



American Recycler

NewsVoice of Salvage, Waste and Recycling

AmericanRecycler.com

Switch to digital televisions expected to increase electronic recyclers' workload

Discarded televisions need to be diverted from landfills

by Brian R. Hook

The upcoming switch from analog to digital television at the start of next year may increase the amount of electronics dumped in landfills in the United States.

The numbers are staggering. Consumers are expected to get rid of 43.5 million television sets this year, 41.9 million in 2009 and 34.3 million in 2010, according to a consumer electronics trade group. But what will happen to these old televisions is hotly debated.

On one side are the environmentalists. Electronic waste is already the fastest growing portion of the waste stream, says Barbara Kyle, national coordinator of the Electronics Take-Back Coalition in San Francisco. She says the transition to digital televisions starting next year will only lead to a faster pace of consumers dumping old units.

On the other side is the \$161 billion United States consumer electronics industry. "There's never been a proven link between the purchase of a new television and the removal

of an old one," says Parker Brugge, vice president of environmental affairs and corporate sustainability at the Consumers Electronics Association in Arlington, Virginia.

Kyle strongly disagrees. "I think we're in for a pretty rude awakening when a lot of people in February 2009 wake up and aren't able to watch television," she says. "I think we'll see a spike in the number of televisions going into the trash sometime around February."

This could lead to health hazards, Kyle says, because televisions contain hazardous materials. Older televisions with tubes contain between four and eight pounds of lead. Most new flat-panel televisions contain less lead but the televisions have more mercury. Just 1/70th of a teaspoon of mercury has the potential to contaminate 20 acres of a lake, making fish unfit to eat.

Kyle expects most old televisions to go to landfills. "Sadly this

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PHOTO COURTESY OF EPC, INC.

Computer monitors are dismantled manually by employees at EPC, Inc.'s plant in Earth City, Missouri.

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Scrap coalition forms to unite against global trade barriers

United States exports tripled in recent years

As steel scrap prices reach record levels of more than \$600 per ton and with United States scrap exports steadily rising, a group of steel scrap-using industries has formed the American Scrap Coalition and urged immediate governmental action to remove global barriers to trade.

The United States steel scrap processing and consuming industries are facing a steel scrap export crisis. Steel scrap exports from the United States have tripled since 2000, rising from 6.3 million tons in 2000 to more than 18 million tons in 2007. Scrap exports have surged to a variety of countries, including Turkey, Taiwan, Malaysia, Thailand, India, Egypt, Greece, Hong Kong, Pakistan, Indonesia, Japan, Italy, Vietnam, Bangladesh and Colombia. China and Korea also remain

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Philadelphia moves to single stream

Philadelphia Mayor Michael A. Nutter announced that Philadelphia is now the largest city on the East Coast of the United States to move to citywide, single stream recycling. All Philadelphia residents are now allowed to put all recyclables into one bin - any bin.

"Single stream recycling has proven so effective in increasing the amount of recyclables collected, and we will build upon that success as we expand citywide," said Mayor Nutter.

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Keystone Pipeline expansion project set to serve the United States Gulf Coast

An additional 500,000 barrels of oil planned from Canada per day

TransCanada Corporation (TransCanada), on behalf of the Keystone Pipeline partnerships (Keystone) between TransCanada and ConocoPhillips, announced plans to expand the Keystone crude oil pipeline system and provide an additional capacity of 500,000 barrels per day from Western Canada to the United States Gulf Coast in 2012. The expansion is expected to cost approximately US\$7.0 billion. When completed, the expansion will increase the commercial design of the Keystone Pipeline system from 590,000 barrels per day to approximately 1.1 million barrels per day and result in a total capital investment of approximately US\$12.2 billion.

Plans to expand to the United States Gulf Coast follow successful negotiations with several prospective shippers who have agreed, subject to regulatory approvals, to make shipping commitments of approximately 300,000 barrels per day for an average term of 18 years during a binding open season. In addition, prospective shippers have also agreed to commit another 35,000 barrels per day to Wood River and Patoka, Illinois during a future open season expected in the third or fourth quarter of 2008. With these commitments, Keystone has now secured long-term commitments for approximately 830,000 barrels per day for an average term of 18 years. These commitments represent approximately 75 percent of the commercial design of the system.

“The Keystone expansion will be the first direct pipeline to connect a growing and reliable supply of Canadian crude oil with the largest refining market in North America,” says Hal Kvisle, TransCanada president and chief executive officer. “The Keystone Pipeline will be constructed and operated as an integrated system with delivery points in the United States Midwest and Gulf Coast.”

The Keystone expansion includes an approximate 3,200-kilometer (1,980-mile), 36-inch crude oil pipeline starting at Hardisty, Alberta and extending south to a delivery point near existing terminals in Port Arthur, Texas and, subject to shipper support, will include an additional approximate 80-kilometer (50-mile) pipeline lateral to the Houston, Texas area. With the addition of incremental pumping facilities, the Keystone Pipeline system could be further expanded from 1.1 million barrels per day to 1.5 million barrels per day.

PHOTO COURTESY OF KEYSTONE PIPELINE PARTNERSHIPS



During the binding open season, Keystone will seek additional shipping commitments from interested parties. Once Keystone completes the open season process, it will proceed expeditiously with the necessary regulatory applications in Canada and the United States for approvals to construct and operate the proposed facilities. Construction of the facilities is anticipated to commence in 2010, following the receipt of the necessary regulatory approvals. As a result, the majority of the US\$7.0 billion in additional capital investment required to expand Keystone to the Gulf Coast is expected to be made between 2010 and 2012.

Certain parties who have agreed to make volume commitments to the Keystone expansion have an option to acquire up to a combined 15 percent equity ownership in the Keystone partnerships.

