



2012 DPW Annual Residential Recycling Report

Submitted 6/21/13

Introduction and Commentary

2012 was another successful year for the recycling program operated by the City of Milwaukee Department of Public Works. The program has had three consecutive years of growth in tons of recyclables recovered from the single family through four-unit residential households we serve. The annual increases began with implementation of more frequent and guaranteed collection dates in 2010, were augmented by the switch to Single-Sort recycling and adding more materials to the program in the fall of 2011, and were assisted by strong educational efforts in 2012 and throughout the past several years. Recycling pounds per household have now increased 13% from 2009 to 2012.

In 2012, recyclable commodity prices returned to their five year averages after the dive in prices in 2009, slow return in 2010, and historically high prices of 2011. Despite the 28% decline in average prices from 2011 to 2012, the City's recycling revenue still surpassed that of 2011. This was due to the amended recycling contract in the latter part of 2011 that increased the City's revenue share from 50% to 80%.

A recycling related Intergovernmental Cooperation Agreement between the City of Milwaukee and Waukesha County was developed in late 2012 and adopted by the Common Council in early 2013. This agreement is for the two entities to jointly issue a Request for Proposals for recyclables processing and marketing services. Proposals will be solicited and evaluated and a recommendation will be made by the end of 2013 to enter a long term contract that provides a cost effective solution through regional collaboration. It is an exciting time for recycling in the Milwaukee area.

-Rick Meyers, Resource Recovery Program Manager, DPW



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Recycling Program Report—2012

Results and Achievements

- Citywide in 2012, DPW collected 24,147 tons of residential recyclables, **an increase of nearly 6% over 2011 or 5% on a pounds per household basis**. This achievement continues an upward trend of annual increases that started in 2009.
- Below are a few results illustrating the improved recycling service and results over the past three years:
 - **Recycling pounds per household in 2012 was 13% higher than in 2009.**
 - During the guaranteed collection schedule season (April through November):
 - The number of recycling pick up day inquiries in 2012 was less than 5% of the number in 2009 during that same time period.
 - Missed collection complaints were down 33% in 2012 from 2009.
- Residents' participation in the household recycling program **avoided nearly \$900,000 in landfill disposal costs** in 2012 and **earned over \$1.9 million in revenue** from the sale of recyclables. Overall, the City realized a savings of nearly \$66 per ton of materials recycled instead of sent to a landfill.
- The City's residential landfill diversion rate increased to 24.3% in 2012, up from 22.5% in 2011 and 21.4% in 2010.
- *Cans for Cash – City Recycling Challenge* Milwaukee's first-place performance in 2012, the final year of the contest sponsored by Novelis and the US Conference of Mayors, earned the City a **\$25,000 prize** to be used for recycling education. From March 26th through April 22nd, over 39 million aluminum cans were collected by recyclers throughout the city – just over 66 cans per capita and more than any other participating city.

Aggressive Resource Recovery Programs at Self Help Centers

- **Over 60% of the material managed through the Self Help Centers was diverted from landfills in 2012.** Over the years DPW has expanded its recycling programs available to residents to make these sites into functioning resource recovery parks.
- **Over 2.1 million pounds of electronics** were collected at Self-Help Centers in 2012, the second full calendar year of the *E-Cycle Wisconsin* producer responsibility program that was created through state legislation in 2009. (See graph of e-scrap recycled 2010 – 2012, page 7.)
- **1st full year of residential carpet & padding and used cooking oil recycling programs through DPW Self Help Centers.** Implemented in 2011, both of these programs experienced growth in 2012 while supporting local companies. Results from 2012:
 - Over 90 tons of carpet and carpet pad were collected and recycled.
 - 3,394 gallons of used cooking oil were recovered for use in the production of biodiesel.

2012 Compost Bin & Rain Barrel truckload sale

To encourage residents to harvest rainwater and manage organic wastes onsite, DPW hosted its first compost bin and rain barrel truckload sale. 406 participants, mainly from the City of Milwaukee, purchased 288 rain barrels, 355 compost bins and 359 accessories. Two radio stations ran value-added promotional contests in the weeks directly before and after the truckload sale event.



Compliance Enforcement

Enforcement of local recycling ordinances is conducted by DPW and its Sanitation Inspectors and administered by the recycling office. These ordinances are required by state law as is maintaining and carrying out a plan to ensure compliance. Throughout the compliance enforcement process, education and guidance is offered to property owners to assist them in the implementation of recycling programs. Below is a summary of recycling enforcement activity by DPW in 2012.

