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Check out our new name! We think it reflects how this newsletter serves you. We aim to give you stories that share the creative recycling and waste reduction efforts happening all over Wisconsin, along with other information that you can use and share! If you have stories you want to hear about or share, let us know!

# The ReSource



SPRING 2013

A newsletter for Wisconsin governments and recyclers DNR / BUREAU OF WASTE AND MATERIALS MANAGEMENT

# **Recycling means business for Recycled Office Environments**

Jamie Fisher, DNR

According to the U.S. Environmental Protection Agency, 21.6 million pounds of discarded furniture went to landfills in 2010. Jeff Budelier, president of Recycled Office Environments, says this is one of the reasons the Stevens Point-based company was started in 1990: to answer the question of what to do with all the "junk" office furniture that businesses are ready to send to landfills when they upgrade, remodel, or move locations.

The company's answer is to make this used furniture feel new again. Recycled Office Environments creates remanufactured office furniture products from its extensive warehouse inventory of used cubicle systems, desks, office chairs and more. Customers enjoy significant cost savings and a level of customization not often associated with used products. The used furniture is stripped down to its frame, and clients can work with a designer to select their choices of fabric, paint, laminates and final configuration.

"The experience of buying used furniture has now become as exciting and personal as buying new furniture," says Budelier. "The client can have their needs professionally satisfied with remanufactured used furniture at a fraction of the cost of new."

Recycled Office Environments also offers used furniture that needs only cleaning and touching up, which is quickly growing in popularity because of even more cost savings, Budelier says. A variety of services the company offers allow Recycled Office Environments to further extend the life cycle of all its products – cleaning, reupholstering and reconfiguration of furniture are just a few examples.

"This combination of activities allows us to challenge the reasons businesses consider replacing their furniture," Budelier says. "Repurposing a client's own furniture not only results in the lowest capital expenditure, it also facilitates the best opportunity for environmental stewardship."

Heather McCombs, executive director of the Wisconsin Green Building Alliance, which had its



Milwaukee headquarters furnished by Recycled Office Environments, says the company's sustainability efforts have the added value of working at a local level.

"There are other companies that can provide recycled office furniture, but after getting it from around the U.S. and shipping it in from far away," McCombs said. "Recycled Office Environments is pulling from local sources around the Midwest. They are really the only company that I'm aware of in Wisconsin that's doing what they're doing."

Recycled Office Environments has also made environmental stewardship part of the company's culture, Budelier says. The company uses water-based glues to adhere laminates, and the fabric they remove from office partitions is used to package furniture products. Company warehouses retrofitted with energy efficient fixtures and reuse of packaging materials are a few other examples.

Answering the question of what to do with all that used furniture has made a difference: Recycled Office Environments has kept 123,000 tons of office furniture out of landfills. McCombs added that the growing green building industry needs to start focusing more on this to round out the sustainability of the built environment.

"It's really the missing link, in my mind – recycled office furniture." ⊕

Do you know of a business that's taking steps to reduce its environmental footprint through recycling or reuse? Tell us about it! Please email Jamie Fisher, *The ReSource* editor, at jamie.fisher@wisconsin.gov.

#### **Editor's Note**

The New Year gives many people the feeling of a fresh start and an openness to new ideas, knowledge, and opportunities. Luckily, recycling and waste reduction are moving in that direction every day, and there is always an open invitation to join the ride. In this issue, read about the creative partnership in northwest Wisconsin that makes use of a cheese-making byproduct, or act on one of the waste-reducing New Year's resolutions. And take note of the newsletter's new name! Innovative ideas and new waste reduction efforts are always making their way into Wisconsin; if you know of any happening in your community, don't hesitate to share them with me. You can reach me at jamie.fisher@wisconsin.gov or 608-267-2463.

Jamie Fisher, The ReSource editor



### The ReSource

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For further information on any information in the newsletter, contact Cynthia Moore at Cynthia. Moore@Wisconsin.gov or by phone 608/267-7550.