TransCanada is responsible for developing, constructing and operating the Keystone pipeline and has initiated outreach activities with key stakeholders including local communities and landowners along the expansion route. It is expected that deliveries to Wood River and Patoka, Illinois will commence in late 2009. Deliveries to Cushing, Oklahoma are expected to commence in late 2010 and deliveries to the Gulf Coast are expected to begin in 2012.

During the binding open season period, which expires at noon (Mountain Time) on September 4, 2008, TransCanada, on behalf of Keystone, will accept binding bids from parties for firm transportation capacity for transportation of crude oil from Hardisty, Alberta to Port Arthur or Houston, Texas. The Keystone expansion project web page, www.transcanada.com/keystone/kxl.html, provides additional information about the project, including a summary of the open season documents and a map of the proposed pipeline corridor.

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Allied Waste partners with RecycleBank

Allied Waste Industries, Inc. and RecycleBank have announced a partnership to launch a nationwide recycling incentive program.

This partnership has the potential to bring together Allied Waste's seven million residential customers with RecycleBank's incentive program that enables households to earn rewards in the form of RecycleBank points for recycling. Households can redeem RecycleBank Points for gift cards, gift certificates and discounts to more than 400 national and local retailers across the country.

Participating retailers include Bed Bath & Beyond, Coca-Cola, CVS/pharmacy, Dunkin' Donuts, Evian, IKEA, Kraft Foods, Target.com and Whole Foods, among others. Participants can also con-

vert their rewards into donations for select charitable organizations. To date, over 100 million points have been awarded.

Currently, only consumers within nine Northeastern and Midwestern states have access to the RecycleBank program. Yet Allied Waste's national footprint will allow for potentially millions of additional residents from around the country to benefit.

By the end of 2009, Allied Waste and RecycleBank hope to add at least one million new residential customers to the program. Doing so could translate into an additional 800 million pounds of garbage being diverted away from landfills and into recycling centers every year. Plans include customization for commercial and industrial customers in the near future.

Participation in the program is simple. Customers are assigned an RFID (radio frequency identification) that is imbedded in their RecycleBank cart, in which they are encouraged to recycle all paper, plastics and metal — with no sorting necessary. In each community, Allied Waste picks up and weighs the recyclables collected. RecycleBank Points are then awarded to the community for each pound of recyclable materials, with the total amount evenly divided among all participating customers.

The Allied Waste-RecycleBank partnership will be launched in Dallas/Ft. Worth, Los Angeles and Minneapolis/St. Paul. It is expected that the program will expand to the remaining markets across the country during early 2009.

New coalition

Continued from Page 1

among the top five destinations of scrap exports.

Meanwhile, United States scrap imports in 2007 decreased 23 percent from 2006, from 4.8 million tons to 3.7 million tons, as numerous countries have erected trade barriers to restrict steel scrap trade and maintain their scrap for domestic use.

"Steel scrap trade does not occur on a level playing field," said Alan Price, president of the new American Scrap Coalition and a partner at Wiley Rein LLP in Washington, which serves as counsel to the Coalition. "More than 20 countries, including Brazil, Russia, India and China, have enacted a series of barriers to scrap trade in order to protect

their domestic steel industries." These barriers on exports are distorting trade in steel scrap, Price said, thereby raising scrap prices in the United States market. United States steel scrap prices have surged to unprecedented levels, from less than \$100 per ton in 2002 to more than \$600 per ton today. This has led to serious and growing concerns about domestic scrap availability.

In response, industry associations representing more than 1500 steel scrap consuming companies have announced the formation of the American Scrap Coalition, and are calling on Congress, the United States Trade Representative and the Commerce Department to immediately address scrap trade barriers.

"Many of our major trading partners maintain restrictions on their scrap exports, through quotas and other export restrictions," said Thomas Danjczek,

president of the Steel Manufacturers Association. "Our government should work immediately to remove these barriers, using any and all means available."

The American Scrap Coalition has identified several priority issues:

- Identify and remove barriers to trade in steel scrap, which hinder United States companies and global competition;

- Ensure that scrap exports are not permitted as an easy way around state, federal, and international environmental obligations; and

- Consider actions by Congress, the Commerce Department and the Office of the U.S. Trade Representative to remove trade barriers.

Sharp price increases and the potential for scrap shortages are having significant effects on important manufacturing sectors of the United States' economy. The rising cost and decreasing availability of steel scrap impacts all manufacturers, buyers and consumers of steel scrap. If actions are not taken to open markets abroad, the United States needs to consider taking more aggressive actions.

Philadelphia

Continued from Page 1

"Philadelphia's growing number of recyclers now have the freedom to use any hard sided bin for all their recyclables, as long as it has the word RECYCLING on it."

With the program in place city-wide, Philadelphia is now the largest city on the East Coast to have single stream recycling. Since the project began in 2006, recycling is up 35% in sections of the city with single stream. A total of 540,000 Philadelphia households are now able to place steel and aluminum cans, glass jars and bottles, newspapers, paper items such as food boxes, catalogs, magazines, and junk mail, cardboard and #1 and #2 plastics in the same container. Residents should check the bottom of plastic containers for the number to see if the item is acceptable. Residents may continue to use their blue recycling bins for curbside collection. Should one bin not be enough to hold all recyclables, residents may add another container and place a sticker on it or mark it "recycling."

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Winners chosen for international sustainable housing competition

Living Steel announced the winners of its 3rd International Architecture Competition for Sustainable Housing, which presented architects with the task of creating energy efficient, single-family, detached housing that minimizes climate change emissions and can withstand extreme temperatures yet is affordable to build and buy.

Australian firm, Peter Stutchbury Architects, represented by Peter Stutchbury and Richard Smith, was selected as the winner for extreme housing in Cherepovets, Russia, receiving the Jury Prize of €50,000.