Property Type	Written warnings	Citations	Fine amount
1-4 units residential	905	678	\$19,360.00
5+ units residential	18	4	\$666.68
Non-residential (business)	5	0	\$0.00

Education, Outreach and *Recycle For Good* - 2012 Campaign Update

2012 Neighborhood Campaigns

Since the beginning of the *Recycle For Good* campaign, DPW has visited over 11,000 households in Milwaukee neighborhoods to directly provide recycling education. DPW often partnered with non-profit environmental and community groups to conduct the neighborhood campaigns. In 2012, grassroots outreach continued and **targeted nearly 1,600 households**. City



2012 *Recycle For Good* neighborhood campaign canvassing

interns were trained on outreach techniques and then canvassed targeted areas of the city with the lowest recycling rates. Interns spoke with residents about recycling, asked for commitments to increase participation, and left behind information on the City’s curbside recycling program.

Community Education Initiatives

- Recycling education to schoolchildren remains a strong component of the recycling outreach program. A partnership with Keep Greater Milwaukee Beautiful to provide educational programming, tours, and activities continued in 2012. **2,880 students and 399 adults participated in educational programs and tours of Milwaukee’s recycling facilities in 2012, an increase of 97% over 2011.**
- Thousands more students from Milwaukee Public Schools received recycling education through classroom visits by Keep Greater Milwaukee Beautiful staff through a continuing partnership that DPW helped forge between MPS, KGMB, and Waste Management of Wisconsin, Inc.
- DPW utilized its annual Waste Reduction and Recycling fall mailer to educate residents on the City’s Single-Sort recycling program. The feature article and a recycling section reminded residents of the new sorting guidelines and highlighted the new materials accepted in the program. The mailer also contained the popular “Disposal Fact Sheet”, information on other topics such as Project Clean & Green, Self-Help Centers, leaves and brush, and winter garbage and recycling collection. It also announced that fully-automated collection would be introduced in some neighborhoods to increase efficiency and reduce costs. Households in these neighborhoods received a separate insert in their fall mailers with education on automated collection and setout requirements.

Recycle For Good – 2012 Campaign Update

The citywide *Recycle For Good* (RFG) campaign continued to raise awareness of DPW’s recycling program and promote the benefits of recycling. The campaign has always focused resources both on targeted underperforming recycling areas as well as the city at large. With the Single-Sort program changes affecting everyone, most resources were dedicated to city wide messaging and activities in 2012. Campaign activities this past year included:

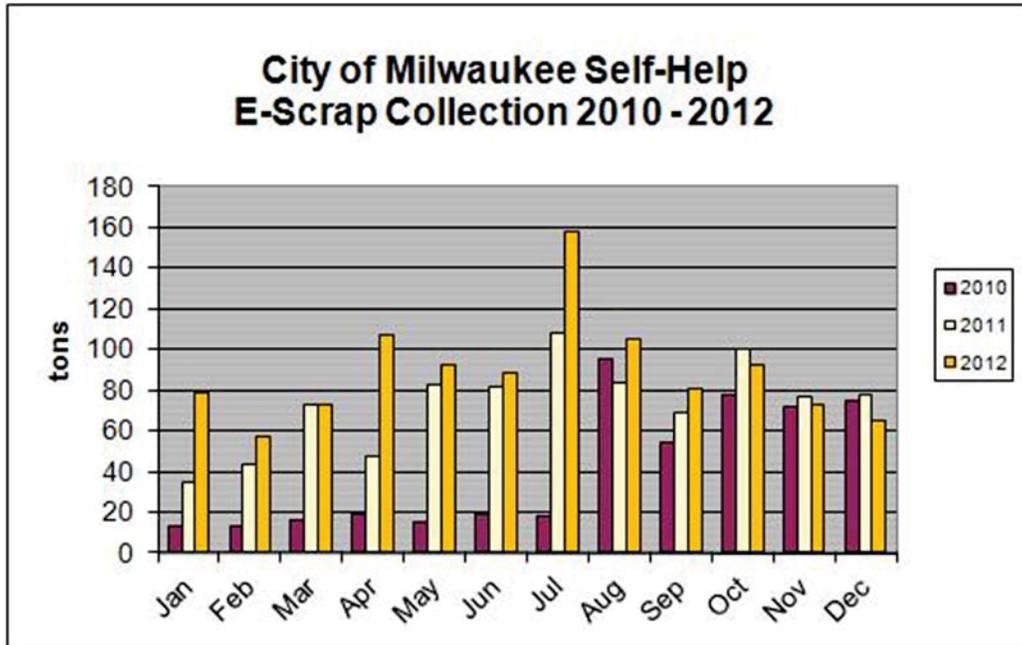
- On-air and online radio promotion highlights:
 - Continuation of 98.3 online contest where the public was encouraged to pledge to improve recycling habits in turn for the chance to win prizes such as cinema and theater tickets, and gift certificates to local stores and restaurants.
 - Online mentions on WHQG’s “Homegrown” website and on WMYX/WXSS “1 Thing” green website.
 - *Recycle For Good* campaign radio buy garnered many value-added promotional mentions
- Print ads ran in the Shepherd Express as well as the Milwaukee Courier
- Interactive map on MilwaukeeRecycles.com – “Explore: Where do Milwaukee’s Recyclables Go?” – updated with new materials accepted under the Single-Sort recycling program
 - See graphs of web traffic, 2012 vs. 2011, page 8.
- Outdoor advertising

