

Waste: Why it's an Issue and What Nebraska Can Do About It

The Nebraska Product Stewardship Coalition

was formed by Keep Nebraska Beautiful, WasteCap Nebraska, the Nebraska League of Municipalities, the cities of Lincoln and Omaha and the Product Stewardship Institute in 2010. The mission of the Coalition is to shift Nebraska's product waste management system from one focused on government funded and ratepayer financed waste diversion to one that relies on producer responsibility in order to reduce public costs and drive improvements in product design that promote environmental sustainability. The Nebraska Product Stewardship Coalition works to integrate the principles of product stewardship into the policy and economic structures of Nebraska.



Why is Waste an Issue for Nebraska?

Increased Generation

- The amount of waste we produce has increased an average of 11% every 5 years since 1960.¹
- In 2010, Nebraskans disposed of **2,157,214 tons** of material in landfills.²
- **42% (902,147 tons) was composed of readily recyclable materials** (not including compost).

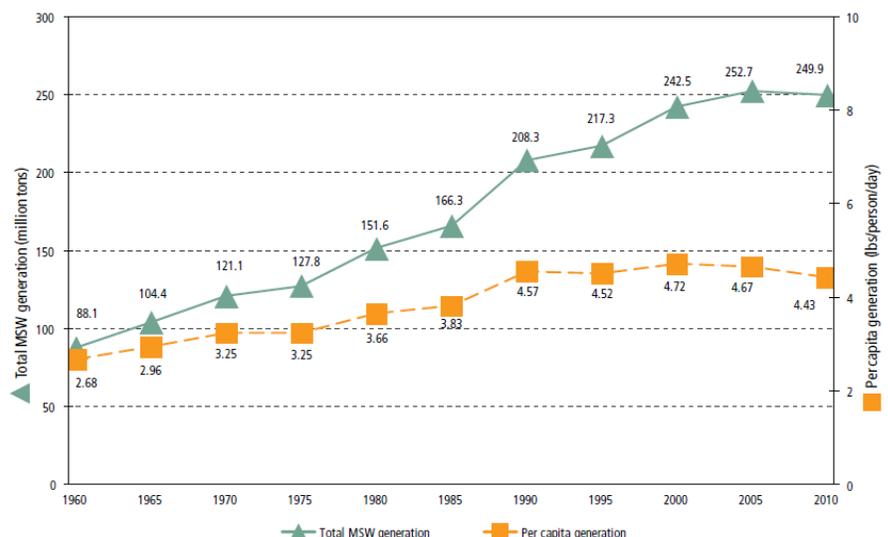
Increased Costs

- Tipping fees have increased an average of 7% per year since 1985.³
- At an average tipping fee of \$37.87, Nebraska spent \$81.6 million on landfill fees in 2010.⁴
- **Nebraska could save \$34.1M by diverting readily recyclable materials** (not including compost).

More toxics in the waste stream

- Electronics is the fastest growing component of the waste stream. In 2010, Nebraskans disposed of **7,550 tons** of electronics in landfills.
- An estimated **432,881 lbs** of lead in CRT monitors were disposed in Nebraska landfills in 2010.⁵

Figure 1. MSW Generation Rates, 1960 to 2010



Why is Waste an Issue for Nebraska? - Continued

Lost Valuable Raw Material Resources and Rare Earth Metals

- Common materials like paper, glass bottles, numbered plastic containers, tin and aluminum cans in the waste stream have real secondary market value.
- The 902,147 tons of common recyclable materials dumped in Nebraska landfills in 2010 were worth **\$137.3 million**.⁶
- Rare earth metals in 102.3 tons of mobile devices dumped in Nebraska landfills in 2010 had a value of **\$2.8 million**.⁷
- **If Nebraska were able to divert just 33% of common recyclable material it could earn \$45.3 million in scrap sales.**

Loss of Job Opportunities

- Recycling, Reuse & Remanufacturing creates on average 10 times the jobs that traditional disposal does.⁸
- If the U.S. increased its recycling rate to 75%, it would add 1.5 million more jobs than in 2008.⁹
- **Nebraska could gain over 13,000 jobs by recycling just the 42% of its waste stream that is readily recyclable** (1,804 direct processing and collection jobs, 5,979 manufacturing jobs, 5,313 reuse / remanufacturing jobs).¹⁰

How can Nebraska Reduce the Cost and Quantity of Waste?

...through Product Stewardship.

The primary goals of any product stewardship program are to:

- Increase diversion rates of valuable recyclable materials thereby reducing the waste stream
- Capture the value of those materials through reuse, recycling or remanufacturing
- Reduce the amount of toxic materials disposed in landfills
- Shift costs of waste management off government to those who benefit from the products (producers & consumers)
- Reduce overall costs recycling activities through increased volume, competition and market-based solutions
- Incent product and packaging redesign to reduce waste at the source or to design for reuse



Most of Nebraska's waste stream can be recycled. Readily recyclable materials like paper, glass, plastics, and metals compose 42% of waste and another 16.6% is made of compostable material like yard waste and food scraps. If **all** of that were recycled, composted or reused, Nebraska would **save \$47.7 million** per year on landfill fees, **earn \$137 million** on material sales for a **total gain of \$184,700,000**. Nebraska would add over **13,000 jobs**, increase economic activity in the state and boost tax revenues.