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### Salt brine reuse allows northern Wisconsin partners to cut costs and reduce waste

Jamie Fisher, DNR

n 2008, the Polk County Highway Department was thinking of ways to cut down on costs. One particular cost came to mind – the salt brine used as a pre-wetter on icy winter roads before applying dry salt.

"We were looking at ways to save on winter maintenance and did not have our own salt brine maker," said Emil "Moe" Norby, technical support manager with the Polk County Highway Department. "We know the local dairy used salt water in the making of their cheese."



F&A Dairy in Dresser, Wis., uses salt brine, a clear solution of water and around 25 percent salt, in the cheese making process and produces 3,000 to 5,000 gallons of the liquid per week. The two groups formed a partnership for the highway department to use the dairy's salt brine, making for creative reuse of what would otherwise be a waste product – the dairy's leftover brine is normally sent through a wastewater treatment plant. With this new partnership in place, F&A Dairy simply filters the brine to remove any whey solids and sends it on to the highway department.

During the 2008-09 winter season, Polk County ran test routes using salt brine samples from the dairy as a pre-wetter on county roads. It found that applying the brine before applying dry salt cleared the roads more quickly and allowed the department to use less salt overall.

"Once the material is wet, you can then begin to turn down the material rate because the salt is working faster with pre-wetting," Norby said. "Pre-wetting also helps the material stick to the roadway."

Using salt brine offers other advantages as well. As an environmental benefit, reducing the amount of dry salt that bounces off the road also keeps it from entering area watersheds. The dairy's brine also works to a colder road temperature than traditional brine. The highway department has seen significant cost savings from using less salt, and the only cost to using the dairy's brine is trucking the liquid to the highway department's storage tanks.

Since that first test year, Polk County has received salt brine from F&A Dairy every winter. Norby reported that the highway department used almost 40,000 gallons of brine provided by the dairy in the 2011-2012 season, even with a light winter that required minimal road maintenance.

Three other municipalities reuse salt brine from F&A Dairy in their winter road work, and Burnett Dairy Cooperative in Burnett County has formed similar partnerships. Distribution by these two dairies in 2011-2012 resulted in the reuse of more than 119,000 gallons of salt brine. ®





# Enterprise funds enhance solid waste and recycling collection programs

Jamie Fisher, DNR

n enterprise fund for solid waste and recycling collection and disposal can offer municipalities a better understanding of their program costs, as well as more transparency, control and flexibility in their programs. Residents, too, can have a better awareness of the true costs of waste disposal and recycling, which puts municipalities in a better position to improve their programs and reduce the amount they send to the landfill. A few Wisconsin programs have made the switch and seen these changes happen.

Meleesa Johnson, director of Marathon County Solid Waste, described an enterprise fund as "a self-supporting business within government," where the revenue stream comes directly from services provided. Many municipally-owned landfills and materials recovery facilities (MRFs) are operated this way, Johnson said, with revenue coming from tipping fees and the sale of commodities, for example.

For a collection program, the main revenue source is the fee charged to customers, which immediately highlights one of the advantages of an enterprise fund: only those who use the system pay for it.

Rick Schultz, street superintendent for the city of Watertown, has noted this benefit since Watertown set up its own fund in 2006 for its solid waste and recycling collection.

"It is a great way to spread the cost among all users of this service," Schultz said. "Before, this service was included on the tax bill and spread among all taxpayers regardless of whether they used the service or not."

Just as program revenue comes from those who use the service, the program fund is used only for the solid waste and recycling collection program. Mike Tolvstad, director of public works for the city of Tomahawk, said the resulting transparency is one of the main

advantages of the use of an enterprise fund, which the city switched to in 2010.

"In my opinion, the enterprise fund is the most open form of managing a system,"Tolvstad said. "All of the funds collected are required to be used for this single purpose."