- *Recycle For Good* posters and bus station shelter ads were also installed throughout the city. Two 4-week rounds of advertisements were placed in May and September. 15 posters and 3 bus shelters were installed at various locations throughout the city. The City received significant added value in the form of ads remaining in place for extended unpaid periods of time.
- See images of various campaign elements, page 9.

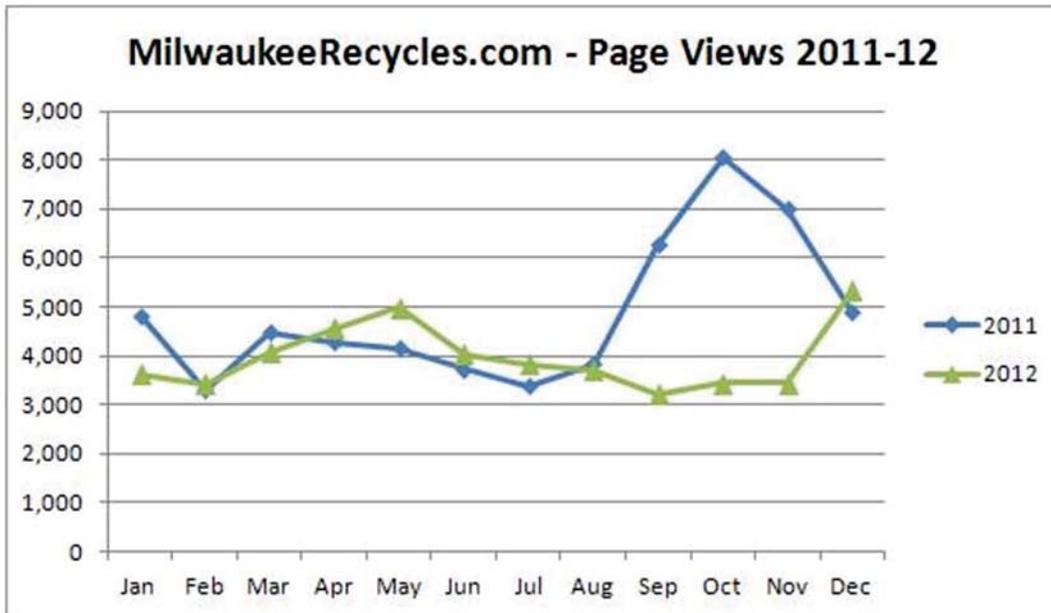
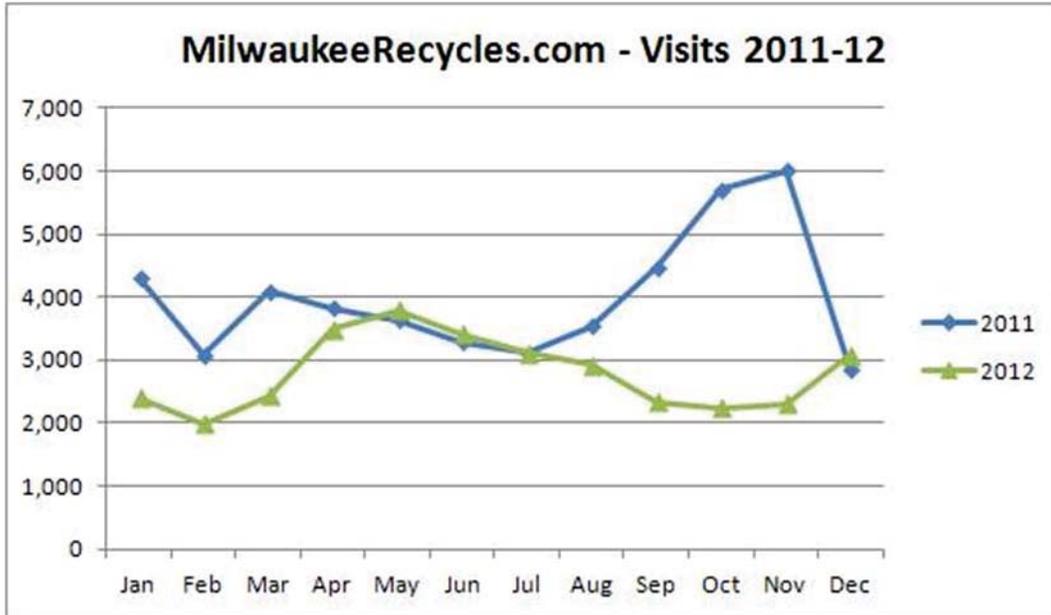
Future Initiatives