The design was selected for its innovative approach and its awareness of local environmental and community requirements. The Jury's report stated; "Peter Stutchbury Architecture's scheme represents the kind of thinking the Living Steel competition is meant to inspire, offering a more considered, thoughtful and larger trajectory to the project brief requirements. It was the most memorable of all of the schemes offered in the competition, and the Jury made a majority decision to select it as the winning scheme for the 3rd International Architecture Competition for Sustainable Housing. It is radically different and has a very imaginative understanding of the landscape theme, and the suggested neighborhood plan provides an incredible playing field for children and a park-like setting for the community."

The Jury was hard pressed to select only one winner from a number of

entrants because of the high-quality designs and as a result, awarded Honourable Mentions to two additional teams; RVTR of Toronto, Canada, led by Kathy Velikov and Paul Raff, and Australian firm, Bligh Voller Nield (BVN) Architecture, and its team members Chris Clarke and Joel Kelder. Each team will receive a €3,000 prize.

Living Steel chose to change the format of the 2008 competition, bringing all 12 teams together in Helsinki, Finland, at Historic Suomenlinna for presentations to the Jury.

The participants watched from the audience as each team presented their design concepts and discussed their approaches with the Jury.

As the Jury entered deliberations at Hvitträsk, the 24 architects who made up the finalist teams were divided into four groups and tasked in a Design Charrette with master planning for the community. Mark Verdier, Professeur à l'Ecole Nationale Supérieure d'Architecture de NANCY, conducted a presentation on considerations for community planning. The groups were briefed on the Cherepovets development requirements and then given a day and a half to develop the community's master plan. To select the winning group, each team voted for one of the three other teams. The winning group which includes: Daniel Jenkins, ECD Architects, UK; Lourenço Gimenes, FGMF Arquitetos, Brazil; Pekka Pakkanen, Huttenen-Lipasti-Pakkenen Architects, Finland; Philip Wells, Hugh Broughton Architects, UK; Vimal Jain, ARCHITECTURE PARADIGM, India; and Fabio Cibinel, modostudio, Italy, will share a €24,000 Architects Prize.

Each team receives a €3,000 honorarium for participating in the competition, as well as their travel expenses to Helsinki paid by Living Steel.



The Jury Prize for extreme housing in Cherepovets, Russia was awarded to Peter Stutchbury Architects, Australia. Pictured are Peter Stutchbury, left and Richard Smith, competition team members.



Peter Stutchbury Architects' design.

Top Awards

JURY PRIZE FOR EXTREME HOUSING IN CHEREPOVETS, RUSSIA, FIRST PRIZE

Peter Stutchbury Architects, Australia.

ARCHITECTS PRIZE FOR MASTER PLANNING (DESIGN CHARRETTE)

Daniel Jenkins, ECD Architects, United Kingdom

Lourenço Gimenes, FGMF Arquitetos, Brazil

Pekka Pakkanen, Huttenen-Lipasti-Pakkenen Architects, Finland

Philip Wells, Hugh Broughton Architects, United Kingdom

Vimal Jain, ARCHITECTURE PARADIGM, India

Fabio Cibinel, modostudio, Italy

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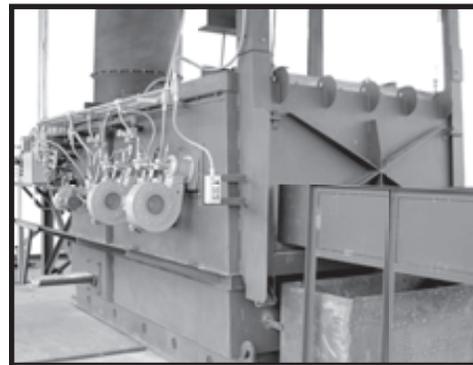
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Mattress recycling is strong in Montreal

Current Canadian law makes it illegal to renovate old mattresses

MattCanada is committed to improving the environment and it is willing to train potential competitors for free in order to do accomplish that.

According to founder and president Abdul Erdem, MattCanada receives many calls for advice from companies and municipalities in Australia, the United Kingdom, Ireland, France, and other countries.

Many new recycling companies fail, but Erdem is happy if they succeed. "Mattress recycling, however, takes time and knowledge and patience. If people are thinking of getting into this business to become millionaires, forget about it."

Based in Montreal, the company processes 20 to 25 percent of the mattresses going out of service in its region, and it dismantles between 500 and 1,000 mattresses a day. In the past four years, it dismantled 250,000 mattresses – recently moving to automation.

Although it also recycles couches, clothing, appliances, and other materials, mattresses constitute 90 percent of the volume handled. About 30 percent of each mattress is polyurethane, says Erdem, and MattCanada recycles 80,000 pounds of polyurethane every month. It cannot recycle straw mattresses or mat-

tresses that are waterlogged, nor can it recycle any polyurethane attached to metal.

MattCanada charges approximately \$10 for each mattress accepted, while a landfill tip fee is about \$5. Most companies, however, don't hesitate to pay a little more to help the environment. "If the big companies are willing," says Erdem, "anything is possible."

Some entities, mainly individuals, still send their mattresses to the landfill to save money. "With no regulations," Erdem points out, "it's tough to compete with that." He can foresee the day, however, when Quebec will pass laws requiring that many more things be recycled.

MattCanada has earned the trust of their clients. Unlike in the United States, it is illegal in Canada to renovate mattresses. MattCanada destroys most mattresses on the day they arrive, and they have security measures in place to guard against theft. Manufacturers know that any mattresses they send to MattCanada will not be rebuilt.

For more information on mattress recycling, contact the International Sleep Products Association by visiting their website: www.sleepproducts.org.

PHOTO COURTESY OF MATTCANADA



Stacked mattresses are stored until ready to be processed for recycling by MattCanada.

If #2 pencils are the most popular, are they still #2?