Tolvstad also pointed out that boiling down the costs and revenues of the collection program has enabled the city to measure the program's effectiveness and make adjustments when needed.

"As the old saying goes, you cannot manage what you cannot measure," said Tolvstad. "We now know what the cost of an individual customer is, and we can impact how a customer uses the system through container inspections, educational efforts and rate structure."

Schultz has had a similar observation, stating that the switch to an enterprise fund gave Watertown more control over the collection program and its costs.

"If we didn't take this off the general tax, there would be major cuts or we would contract out," Schultz said. "It wasn't feasible for residents - costs would have doubled. By doing it ourselves, we have control over the costs."

Having that control gave Schultz the flexibility to expand Watertown's recycling services. Within the last few years, the city has added recycling for all numbered plastics, appliances, carpet, mattresses and other items. Upholstered furniture recycling and a composting site are in the works.

"We have been quite successful in expanding our program, and we are not beholden to profit margins and can keep our costs low," Schultz said. "[Residents] are seeing a program that's expanded at very little cost to them."

Both Tolvstad and Schultz emphasized the substantial initial investment in time



and manpower that is necessary with the implementation of an enterprise fund, especially in education for residents. Schultz noted that after continued education, the city saw a significant increase in user commitment to the program.

A collection program run as an enterprise fund also has an important benefit for residents seeing the cost of their waste stream. When waste disposal is included in the general tax, Meleesa Johnson noted, "residents have no tangible concept of what the costs are."

Residents in Watertown see their disposal costs on their monthly water bills. In Tomahawk, the fee is charged on customers' quarterly utility bills. Because Tomahawk runs a pay-as-you-throw program, where residents can pay a smaller fee for a smaller refuse container, Tolvstad noted that most of their requests for smaller containers come after those billings.

The ultimate benefit of running a collection program as an enterprise fund is the potential for waste diversion and saved costs. Tolvstad said that over a two-year period, the city of Tomahawk reduced its landfill tipping fees by 60 percent. And Schultz pointed out that, once Watertown has its upholstered furniture recycling in place, residents will have a program for every recyclable that could be removed from the waste stream. @

### Study on plastics recycling shows potential for economic growth

A recent study commissioned by the DNR shows that Wisconsin could see substantial growth in both jobs and the state's economy by recycling more of the plastics that are currently going to landfills. There is strong demand for recycled plastics by manufacturers throughout Wisconsin, and the study concluded that a coordinated effort to boost plastics recycling would allow current businesses to expand and new ones to form. A number of actions the state can take to increase plastics recovery rates are discussed, and as a result of the study, the state's Council on Recycling has offered to convene a subcommittee to develop recommendations for the DNR for priority implementation. To read more of the study's findings, visit dnr.wi.gov and search Recycling Studies.



# E-Cycle Wisconsin shows strong progress in program's third year

Sarah Murray, DNR

Three years after Wisconsin's electronics recycling law took effect, households and schools have recycled nearly 100 million pounds of electronics through E-Cycle Wisconsin. The weight of electronics collected and number of electronics collection sites have increased substantially, but challenges remain for those managing the state's complex and growing waste stream of unwanted electronics.

During program year three (July 2011 to June 2012), registered collectors took in 39 million pounds of electronics, or 6.8 pounds per Wisconsin resident—one of the highest rates in the country. The number of registered collection sites available to Wisconsin residents has increased 70 percent since early 2010, and in the program's third year, 69 of Wisconsin's 72 counties had registered collection sites.

Beginning in January 2010, the law requires manufacturers of certain electronics to register with the DNR and recycle a target weight of electronics from Wisconsin households and schools. Collectors and recyclers wishing to work with manufacturers must also register with the DNR and meet minimum

requirements. Beginning Sept. 1, 2010, many consumer electronics—including TVs, computers, printers and cell phones—could no longer be put in the trash or sent to landfills and incinerators in Wisconsin.