- A Request For Proposals (RFP) will be issued in 2013 to secure long term recyclables processing and marketing services. The RFP will be issued on behalf of the City of Milwaukee and Waukesha County, which was the recommendation of a collaborative investigation of future options to serve both communities most cost effectively.
- In the fall of 2012, DPW began planning a project in partnership with InSinkErator to reduce the amount of food waste sent to landfills by residents. The project will involve 70-100 households that will be recruited to receive a free in-sink disposal unit. DPW also plans to recruit a separate segment of households to receive backyard compost bins. Through this study, the efficacy of both of these strategies for reducing food waste in the city's residential waste stream will be examined. Pre- and post-project waste sorts will be utilized for analyzing results.

Popular Electronics Recycling Program Continued Growth



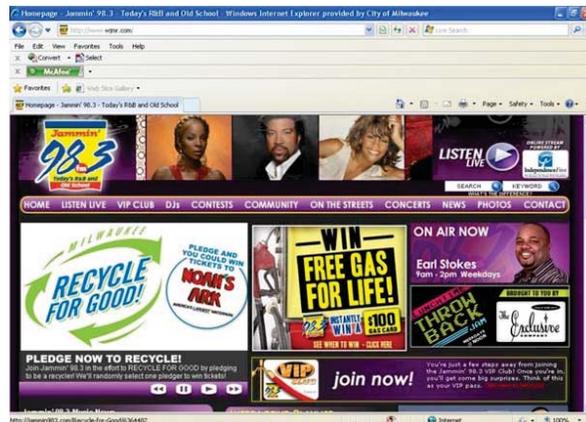
Web Analytics Reveal Spike in Fall 2011 from Single-Sort Beginning



Sample of Images from 2012 *Recycle For Good* Campaign



Recycle For Good billboard posters and bus shelter ad



Recycle For Good online contest on WJMR



Recycle For Good banner ad on WMYX/WXSS' "1THING" environmentally-themed website

Table 1
Residential Tons Collected
2011 - 2012

	<u>2011</u>	<u>2012</u>	Change	
			<u>Tons</u>	<u>Percent</u>
Recycling Materials - household				
Combined Paper	12,129	12,800	671	5.5%
Corrugated Cardboard	2,268	2,600	332	14.7%
Aluminum Cans	205	188	-17	-8.2%
Steel Cans	651	751	100	15.4%
Glass Containers	5,576	5,672	96	1.7%
Plastic Containers	2,009	2,135	127	6.3%
Subtotal	22,837	24,147	1,310	5.7%
Recycling Materials - other residential*				
Appliances with Refrigerants	115	89	-27	-23.1%
Lead Acid Batteries	13	8	-5	-37.9%
Waste Tires	439	551	112	25.6%
Waste Oil	164	131	-33	-20.1%
Electronics	878	1,072	194	22.0%
Scrap Metal	558	499	-59	-10.7%
Miscellaneous	95	120	25	26.4%
Subtotal	2,262	2,469	207	9.2%
Yard Waste				
Subtotal	31,364	32,855	1,491	4.8%
Total Diverted	56,464	59,472	3,008	5.3%
Household Solid Waste				
Cart collection (1-4 unit HHs)	167,725	160,230	-7,495	-4.5%
Dumpster service (>4 unit HH)	18,722	17,316	-1,406	-7.5%
Skid loader	3,935	3,625	-310	-7.9%
Clean & Green program	1,889	1,917	28	1.5%
Miscellaneous	1,829	2,266	437	23.9%
Subtotal	194,100	185,353	-8,747	-4.5%
Total Residential Solid Waste	250,563	244,824	-5,739	-2.3%

*Does not include 4,869 T of concrete and asphalt shingles recycled in 2012 through the Self Help Centers. The State of Wisconsin does not include these categories as residential in annual reporting.

