

Recycling Education Recommendation for the Committee on the Environment

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Summary: There are opportunities to clarify best practices for recycling waste and educate the public on what to put into the green recycling bins. The expected results include 1) an increase in recycled waste 2) a decrease in waste going to the landfill and 3) improved waste streams of recycled materials, resulting in cost savings for the city of Madison.

Background:

Madison has been a leader in recycling. In September 2018, Madison celebrated 50 years of recycling. Madison was the first community in the United States to offer curbside recycling services. We continue to recycle and look for ways to turn waste into valuable resources.

Mandatory curbside recycling began in Madison in 1991, when the Madison Recycling Center was used as a material recovery facility. Since 2012, Madison has contracted with Pellitteri Waste Systems to sort the recyclables from the green bins. In 2005, Madison started “automated collection” with collection vehicles with robot arms to grab collection carts and dump the contents into trucks.

Recycling markets change over the years. Recycled material is sold globally, and is subject to shifts in commodity markets. As recycling markets change, Madison continues to look for the ways and means for items that are no longer wanted or needed to be recycled to prevent those materials from becoming waste and to generate revenue.

Issues:

Even though Madison recycles more per capita than any other comparably sized city in Wisconsin, the city of Madison recycling rate has declined since 2012. In 2016, Madison residents recycled an average of 144 pounds per person. This rate of recycling is now lower than in some Wisconsin counties.

The city contracts with Pellitteri to recycle waste, at a cost of \$46/ton. The cost of dumping waste into a landfill is \$50/ton. In addition, the city receives money from recyclables, which resulted in \$315,000 in additional revenue in 2017. Thus, recycling more waste material can result in overall cost savings for Madison taxpayers.

Additional benefits of keeping waste out of landfills include reducing the use of good farmland for landfills. Building landfills is expensive, with costs of about \$1 million per acre. The current Dane County landfill has a life expectancy of 15-18 years. Reducing the amount of waste diverted to it can extend the lifespan of the current landfill.

Recycling of waste streams can result in overall energy savings. For example, melting down aluminum products uses only 5 percent of the energy needed to mine and process bauxite into aluminum.

A decrease in landfill use can provide climate change benefits. Landfills produce significant amounts of methane, a potent greenhouse gas. About 23 percent of the methane from human

activity in the United States comes from landfills. Diverting less waste to landfills results in a reduction in our carbon footprint.

In 2006, an of average 8.3% of the material that was put in Madison's green recycling carts could not be recycled. The cost of removing this material at the recycling plant was \$89,000 in 2006.

The Streets Division recently sorted through recyclables looking for some of the common mistakes Madison residents make. Some of these include loose plastic bags and film, loose bottle caps, lightweight plastic cups in recyclables, and hard, rigid plastic in bins. Educating the public will help reduce these common mistakes.

Leaving green trash bins open to rain and snow results in water soaked materials that can't be processed. In addition, contamination of waste streams results in higher recycling costs. According to Pellitteri, more contamination results in the need for more resources, such as people and equipment to remove the contamination.

There is conflicting and outdated information from various sources on how and what to recycle. In addition, the waste streams that can be recycled have changed due to global political and economic factors such as the current Chinese reduction in receiving waste. For example, due to the refusal by China to receive some waste streams, rigid plastic such as 5 gallon buckets and toys can no longer be recycled.

Recommendation:

In order to improve the quality of recycled waste streams and decrease the amount of material going to landfills, information on recycling needs to be effectively communicated to Madison residents through a variety of means, including social media, flyers, stickers on green bins, and education in public schools.

References:

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