What are the Current Options for Financing Recycling & Product Stewardship?

- General Taxes
- Sale price of recyclable materials
- Grants – for non-profits and other non-governmental organizations to fund take back programs
- Deposits – such as bottle fees
- End-of-Life Disposal Fees - Consumers are charged for disposal, as with household hazardous waste disposal fees
- Advanced Recycling Fees (ARF) - Consumers are charged an end-of-life management fee at the time of purchase
- Extended Producer Responsibility (EPR) - producers pay an end-of-life fee for managing their products based on annual sales in the state. The cost is passed on to consumers in the product price, sometimes visibly

Pros & Cons of Available Financing Options

The sale of recyclable materials finances a portion of the recycling activity, but supplemental financing is often required.



Financing Option	Incentivizes Consumer Recycling	Shifts Costs Away from Government & Taxpayers	Flexibility & Competition Reduce Costs	Industry Run	Incentivizes Producer Design for Reuse
General Fund Taxes	No	No	No	No	No
State Grants	No	No	No	No	No
End of Life Fees	No	Yes	No	No	No
Deposits	Yes	No	No	No	No
ARF	Yes	Yes	Yes	Yes	No
EPR	Yes	Yes	Yes	Yes	Yes

Two financing mechanisms, **Extended Producer Responsibility** and **Advanced Recycling Fees**, stand out among the options as the best at achieving the primary goals of a take-back program.

EPR is about extending a producer’s responsibility to managing its product at the end-of-life. ARF is about passing the cost of end-of-life management on to consumers. With either method, those benefiting from the products (producers and/or consumers) share responsibility for end-of-life management. Both methods are successful tools for shifting costs away from taxpayers and government, increasing collection levels, reducing costs, and jump starting the industry. EPR has the added benefit of encouraging producers to make changes to their product and packaging design at the source. Well crafted electronics take-back programs have increased collection levels to between 4 and 6 pounds per capita and have been funded by one of these two methods. Most are funded through EPR, while one program is funded by ARF. For more information on best practices for take-back programs, please read [“Electronics Take-Back Programs: Benefits and Best Practices”](#).

Work Cited and Calculations

1. US EPA MSW Generations Rates 1960-2010 www.epa.gov/osw/nonhaz/municipal/ Accessed January 12, 2012.
2. Nebraska Department of Environmental Quality
3. Edward W. Repa, PhD. "NSWMA's 2005 Tip Fee Survey" March 2005 Accessed December 7, 2011 www.environmentalistseveryday.org/docs/Tipping-Fee-Bulletin-2005.pdf
4. Average tipping fees provided by a SWANA Cornhuskers Chapter survey conducted February 2012. Two landfills did not report.
5. The EPA estimates 43% of electronics at end-of-life in 2010 are CRTs (EPA, May 2011). CRTs dumped in NE landfills in 2010: 7,550 tons x .43 = 108,220 tons CRTs. Average weight of a CRT monitor/TV is .03 tons or 52.39lbs (EPA, May 2011). There are 4-8 lbs of lead in a CRT monitor/television. We've used 4lbs for this calculation. $(108,220/.03) \text{ CRD units} \times 4\text{lbs lead} = 432,881 \text{ lbs of lead}$ disposed in Nebraska landfills in 2010.
6. Percentage of recyclable material in waste stream obtained from "Final Report: State of Nebraska Waste characterization Study", March 9, 2009. Table 5.10 Statewide Consolidated Weight Data Summary, page 5 -20. Prices based on 2010 Annual Average of index prices for Official Board Markets , "The Yellow Sheet" for fiber materials. Food and Beverage containers prices based on Waste and Recycling SecondaryMaterialsPricing.com.
7. 8% of the 18,800 tons of mobile devices at end-of-life were recycled in 2009 (EPA, May 2011). The per Capita equivalent for Nebraska based on 2010 census data is 111 tons of mobile devices at end-of-life of which 102.31 (92%) will be disposed instead of recycled. Quantity of metals in cell phones obtained from ScienceDaily, "Set World Standards for Electronic Recycling, Reuse to Curb E-Waste Exports to Developing Countries, Experts Urge" Sep 5, 2009: 130kg copper; 3.5kg silver, 340g gold, 140g palladium. Values calculated using December 12, 2011 prices sourced from www.metalprices.com.
8. Seldman, Neil, Ph.D. 2006. "Job Creation through Product Reuse." Institute for Local Self-Reliance, Waste to Wealth Program. Available from www.ilsr.org/recycling/reusejobs.html
9. "More Jobs, Less Pollution: Growing the Recycling Economy in the U.S." Tellus Institute with Sound Resource Management, Nov 2011.
10. Job estimates were calculated using waste tonnage figures from "Final Report: State of Nebraska Waste characterization Study", March 9, 2009. Table 5.10 Statewide Consolidated Weight Data Summary, page 5 -20 and Job Generation estimates from "More Jobs, Less Pollution: Growing the Recycling Economy in the U.S." Tellus Institute with Sound Resource Management, Nov 2011.