THE PAST AND FUTURE OF SOLID WASTE MANAGEMENT IN MN

Peder Sandhei
Principal Planner
Minnesota Pollution Control Agency
Overview of the Presentation

- History of Solid Waste Management Pre-1980
- The 1980 MN Waste Management Act (WMA)
- Current Status of Solid Waste Management
- Future Direction
- Questions
History of Solid Waste Management before 1980
History of Solid Waste Management before 1980

- 1967 – MPCA created
- 1970’s – MPCA adopted solid waste disposal rules
- 1973 – MPCA moved to replace 1500 open dumps by 140 permitted sanitary landfills
  - Hazardous wastes banned from solid waste disposal
History of Solid Waste Management before 1980
...(To) protect the state's land, air, water, and other natural resources and the public health. The following waste management practices are in order of preference:
Get Raw Materials
Prepare Materials
Manufacture Product
Use Product
Dispose of Product
Recycling

Get Raw Materials
Prepare Materials
Manufacture Product
Use Product
Dispose of Product
Get Raw Materials
Prepare Materials
Manufacture Product
Use Product
Dispose of Product

Reuse
Reduce

Get Raw Materials
Prepare Materials
Manufacture Product
Use Product
Dispose of Product
The practice of preventing waste by decreasing or eliminating the amount of materials initially used.

Shift from “How do I get rid of waste” to “How can I prevent waste from being generated”
Minnesota’s Municipal Solid Waste (MSW) generation totaled 5.8 million tons
- 2,137 pounds/person/year

Minnesota Programs collected 2.71 million tons of recyclable material in 2013

~ 46.9% recycling rate in 2013

Minnesota counties spent 49.9 million for SCORE-related programs in 2013.

The state provided counties with $13.5 million in 2013 to support these efforts
## Economics of Recycling in MN

<table>
<thead>
<tr>
<th>YEAR</th>
<th>2004</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Jobs (Recycling Manufacturing)</td>
<td>9,003</td>
<td>15,221</td>
</tr>
<tr>
<td>Indirect Jobs (Downstream)</td>
<td>3,057</td>
<td>11,641</td>
</tr>
<tr>
<td>Induced Jobs (Long Term Effects on Spending)</td>
<td>7,200</td>
<td>10,119</td>
</tr>
<tr>
<td>Total Jobs</td>
<td>19,260</td>
<td>36,981</td>
</tr>
<tr>
<td>Total Wages</td>
<td>$760 Million</td>
<td>$1.96 Billion</td>
</tr>
<tr>
<td>Tax Revenue</td>
<td>$64 Million</td>
<td>$272 Million</td>
</tr>
<tr>
<td>Total Gross Economic Activity</td>
<td>$2.98 Billion</td>
<td>$8.5 Billion</td>
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</tbody>
</table>
Local End Markets (Plastics)

- **HDPE**
  - Bedford Technology (Worthington)
  - Master Mark (Paynesville)
  - By The Yard (Jordan)

- **PP**
  - Vast Pavers (Minneapolis)

- **PET**
  - None in MN, but many domestic sources
    - Placon (Madison, WI)
    - Carpet industry in GA
Local End Markets

- Aluminum
  - Mankato Metal and Recycling (Mankato)
- Steel
  - Gerdau Ameristeel (South St. Paul)
- Glass
  - E-Cullet (St. Paul)
  - Strategic Materials (St. Paul)
  - Anchor Glass (Shakopee)
Local End Markets

- Paper
  - Pactiv (Moorhead)
  - New Page (Duluth)
  - Liberty Paper (Becker)
  - Rock-Tenn (St. Paul)
China

- China currently imposes import tax on plastic resin
- Processing capabilities going from manual processing to highly automated vertically integrated industrial parks
- China aiming for 70 percent recycling rate by 2015
- China main market for 3-7 plastics
- 40% of MN’s trash could be composted
- current 3-5% recovery rate (meaning 3-5% of the total waste generated is recycled organics)
- Need to increase access to opportunities to recycle organics
Waste Processing

- Upfront Processing
  - Metals Recycled
- Waste To Energy
1994 MN Closed Landfill Program gave liability protections to former landfill owners/operators

Transfers ownership of closed landfills to the State

112 of the 140 landfills closed permanently and entered the program

Last landfill cleanup is nearing completion
Land Disposal

- 21 open MSW landfills
- Facilities with active Gas/Energy Recovery
Problem Materials Management
County & Regional HHW Facilities