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Hawaii settles with Reynolds Recycling

The Hawaii State Department of Health (DOH) Solid and Hazardous Waste Branch has signed a Settlement Agreement with Reynolds Recycling, Inc. for violations of Hawaii's Deposit Beverage Container (DBC) law.

DOH assessed a total penalty of \$42,279, of which \$20,039 has been paid. Reynolds must complete three Supplemental Environmental Projects (SEPS), which include completion of a training video for use by certified redemption companies, conducting a Mystery Recycler Program, and implementing an Abandoned Cart Removal Program. Reynolds will be credited for a total of \$22,400 for the successful completion of these SEPS.

Reynolds has admitted responsibility for all violations stated in the enforcement case. Non-compliance will subject Reynolds Recycling to stipulated penalties of \$1,000 per day.

Pennsylvania DEP awards tire pile cleanup to Entech — 300,000 slated for disposal

The last of 6 million tires that once marred a Columbia County property and threatened surrounding communities will be removed by this fall under a contract awarded recently by the Department of Environmental Protection (DEP).

Entech, Inc. will process and remove the last 300,000 tires from the Starr property in Greenwood Township. The company worked at the site in 2007, having processed and removed approximately 1 million tires for beneficial reuse.

The \$447,000 contract requires Entech to remove the remaining tires from Area C of the Starr tire pile, as well as a few hundred heavy equipment tires elsewhere on the property. The work began in May to prepare Area C and the tires for processing and removal.

The tires are scheduled to be processed on-site beginning in early July.

Entech, of White Pigeon, Michigan, will use a shredder to cut each tire into 6- to 12-inch pieces. The pieces will then be transported via tractor-trailers to various locations for beneficial reuse.

The tires should be removed and the site re-vegetated by the end of September.

Last October, McGinty announced that North East and Central Rail Transportation LLC was the apparent low bidder for the tire removal, but the company was unable to fulfill the contractual requirements.

In 1987, the commonwealth issued an administrative order requiring the property owners, Max and Martha Starr, to stop accepting tires and provide an estimate of the number of tires at the site. After subsequent orders and appeals by the owners, the Starrs and DEP finalized terms of a legal agreement in March 2004

to clean up the 6 million tires that accumulated on the property.

Aside from a \$400,000 civil penalty for failing to remove the waste tires, the Starrs also had to relinquish operational control of the pile to DEP, but maintain liability insurance. Once all tires have been removed, the Starrs must sell the properties and give the proceeds to DEP.



Waste tire piles have plagued states for decades.

Televisions

Continued from Page 1

is still legal in a lot of states," she says, noting that only ten states have banned e-waste from landfills.

"More people understand that e-waste shouldn't go in the trash, but finding a good recycling option is a challenge. Some people are just hanging onto old televisions," she says, adding that a lot of unwanted televisions will be left in basements, garages and in storage.

Brugge, with the consumer electronics trade group, agrees that more people are hanging onto old televisions. But he does not expect an increase in the number of old televisions thrown in the trash as a result of the switch to all digital broadcasting in February.

Brugge says most of the old televisions will be moved into a different room of the house or put to different uses by consumers, like watching DVDs or playing video games.

The switchover also will not impact that many people, he says, pointing out that only 12 percent of households rely exclusively on over-the-air broadcasting. Cable and satellite subscribers do not need to convert to a digital television to receive signals. Of those that rely on broadcast signals, 48 percent of the households expect to buy a digital converter box to continue to receive broadcasts, according to recent survey results.

Research by the trade group also shows 95 percent of the televisions consumers plan to remove from their homes in the next three years will be sold, donated or recycled.

The U.S. Environmental Protection Agency (EPA) is not taking a stand on whether more televisions will be sent to landfills because of the switchover from analog to digital. "We are unable to predict how many televisions will enter the waste stream because of the digital transition," says Roxanne Smith, a press officer in Washington, D.C. with the EPA.

Regardless of the switch, the EPA estimates that 82.7 million televisions will enter the waste stream between

2008 and 2010. Roxanne says continuous changes in technology are spurring faster conversion rates, irrespective of the analog to digital transition.

To prevent additional televisions from entering the waste stream, the EPA encourages consumers to extend the life of over-the-air analog televisions by subscribing to a paid television service or connecting it to an analog-to-digital converter box. The EPA is also working with television manufacturers and retailers to increase recycling options for those consumers who choose to purchase a digital television and wish to donate or recycle the old television.

Smith cites a recycling program initiated by Best Buy. The retailer will remove unwanted televisions for recycling when a new set purchased at Best Buy is delivered.

"Recyclers may benefit from the push to increase public awareness of recycling opportunities in preparation for the digital transition," Smith says. She says recyclers need to remain adaptable to a changing environment. "Rapid product innovation is likely to continue. Recyclers will face a continually changing stream of materials," she says.

Dave Beal, vice president of recycler EPC, Inc. in St. Charles, Missouri, is already seeing more televisions. EPC, which recycles mostly computers, recycled around 80,000 pounds worth of televisions last year. Beal expects that number to double this year.

Beal says more education is needed to get consumers to recycle. "All of the television spots that are running talk about converter boxes. None of them talk about how to recycle old televisions," he says, adding that recyclers could advertise to capitalize on the switchover.

Education alone is not the answer, says Kyle with the electronics recycling advocacy group. She says that more regulation is needed. "The television industry needs to step up and take back televisions and make sure they recycle responsibly," Kyle says.

"Clearly they are not doing it on their own. So, we strongly support legis-

lation. We've seen what happens with voluntary efforts, and it's not much," Kyle says.

Out of the entire television industry, only Sony is taking back televisions, she notes. Sony launched its program last year. It takes back any products with Sony's name on it at Waste Management Recycling America eCycling centers throughout the country.