So far, the law has had mostly positive economic effects. The manufacturer-funded recycling program has reduced costs for many local governments involved in electronics collection. Electronics recycling laws in Wisconsin and nearby states have allowed electronics recyclers in Wisconsin and the Midwest to open new facilities, expand existing ones, add shifts and hire new employees.



The vast majority of manufacturers, recyclers and collectors are complying with the law, and the DNR has taken actions to ensure a level playing field for program participants.

Challenges do remain. Many landfills and solid waste transfer stations still see electronics arriving in loads or left at their gates, and illegal dumping of electronics remains a problem statewide. Not all Wisconsin residents are aware of the law, and a few parts of the state still lack convenient or low-cost electronics recycling options.

The rising cost of recycling leaded glass from cathode ray tubes poses economic challenges to recyclers and manufacturers. Small-scale recyclers and collectors operating outside of the E-Cycle Wisconsin program are, in some cases, mismanaging potentially harmful materials from electronics. The DNR continues to work with local governments, recyclers and other stakeholders to address these issues.



A full summary of program results and policy recommendations can be found in the E-Cycle Wisconsin 2012 report, available at dnr.wi.gov/topic/Ecycle. \*\*

## **Recycling 101 – Electronics**

Because most of us never see the intricate parts inside our electronic devices, the impact of recycling electronics can be a vague idea in our minds. However, behind all the screens, buttons and plastic are valuable materials, 99 percent of which can be recovered to make new products. Electronics also contain potentially dangerous materials that could be toxic to humans and harmful to the environment if they are not managed properly. Even though these materials exist in relatively small amounts in each electronic device, the totals add up quickly when you consider the millions of electronics in our world today. Listed here are some of the most common materials that are

recovered from our recycled gadgets.

Plastic typically makes up a large part of the outer shell of our phones, computers, TVs and more. It is also used to insulate wires inside devices such as desktop computers. Because it is already the correct grade plastic when it is separated from old electronics, it is easily recycled to go into new electronics.

Steel is the most used metal in the world and the most recycled material in North America. Because of its strength and durability, steel is used in the housings of electronics, giving them structure. TVs and computers are important sources of steel in electronics recycling.

The circuit board in any electronic device contains **precious metals** such as gold, silver and platinum. These metals are widely used because of their conductivity, and they add up quickly in recycled electronics. In fact, one ton of used cell phones contain more than four times the amount of gold found in one ton of gold ore.

**Lead** exists in large quantities in the funnel glass of old cathode ray tube computer

monitors and TVs, and it is also used as solder in circuit boards. Exposure to lead can cause brain and nervous system damage, and it is hazardous when present in air, water and soil. Recycling electronics properly ensures safe disposal of any lead that is present in devices.

Aluminum is one of the most highly used metals in the world because of its strength and light weight. Similar to steel, aluminum is used in the housings of many electronics, especially TVs and computers. It is also used in circuit boards because of its conductivity.

Mercury is another dangerous material found in electronics that must be disposed of properly. It is toxic to humans and animals and is known to cause nervous system damage. Mercury is used in circuit boards and computer switches and relays. In flat panel LCD monitors and TVs, the bulbs that backlight the screens also contain mercury.





# **Recycling & Waste Reduction Publications**

PUB WA-1512-2013

The DNR offers waste reduction and recycling publications in two formats; electronic and printed. Many publications are available electronically on the DNR website. To find them, go to dnr.wi.gov Search: Recycling publications. These publications may be printed and used as needed.

The publications listed below are available to order in print format. Please indicate how many of each publication you would like (no more than 100 copies per publication) in the space next to the publication. If you need a larger quantity, please contact Elisabeth Olson at Elisabeth.Olson@wisconsin.gov or (608) 264-9258 to discuss available options.

