BROWN COUNTY PORT & RESOURCE RECOVERY DEPARTMENT

The Waste Not

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For Your Safety

In an effort to reduce the risk of injury and death, the Brown County Resource Recovery Department now requires every person disposing of material inside or around the Solid Waste Transfer Station building to wear a safety vest or other high visibility apparel. This requirement also includes anyone using the Recycling Transfer Station who needs to enter the building while unloading material.

The solid waste & recycling industry is the 5th most dangerous job in the United States. In 2016, there were 113 fatalities across the United States in the solid waste & recycling industry. Of those 113 fatalities, 46 were solid waste employees and 75 were private citizens. In Wisconsin there were four fatalities, three solid waste employees and one private citizen. Already in 2017 there have been 22 fatalities in the US. Of those, eight were solid waste employees and 14 were members of the public. Many of these deaths could have been prevented by slowing down, wearing safety gear and being aware of the surroundings. While the industry is doing many things to reduce the risks associated with these jobs, other industries are reducing their fatal accident rate faster than solid waste & recycling meaning this ranking is very likely to increase.

Brown County is serious about the safety of solid waste & recycling workers and the safety of the public. Again, wearing the proper safety gear is just one way to decrease the likelihood of an accident.

If you are planning to unload material at either the Waste Transfer Station or the Recycling Transfer Station, we require everyone to wear a safety vest if they will be entering one of our buildings. Even if you do not enter the transfer station building we encourage everyone to wear safety vests or other high visibility apparel . If you do not bring a vest with you, one may be purchased for $5.00 at either transfer station.

OUR VISION

To provide Brown County municipal, commercial and industrial customers cost-effective and sustainable solid waste management systems with the focus on resource recovery primarily through recycling, repurposing and energy recovery

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INSIDE THIS ISSUE:

Metal Extraction From E-Waste

By Karl Schuldes

The quantities of metals involved in the e-waste industry are enormous. The average American buys a new cell phone every 22 months; a desk top computer every two years; a music player every eight to ten months; and a TV every ten years. In 2015, there were an estimated 422 million unused cell phones in homes. Electronic devices use large amounts of precious metals in their manufacture. Circuit boards, ISA cards, memory cards, cell phones, and other items contain copper, gold, palladium, silver, and sometimes platinum. Electronics can also contain aluminum, iron and tin.

For this reason, recovering gold and the other precious metals has become an important industry. According to 2016 EPA estimates, one million cell phones can yield 75 pounds of gold, 772 pounds of silver, 35,000 pounds of copper, and 33 pounds of palladium. However, as of 2009, according to the EPA, only 10% to 15% of gold and silver were recovered from electronic devices.

For metal recovery to be economically feasible, companies must process large quantities in bulk. Large companies have developed methods to do this. Devices are shredded, with ferrous metals removed by magnets. The residue is then sifted and searched for precious metals, while the plastic is melted for reuse. According to the Institute for Scrap Recycling Industries, the 4.4 million tons of e-waste that are recycled each year are a richer source of gold than virgin ore, and there is as much gold in one ton of old computers as in 17 tons of ore.

Unfortunately, there is a high cost to metal extraction owing to the hazardous by-products, such as lead, barium, and beryllium. For this reason, much of the e-waste is shipped to developing countries where there are few environmental protections. These countries include China, India, Pakistan, Nigeria and Ghana, among others. Guiyu, China, is the e-waste capital of the world, accepting 100,000 tons of e-waste per day. Not surprisingly, many Guiyu citizens have neurological diseases, with Guiyu having the highest dioxin levels ever recorded in a city.

US companies are developing better extraction methods that will likely bring the industry back to the US. Some methods are known to work, and await only the scaling up of the processes for industrial use. One such method, developed at Rice University, uses super cold temperatures to recover metals from circuit boards. The circuit boards are cooled to -182° Fahrenheit in a box containing a one-pound steel ball. Vibrating the box smashes the metals to nano-sized bits, which are easily separated. This method produces no toxic emissions. And, as always in the dynamic US science and industry sectors, other methods are in the pipeline.

Carton Recycling

As the school year winds down to a close, so does the first year of a new school milk carton recycling program. Last year, Brown County Resource Recovery provided resources to eight schools in the Ashwaubenon, De Pere, Green Bay and Howard-Suamico school districts to get the recycling program in motion; and the results have been noteworthy. According to an estimate from the Carton Council, milk carton recycling programs at just these eight schools will keep an average of 20,700 pounds out of the landfill yearly.

"The program began with a grant from the Carton Council," explained Resource Recovery Business Development Manager Mark Walter. "Our goal the first year was to work with two pilot districts in the county to develop educational materials and demonstrate how impactful this carton recycling program could be for other school districts."

Under a contract with Brown County, Sarah Chisholm from WeCycle worked closely with the schools to implement the program. "Our initial meetings with school officials went very well; they were all asking themselves, 'How have we not been doing this for years?' In addition to getting the milk carton recycling program started, we worked with them to review and improve current methods of lunchroom recycling. We then provided recycling bins, catchy signs and toolkits to get them started. Our ultimate goals were to help them save money, decrease trash waste and get kids excited about recycling."

After learning of the pilot program, Lynette Zalec, food service director for the Green Bay Area Public School District, reached out to Brown County Resource Recovery to see if they could be part of the program. One school in particular, Wequiock Elementary in Green Bay, was especially enthusiastic about the program.

"We really wanted to kick off this recycling program the right way," explained Zalec. "So we had an event where 4th grade students did some research on their own and made posters that explained recycling. They also made an announcement on the intercom about recyclable items. The kids were excited about it and felt very proud. It really prompted the entire school to get involved."

Since Wequiock Elementary adopted the program in January 2017, they have already seen a positive difference in the amount of recyclables and waste. A half bag of cartons at the end of each day increased to a full bag, and seven trash bags went down to six. According to Carton Council estimates, Wequiock Elementary alone will keep 1,035 pounds of material out of the landfill each year.

The individual schools involved in the recycling program pilot were: Ashwaubenon High School, Parkview Middle School, Pioneer Elementary School, Valley View Elementary School, Cormier School & Early Learning Center, De Pere High School, Wequiock Elementary and Bayview Middle School. Brown County Resource Recovery will continue to work to make carton recycling part of every school's recycling program. If every school in Brown County recycled their cartons, more than 220,000 pounds would be kept out of the landfill and recycled!

2017 Recycling Guide

The *2017 Recycling Guide* is now available. The *Recycling Guide* has been retitled the *Northeast Wisconsin Recycling Guide* to represent the area that the Tri-County Recycling Facility covers. Distribution this year included more than 120,000 households in Brown, Outagamie and Winnebago Counties as well as households in Calumet County and every 4K-5th grader in the Green Bay School District.

If you did not receive a copy of the Recycle Guide and would like to please contact Brown County at (920) 492-4950 to find out when and where you can pick-up your copy. A downloadable copy is available on BrownCountyRecycling.org

In addition to information on good recycling practices, the Recycle Guide provides information on where to get rid of pharmaceuticals, sharps, yard waste, waste oil, tires, shingles, chemicals, paint, electronics, stains, cleaning products, organic waste and so much more!

Follow Us

For facts, general information and ideas on how to reduce waste, follow us on Facebook, Twitter and Pinterest! We post information you want to know several times a week.

If you are interested in reading more about a resource recovery topic online or in our newsletter let us know! We would love to hear from you.
Email us at bc_resource_recovery@co.brown.wi.us with your idea and we will post it or include it in our next newsletter.

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