Twelve states plus New York City have already passed take-back laws. California also has a take-back program, but it is funded by consumer fees, not manufacturers.

Brugge, with the trade group representing electronics manufacturers, says

a shared responsibility would work better than forcing manufacturers to recycle.

"Retailers and governments not only have the best access to consumers, they also have the infrastructure necessary to facilitate the easy collection of recyclables," he says.

Brugge says a national framework for electronics recycling would eliminate confusion. "While we are not typically in favor of increased regulation, in this particular case, a national framework for electronics recycling is much preferred over the current patchwork of state and local regulations on electronics recycling," Brugge says.



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CHALLENGER

Dow Chemical to clean up dioxin contamination of a Saginaw neighborhood

The United States Environmental Protection Agency (EPA) Region 5 announced an agreement with Dow Chemical Co. that requires the company to clean up dioxin contamination in the Riverside Boulevard neighborhood of Saginaw, Michigan. Construction work in this neighborhood on the Lower Tittabawassee River began in late July and is expected to continue through the fall.

EPA data shows unacceptably high levels of dioxin contamination in yards, the unpaved Riverside Boulevard roadway and in the interior of some homes.

Last April, EPA took soil samples at the residential properties following discussions and consultation with the Michigan Department of Environmental Quality and the Michigan Department of Community Health.

The new agreement includes the excavation of residential yards, then backfilling with clean soil, interior cleaning of the homes involved, and remediation of all unpaved surfaces on Riverside Boulevard.

Dow's Midland facility is a 1,900-acre chemical manufacturing plant. Dioxins and furans are byproducts from manufacturing chlorine-based products.

Recycling services expanded in Omaha, Nebraska

RecycleBank™, a rewards program that motivates people to recycle, has begun service to households in the Omaha, Nebraska area and has seen a more than 100 percent increase in recycling in one month.

Through a relationship with Elkhorn Sanitation Service (ESS) and Firststar Fiber, RecycleBank will continue to rollout its program to several thousand homes in the area during the next few months.

ESS has teamed up with Firststar Fiber, the single-stream recycling facility in Omaha. Together, these two companies are enabling ESS households in West Omaha, Papillion, LaVista, Gretna, Elkhorn and Bennington, Nebraska, to participate in the RecycleBank program. ESS is providing participating households with a 96 gallon recycling cart, outfitted with an RFID (Radio-Frequency Identification) tag that allows RecycleBank to track the total weight and participation of households' recycling. Within the first month of participation, households have more than doubled the amount of recyclables from 22 pounds per household to 47 pounds per household.

For RecycleBank, this expansion to the Midwest marks the beginning of the company's rapid growth outside of its roots in the East Coast.

Currently, RecycleBank is in more than 75 municipalities throughout Pennsylvania, Delaware, Massachusetts, Vermont, Connecticut, Nebraska, Virginia, New York and New Jersey. To date, RecycleBank households have already diverted more than 36 million tons of recyclables from landfills, saved 24 million gallons of oil and more than 360,000 trees.

Partnership enhances recycling in Florida

Smurfit-Stone Container Corporation's recycling division has partnered with Advanced Disposal Services Inc., to operate Advanced's materials recycling facility (MRF) in Jacksonville, Florida.

"Our partnership with Advanced Disposal will complement Smurfit-Stone's existing recycling facility in Jacksonville and will help both companies achieve their recycling goals by digging deeper into the waste stream," said Mike Oswald, senior vice president and general manager of Smurfit-Stone's recycling division. "With more capacity and greater capabilities, we'll be able to better serve customers in this area while focusing on greater efficiencies between the operations."

"But doctor," lamented the young husband in counseling, "whenever Sue and I quarrel, she becomes historical."

"You mean hysterical," lectured the doctor.

"No! Historical. She is always digging up my past."

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A Closer Look

by Donna Currie

Intercon Solutions

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Brian Brundage, CEO of Intercon Solutions, didn't plan on getting involved in recycling. "My family has always been in the automotive recycling industry," he said, and he didn't think he'd follow in those footsteps.

However, with Intercon, he saw a need for what he called a proper electronics recycler, "without a negative impact on the environment." He explained that while other electronics recyclers were claiming that none of the material was landfilled in the United States, that wasn't enough for him. "We don't landfill anywhere," he said.

What Brundage saw in the industry was a trend for electronics recyclers to salvage parts and resell working electronics. "That's not true end-of-life recycling," he said. "We recycle for raw base metals."

Intercon demanufactures the electronics they recycle, and all of the work is done by hand. Brundage said that's the only way to make sure it's done correctly. "To us, it's not about the amount of work; it's about doing the job right." Most of the material that Intercon receives is from manufacturers, and the second largest source is government entities.

Brundage noted that while some electronics recyclers offer their services for free, Intercon charges a small fee. "But it's the last time you have to worry about that component," he said. "Customers know that it's done 100 percent right."

Brundage said, "We do processing for the DOD [Department of Defense]," a particularly sensitive customer when it comes to data security. The hard drives that Intercon processes are completely dismantled, ensuring that the data can't be retrieved. "That's why the demanufacturing is so critical. When it leaves here, it's aluminum for smelting. We make sure they [the customers] don't have to worry," he said. As far as the aluminum from those drives, "It's going to be lawn furniture next year," Brundage said.

It's not all about assurances, though. Intercon has the data to back up its claims. The company is in the process of becoming ISO 9001 certified. "It's pretty expensive to do that," Brundage said, but he feels that the certification is important. "We have a third party come in and audit the whole process," he said.

Intercon has about 55 employees, 35 of whom work on demanufacturing, which is a big change from the two employees that were on staff when Brundage bought the company in 2000.