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\* Starred publications are also available in electronic format. See dnr.wi.gov Search: Recycling publications

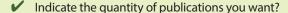
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#### PreK-12 Education

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Teacher Activity Guide	
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*Education Connection Order Form – listing of all DNR	
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*Keepin' It in the Loop	
K-8 Teacher Activity Guide (limit one per classroom)	WA-1526
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Nature's Recyclers Coloring Book - English	IE-042
Nature's Recyclers Coloring Book – Spanish	CE-999
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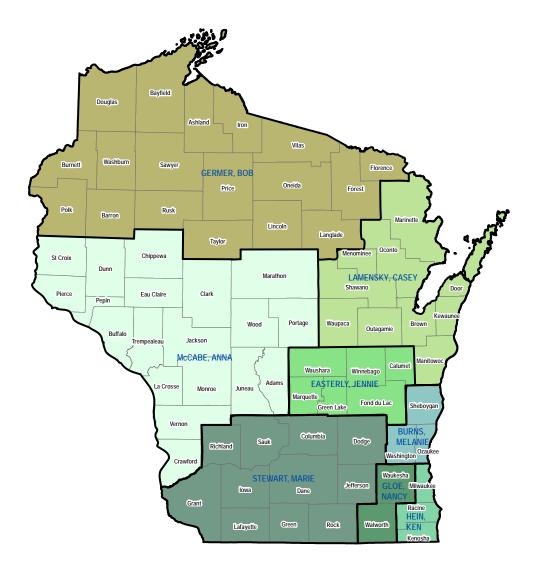
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### Wisconsin Department of Natural Resources

### REGIONAL RECYCLING CONTACTS





- Looking for a publication to use at an upcoming event?
- Want help with general recycling outreach and education?
- Have questions about how to develop a media campaign for residents in your area?

Elisabeth Olson, DNR Recycling & Waste Reduction Education Coordinator, is here to help. Contact Elisabeth with questions about outreach, education and available materials at elisabeth.olson@wisconsin.gov or (608) 264-9258.

Recycling contacts may change from time to time. Please see the DNR website for the most up-todate information: dnr.wi.gov and search "recycling staff contacts."

#### **Northern Region**

#### **Bob Germer**

(715) 635-4060

Robert.Germer@wisconsin.gov Counties served: Ashland, Barron, Bayfield, Burnett, Douglas, Florence, Forest, Iron, Langlade, Lincoln, Oneida, Polk, Price, Rusk, Sawyer, Taylor, Vilas, Washburn

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#### **Jennie Easterly**

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#### **Southeast Region**

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# **FIVE THINGS**

# you can do to reduce your waste in 2013

You still have time to think about New Year's resolutions! Consider making a commitment to reduce your waste. Try focusing on just one of the three R's - reducing, reusing, or recycling - and think of a habit you can make (or break) to see it through. Here are some ideas to get you started. Try one, try them all, or think of a waste-reducing resolution of your own!

Go out of your way to recycle at least one item each day. If you're away from home and there's nowhere to recycle your empty plastic bottle (or other recyclable), carry it with you until you have access to recycling.

For one week, focus on reducing waste in your buying habits.

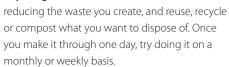




Pay attention to the packaging of the products you buy regularly, and try to buy products with recyclable packaging or packaging with minimal waste.

Set up a system in your home to **make** recycling easier, and teach it to everyone in the household. Here are some ideas: put a bin for recycling next to each trash can. Set up a designated place to put items for donation. Keep a large basket in a popular spot where junk mail, magazines, and other mixed paper can all be collected for recycling. Or create a new system that works for you!

Challenge yourself to a zero waste day. In other words, try to go one whole day without throwing anything in the trash. Focus on



bbbbbb

Each month, replace one disposable item you use with a reusable version. Here are some ideas to start with: Refillable water bottles, a travel coffee mug (have them fill it when you buy coffee away from home), a stainless steel coffee filter, rechargeable batteries, reusable shopping bags, and refillable ink cartridges. Challenge yourself to replace something new every month.