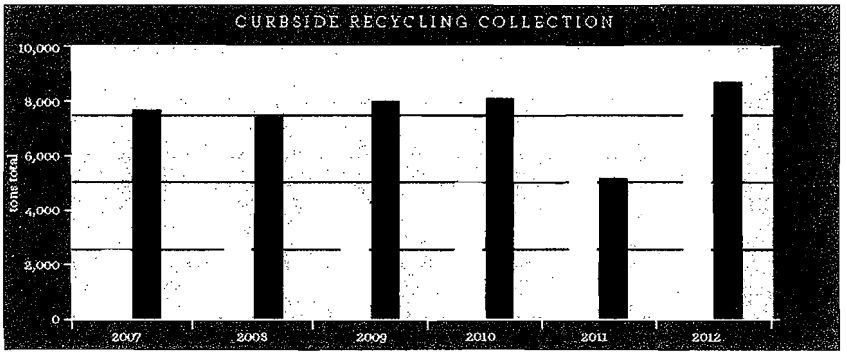
230 AVERAGE ANNUAL ELECTRONIC WASTE RECYCLED

Acceptable Electronics
CPU's
Keyboards
Mouse
Joy Stick Controllers
Modems
Printers
Monitors
Scanners
Gaming Accessories
Cellular Phones
USB Drives
Laptop PC's
External Tape Drive
External Disk Drives
Hard Drives
PC Cards
Circuit Boards
PC Speakers
UPS
Microphones
Televisions 27" and under

Growth and Opportunities

Indianapolis Mayor Gregory A. Ballard
SUSTAININDY
Department of Public Works

- **Total weight collected of curbside recyclables has risen steadily since 2008**
- **Total municipal solid waste (MSW) has fallen nearly 26% during the same period**



Challenges

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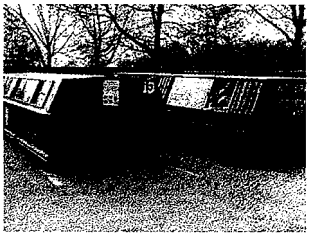
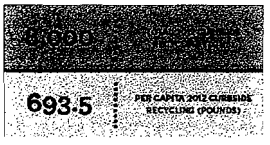
Department of Public Works

- **Limited participation**
- **Cost of implementation**