In the electronics industry, one big change Brundage has seen is in the states' regulations for electronics recycling. Many states have their own regulations, while others are still unregulated. Brundage foresees that there will be federal regulations soon, because the state laws are so inconsistent. "It will be interesting to see what happens in two to five years," he said. "There needs to be blanket regulations." Along with making laws the same throughout the country, he said that, "it will help to fund some of the proper recycling that we do."

Brundage is expecting to see a surge in the volume of electronics recycling soon because of the upcoming change from analog to digital broadcasting. But along with growth comes challenges, including finding good quality people, putting systems in place, and managing growth. Brundage is getting ready for those challenges. He expects to see his business grow by 200 percent over the next two years, but, "as much as we're growing, we can still handle new business," he said.

The company growth, Brundage said, "is like expanding your family." The new jobs "provide for employees and their families."

Along with government and business changes, Brundage said that he has noticed a change in the public attitude towards recycling. He said, "All of a sudden, green is cool. People respect what we do."

Even without public acknowledgement, Brundage said he enjoys the fact that his company is making a positive impact on the environment and he's particularly proud of Intercon's zero-landfill tolerance policy. "What we're doing is really making a difference," he said.

Even better, Brundage's seven-year-old son is "into recycling." Brundage said that his son tells people, "My dad is in recycling - he's helping to save the earth." That's about as cool as any dad can be. And by the time this article is published, Brundage expects that his second son, another future recycling fan, will be born.



—Brian Brundage

PAPER

Recovered paper prices to hit record high

Prices for recovered paper will ascend to a new peak in 2009 following a sustained increase in paper and paperboard output and recovered paper consumption, says David Clapp, senior economist of recovered paper at Resource Information Systems, Inc. (RISI).

Clapp reveals his expectations for the recovered paper industry in RISI's most recent quarterly World Pulp & Recovered Paper Forecast, identifying the West as the primary driving force behind the surge in output. The United States' single largest export is waste paper, sending the majority of it — over nine million tons annually — to China.

China is the biggest buyer of recovered fiber in the world and is rapidly increasing their recovered paper mills' capacities to meet the tremendous

demand. Chinese recovered paper producer Nine Dragons plans to double its capacity to nearly ten million tons by 2009, while Lee & Man Paper strives to top five million tons in that same year.

Because of the soaring price of recovered paper, Clapp predicts producers will begin to seek out alternative sources of fiber and invest in virgin (containing no recycled fibers) pulping capacity. He believes that although recovered paper will still play a dominant role in papermaking, new investments into recovered paper will decelerate while other pulp options are explored. Clapp specifies, "Pulp sources like bamboo and eucalyptus in South Asia and Latin America and spruce and fir in Russia will be an increasingly attractive alternative to recovered paper as we move through the current decade."

Smurfit-Stone wins honor from Pulp & Paper Safety Association

Five Smurfit-Stone Container Corporation facilities received top honors and a total of 30 were recognized for their outstanding safety achievements at the Pulp & Paper Safety Association's (PPSA) annual conference.

Smurfit-Stone's Hodge, Louisiana, mill and Williamsport, Pennsylvania, container plant earned the PPSA's 2007 Award of Safety Excellence by achieving the best safety records in their categories for three consecutive years. The industry safety association presents only three awards in this category each year.

The Hodge mill recently achieved a major safety milestone by becoming the first mill in Smurfit-Stone's history to work more than three million hours without a recordable injury.

Smurfit-Stone's Oakland, California, recycling plant and Homerville, Georgia, sawmill were recognized with Best One-Year Safety Record awards for

having the lowest incident rate in their categories in 2007 as defined by the standards set by the Occupational Safety and Health Administration (OSHA). Both facilities completed the work year without a single OSHA recordable incident.

Smurfit-Stone's St. Louis recycling plant received the Most Improved Award for showing the greatest improvement in its category over the previous three years. The plant had no reportable incidents or injuries in 2007.

Smurfit-Stone's operations worked more than 50 million hours in 2007 and finished the year with the lowest rate of injuries and number of days lost due to occupational injuries and illnesses in company history.

The company decreased its rate of injuries and illnesses by nearly 10 percent compared to 2006, and reduced the number of days lost due to occupational injuries and illnesses by 48 percent.

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PAPER

Clean up at International Paper in Virginia completed

The United States Environmental Protection Agency (EPA) announced that the clean up at International Paper's Franklin, Virginia facility has been completed. International Paper utilized the EPA's Facility Lead Program.

The clean up, completed on the 3,660-acre site, will continue to be monitored by International Paper under the supervision of the Virginia Department of Environmental Quality.

EPA's final decision prohibits any residential use of the site and prohibits the use of groundwater from the upper level aquifer. It also requires International Paper to implement a water monitoring program and conduct regular inspection and maintenance at the site which has been covered with an impermeable cap.

The site is located on the Blackwater River in Isle of Wight County, eight miles from the North Carolina state line.

The corrective action was undertaken pursuant to the Resource Conservation and Recovery Act. However, instead of

issuing a corrective action permit requiring work to be done under a highly restrictive legally mandated structure, EPA invited International Paper to join and perform the clean up under EPA's Facility Lead Program (FLP). This program invites businesses like International Paper, which meet certain standards of environmental citizenship, cooperation and technical ability, to complete the required clean-up on a more self-directed track, while still under the supervision of EPA.

As part of the corrective action clean up, International Paper conducted a site characterization which included surface and subsurface soil sampling, sediment and surface water sampling and groundwater sampling.

Prior to, and following the samplings, International Paper completed work involving the removal of waste materials from several on-site solid waste management units, including: the removal of 37,422 tons of lime mud and soil; and 9,519 tons of tall oil and solids.

Sonoco closes paperboard mill

Sonoco, a global packaging company, will permanently close its Montreal, Quebec, Canada uncoated recycled paperboard mill, effective August 27, 2008, according to James Harrell, division vice president and general manager, Paper North America.