Table 2
Residential Program Metrics
2011 - 2012

	<u>2011</u>	<u>2012</u>	<u>Change</u>
Effectiveness Measures			
Household Material Recycling Rate*	9.1%	9.9%	0.7%
Yard Waste Recycling Rate	12.5%	13.4%	0.9%
Other Materials Recycling Rate**	0.9%	1.0%	0.1%
Total Recycling Rate	22.5%	24.3%	1.8%
Household Materials Recycling lbs. Per Household	249.42	262.11	12.69
	<i>Percent change 2011 to 2012:</i>		5.1%

Efficiency Measures - Household Recycling Only

Residential Recycling Program Costs (reported to State)	\$9,012,014	\$9,561,852	\$ 549,838
State Cost Sharing/Grant Revenue	\$2,164,861	\$2,324,896	\$ 160,036
Recyclable Commodity Sales Revenue	\$1,835,906	\$1,912,279	\$ 76,373
Avoided Landfill Disposal Costs	\$ 839,572	\$ 899,442	\$ 59,870
Subtotal of offsets	\$4,840,339	\$5,136,618	\$ 296,279
Net Costs - Residential Recycling Program	\$4,171,675	\$4,425,234	\$ 253,559
Net Cost Per Ton - Res. Recycling Program	\$ 182.67	\$ 183.26	\$ 0.59

*The Comptroller's Office method of computing Household Solid Waste Tons includes garbage tons from the City's >4 unit multi-family dwelling customers, a sector not serviced by the City with recycling collection. Since the City does not have recycling tonnage figures for these customers serviced with recycling by the private sector, the resulting recycling rate is artificially low.

**Does not include 4,869 T of concrete and asphalt shingles recycled in 2012 through the Self Help Centers. The State of Wisconsin does not include these categories as residential in annual reporting.

Table 3
Recyclables Processing Financials Comparison
2011 - 2012

*This table relates to processing of residential recyclables after collection.
It does not include collection costs or recycling grant revenues.*

	<u>2011</u>	<u>2012</u>	Change	% Change
Commodity Sales Revenue				
Revenue/Ton (Market Value)	\$ 135.27	\$ 97.77	\$ (37.50)	-27.7%
City's Share (Rev/T Received from Contractor)	\$ 80.18	\$ 78.22	\$ (1.96)	-2.4%
Total revenue to City	\$ 1,835,906	\$ 1,912,279	\$ 76,373	4.2%
Processing Costs				
Processing per ton rate	\$ 45.67	\$ 50.45	\$ 4.78	10.5%
Processing tons	22,896.24	24,207.42	1311.18	5.7%
Processing costs	\$ 1,045,610	\$ 1,221,243	\$ 175,633	16.8%
Net Revenue				
Net revenue (received)	\$ 783,685	\$ 691,036	\$ (92,649)	-11.8%
Net revenue per ton	\$ 34.23	\$ 28.55	\$ (5.68)	-16.6%
Avoided Disposal Costs				
Landfill costs per ton	\$ 36.67	\$ 37.16	\$ 0.49	1.3%
Landfill costs avoided	\$ 839,572	\$ 899,442	\$ 59,870	7.1%
Total Benefit				
Total Net benefit	\$ 1,623,257	\$ 1,590,479	\$ (32,779)	-2.0%
Total Net benefit per ton	\$ 70.90	\$ 65.70	\$ (5.19)	-7.3%

The net benefit figure compares total processing costs with recyclables revenue and avoided landfill disposal costs. In 2012, recyclable commodity prices returned to about the 5-year averages after very high pricing seen in 2011. Despite the 28% decline in market value, the City of Milwaukee achieved a similar net benefit due to the renegotiated revenue share terms that went into effect in late 2011. The City's processing rate went up about 10% while the revenue share went from 50% to 80% in the City's favor.