87 counties with programs
57 collection facilities

KEY:
- Regional Facility
- Local Facility
- Mobile Facility (Base County)
- Served by mobile facility

Facility Index below.
1980 Waste Management Act and Subsequent Amendments

- Banned problem materials:
  - Waste tires
  - Batteries: Dry cell, Lead-acid batteries, Rechargeable
  - Used motor oil and filters
  - Motor vehicle fluids
  - Major appliances
  - Mercury containing materials
  - Fluorescent lamps
  - Lead paint in unlined landfills and waste to energy
  - Cathode Ray Tubes
State Role

- Set overarching statewide policy
  - Establish recycling goals
  - Develop rules for facility permits
- Review and approve county plans
Develop and implement a plan for managing solid waste

In some cases, residential recycling delegated to cities

Achieve the goals established by the State
1994 Carbone Supreme Court Decision struck down flow control (Private Facility)
Local flow control ordinances suspended
MN Designation Law §115A.84 upheld; outlines an orderly and deliberate process
Designation serves and benefits public purposes
Oneida-Herkimer (Public Facility)

High court finds flow control does not discriminate against interstate commerce

Benefits of the law include recycling, health & safety, economics

Outweighs any arguable burden

Court ruling seems strong and pro local gov’t.
2013 Study of Minnesota’s Waste

- Only includes materials thrown away
- Approximately 45% of waste was recycled (outside of this analysis)
- Over 40% of garbage could be composted
Metro Policy Plan

- Agency Plan
- Implemented by Counties
- 3 Main Objectives
  - Raising the Bar
  - Shared Accountability
  - Enforcing 473.848 (Restriction on Disposal)
<table>
<thead>
<tr>
<th>Management Method</th>
<th>2008 System</th>
<th>2015</th>
<th>2030</th>
</tr>
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<tbody>
<tr>
<td>Source Reduction (cumulative)</td>
<td>-</td>
<td>1-2%</td>
<td>4-6%</td>
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<tr>
<td>Recycling</td>
<td>41%</td>
<td>45-48%</td>
<td>54-60%</td>
</tr>
<tr>
<td>Organics Recovery</td>
<td>2%</td>
<td>3-6%</td>
<td>9-15%</td>
</tr>
<tr>
<td>Resource Recovery</td>
<td>29%</td>
<td>32-34%</td>
<td>24-28%</td>
</tr>
<tr>
<td>Max Landfill</td>
<td>28%</td>
<td>20%</td>
<td>9%</td>
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Different Changes in Greater MN

County Staffing Challenges
- Nearing Retirement
- Multiple Responsibilities
- Diminishing tax base in many counties

Regional Planning
- SW Region Plan includes 12 counties
- Take advantage of economies of scale
Waste Management Act is Aging

- 34 years old
- New Technologies
  - Plastics to Oil
  - Anaerobic Digestion
  - Sorting (Post Processing)
- Waste Act and SW Rules need updating
Recent Changes

- Funding Structure
  - SCORE
- Commercial Requirement
- Stadium Requirement
75% recycling goal in Metro Area

$4 million/year added to base SCORE for FY15; $3 million/year in CY16

No new money may be spent on WTE efforts in Metro

Half of new funds must be spent on composting in Metro

All counties report efforts designed to increase recycling and composting yearly
Commercial Recycling Mandate

- Goes into effect January 2016
  - Businesses generating 4 cy of waste or more per week
- Must collect a minimum of 3 materials
  - By type: (ex. paper, glass, metal, organics)
Who is impacted?

**Effected Industries**
NAICS 42 to 81

**Service-Providing Industries**
- Trade
- Transportation
- Utilities
- Information
- Financial Activities
- Professional and Business Services
- Education and Health Services
- Leisure and Hospitality
- Other Services (except Public Administration)

**Exempt Industries**
NAICS 11 to 33

**Goods-Producing Industries**
- Natural Resources and Mining (including agriculture and forestry)
- Construction
- Manufacturing
Sports Facilities Requirement

- Goes into effect January 2015
- Collegiate and Professional
- Any facility with public seating
- Must collect a minimum of 3 materials
  - By type: (ex. paper, glass, metal, organics)
Peder Sandhei
Resource Management and Assistance Division
651-757-2688
peder.sandhei@state.mn.us