The mill has the capacity to produce 48,000 tons annually of primarily heavy-

weight coreboard that has been principally used for the Company's internal converting operations. The plant closure will impact 53 employees. The Company will offer severance benefits and outplacement assistance to employees.

Sonoco will maintain paperboard operations at two mills in Ontario, Canada to meet its customers' supply needs.

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ELECTRONICS

E-waste legislation expands in United States

by Irwin Rapoport

Tackling the issue of e-waste and e-cycling in the United States will not be an easy one, but according to Barbara Kyle, national coordinator for the San Francisco-based Electronics TakeBack Coalition (ETBC), pressure is mounting in the form of state “producer responsibility” legislation and landfill bans for electronic equipment.

While figures vary, Kyle notes that one industry association estimates that Americans – individuals, companies, institutions and government – dispose of 400 million units of electronics annually.

According to a 2005 EPA study, 85 percent of this material is either landfilled or incinerated, with the remainder diverted to recyclers.

“But most of that material gets exported – the recyclers don’t recycle it,” says Kyle. “Not a lot of it is being reused or recycled. From what the recyclers tell us, 50 to 80 percent of what is collected for recycling gets exported.

There are some good recyclers that are doing the right things and making money.

—Barbara Kyle

“Many of the companies who are truly recycling (and not simply exporting) electronics are also promoting reuse,” she adds. “If the whole unit can be reused, they will refurbish it. Component parts can be reused and the rest of the computer has to be sorted into separate material streams and be processed to be recycled into other materials.”

While California has SB20 (2003), which charges consumers an up-front recycling fee for the purchase of computer monitors and televisions – the money collected is placed into a fund to pay for recycling, the other states with e-cycling laws follow the principle of “producer responsibility” legislation.

The 15 states with producer responsibility legislation are Maine (2004); Maryland (2005); Washington (2006); Connecticut, Minnesota, Oregon, Texas and North Carolina (all passed in 2007); and New Jersey, Oklahoma, Virginia, West Virginia, Missouri, Hawaii and Rhode Island (all passed in 2008).

New Hampshire and New Mexico have legislation in place.

Illinois’ legislation passed both houses July 10 and is going to the governor for signature.

New York City, the first municipality to do so, recently passed its e-waste legislation. Thus far, 19 states have considered e-waste bills.

In general, this legislation requires electronics manufacturers to be responsible for collection and disposal of their old products, and set up programs to collect their old products at reasonably convenient locations. As well, manufacturers must register with state environmental agencies and pay registration fees to cover state costs for recycling programs.

The majority of the state laws will take effect in 2009 and Kyle anticipates that states considering similar legislation will be heartened by the results.

“The California model is dead,” says Kyle. “It’s not going to be passed anywhere else in this country. Those bills don’t even get out of committee anymore. The manufacturers’ coalition of television companies led by Panasonic, Philips and Sharp that was promoting is gone.

“Panasonic has made statements acknowledging that producer responsibility is the way to go and it has formed a recycling company with Sharp and Toshiba to meet their obligation in Minnesota and presumably will move it to other states,” she adds. “There are variations between producer responsibility laws – some are stronger than others, with some that only apply to computer companies and not televisions.”

Kyle does not support SB20 because it removes the emphasis of producers to be responsible for their products.

“At some point, the light has to go on for them to say, we must be able to save some money if we make products that are more recyclable,” she says. “A key concept of producer responsibility is that it helps motivate green design. If Hewlett-Packard, as they do, claims that their products are more recyclable, than theoretically they are adding less money into their internalized price to cover the cost of recycling.”

STATES AND CITIES WITH LANDFILL BANS FOR E-WASTE (Both in effect and scheduled for implementation)	
Arkansas	New Hampshire
California	New Jersey
Connecticut	New York City
Maine	North Carolina
Massachusetts	Oregon
Minnesota	Rhode Island

Minnesota is considered to have the strongest law due to the specific goals that are tied to companies and which have to collect and recycle 60 percent of the video display licenses they sold in previous years by weight within the first year of the program. The percentage increases in subsequent years.

Most state legislation covers monitors, laptops and monitors, with some adding faxes, printers and mice.

“We have basically been working on these bills since early this decade and now things are getting more aggressive as far as the scope of products and performance measures,” says Kyle, who notes that performance goals are key to act as drivers to get manufacturers to make the effort to secure the return of their products.

Some state legislation allows companies to pay into a central fund to cover the costs of state-run program. Kyle says this costs more per pound and serves as an incentive for companies to establish their own programs.

Because export law is a federal jurisdiction, states cannot forbid the export of e-waste to developing countries. The export of e-waste to developing countries such as China, Vietnam and to Africa is

raising concerns about the export of hazardous material, the use of child labor and recycling processes that are not environmentally friendly.

The ETBC would like to see the federal government enact legislation that would ban the export of toxic materials to developing countries.

Kyle notes that it is impossible to fully recycle electronics in the United States. “We don’t have the smelters that can handle circuit boards and we only have one smelter for glass and it has very limited capacity,” she says. “The glass and circuit boards have to be exported and we want them to go to the developed world, to the best smelters in the world.”

America did not ratify the Basel Convention, covering the trade of toxins between nations. By exporting electronics to developing nations, Kyle says the United States is violating their laws.

“We should not be trading with the countries that are party to that agreement because we did not ratify it,” she says. “But they are not pressing charges against the United States because they have very limited enforcement of their laws, especially on health and safety issues, which is another reason why we don’t want our stuff to go there.”

These products, says Kyle, should be sent to Japan and Europe, particularly Belgium and Scandinavia, that have the proper smelters and have profitable operations.

“The links are there and plenty of people are using them,” she says. “There are some good recyclers that are doing the right things and making money. It’s not impossible.

“And now it is coming back in children’s jewelry,” she adds. “It has been documented that some of the lead solder from e-waste in China is in these products. The Wall Street Journal made the connection between the people melting down the solder off circuit boards and then selling it to other metal companies that are selling it to the jewelry companies.”

In passing landfill bans for e-waste, which often occurs when new legislation is enacted, states begin to build an e-cycling infrastructure. “It’s a really good start and that is what many are doing – it’s happening at a fairly robust pace,” says Kyle.

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ELECTRONICS

Goodwill computer refurbishment has multiple rewards

by Irwin Rapoport

More electronic equipment, particularly computers and accessories, could be refurbished and upgraded for the secondary market in the United States, says Christine Nyirjesy Bragale, director, media relations and spokesperson for Goodwill Industries International (GII).



—Christine Nyirjesy

Goodwill's 168 local agencies across the country (excluding Alaska and Utah) operate stores in which various products are sold for reuse, with the revenues generated to fund job training and other related programs.

In 2005, GII received 27 million pounds of electronics, the equivalent of 963,000 computers, via donations. In 2004, local Goodwills received 23 million pounds, equivalent to 821,000 computers.

"The numbers vary from place-to-place, but nearly 30 percent of the electronics we receive are unusable," says Bragale. "We receive a wide range of computers. Some can be resold as is, some need repairs and we try to do whatever possible to refurbish and resell the equipment. There are instances where it needs to be demanufactured and the parts recycled. A number of Goodwills have Computer Work stores where they will sell different computer parts and pieces."

In addition to promoting the recycling of computer equipment, the demanufacturing and refurbishment facilities provide a work component to Goodwill in terms of jobs and job training for computer repair and refurbishment in the private sector.

"They create jobs and we train people how to fix computers," says Bragale. "We love those great working computers because there are a number of Goodwill locations where they give computers to their program participants and provide them with on-line career training."

But taking in tremendous amounts of computer equipment also creates problems, particularly the cost of disposal in an environmentally responsible way.

"It is very costly," says Bragale. "For every dollar that we spend disposing of something that we cannot sell and use, that is \$1 we don't have to spend on job training programs."

Because disposal costs bite into revenues, the national leadership is calling upon Congress to enact legislation that would provide a solution to help with the development of sustainable national recycling and reuse infrastructure for unwanted electronic products.

"Product design changes could facilitate the re-use, disassembly and recycling

of products," says Gerardo Castro, director of contracts and environmental services at Goodwill Industries of Southern California, in recent testimony before the House Committee on Science and Technology. "Standardized chargers for cell phones are an example of design changes that would add minimal costs to the product while achieving substantial impact in the reuse area."

Bragale says there should be federal tax credits for manufacturers who partner with social agencies, as well as grants and other kinds of initiatives that "are going to spur good solutions and help people and organizations that can handle that problem. Goodwill is a natural stop in the life-cycle of computers and pretty much anything in your house that you don't want anymore. We are looking for support



Goodwill employees, many with disabilities, refurbish or recycle donated computers as part of the e-waste program.



Two women enjoy shopping for a computer at their local Goodwill store.

because charities cannot bear the cost of disposing of these items. The ultimate goal is an environmentally sound recycling system, whatever the nuts and bolts are. The whole point is to keep the material out of the landfill."

Goodwill is seeking federal legislative help to assist in the development of a sustainable infrastructure, support incentives to manufacturers for product design changes and to offer recycling grants and other initiatives to help stakeholders handle this problem.

Due to the quantity of computer equipment that Goodwill receives, most of its organizations do not have advertising campaigns to secure computer-related items.

"In San Francisco, the Goodwill there has a campaign of 'Goodwill, not landfill' and that is for all items," says Bragale. "There are 25 Goodwill organizations that work with Dell under the Dell Reconnect Program. We have been working with Dell since 2004 and the program is growing. Together, we have collected 32 million pounds of computers."

Goodwill recently launched Dell partnerships in the greater Rochester (July 3) and Buffalo (June 16) areas in New York State.

Goodwill allows local associations to develop programs and relationships with city and state governments to meet local needs. Goodwill does not have national guidelines on what type of computer equipment to accept, with some local organizations taking anything, some taking equipment that is a few years old and others not accepting any items.

Goodwill has approximately 40 computer recycling facilities nationwide, including Austin, Texas; Pittsburgh, Pennsylvania and Sacramento and Santa Anna, California.

Taking a computer apart does not require sophisticated tools, but having tech-savvy employees is essential as they can quickly determine which parts require replacement and which parts, such as video cards, can be sold as parts.

Barbara Kyle, the National Coordinator for the San Francisco-based Electronics TakeBack Coalition (ETBC), says reuse is where there are more options.

"Sadly, most of the big computer makers don't make their equipment to be fully upgradeable," she says. "You can upgrade the memory and other things, but they are not made to keep up with processors."



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ON TOPIC — Q & A

by Irwin Rapoport

Electronics Recycling

The growing awareness at all levels of society to the problems associated with the disposal and recycling of electronic products, especially computers, monitors and televisions, is being translated into legislation at the state and municipal levels.

Many are calling upon Congress to step in and bring forward legislation to set basic standards for the United States, with an emphasis on persuading citizens, companies and institutions to do their part in ensuring that e-waste is dealt with in an environmentally-friendly way.

American Recycler recently interviewed House of Representative Member Mike Thompson (D-CA), co-chairman of the Congressional E-Waste Working Group, for the latest developments on the drafting of federal legislation.



—Mike Thompson

Will the federal government establish a nationwide ban on the landfilling of electronic goods and if so, when could this be implemented?

Thompson: It is extremely important that Congress address the growing amount of e-waste, which poses a serious risk to the environment and public safety. The stakeholders involved understand it will be easier to comply with a federal e-waste program, rather than a patchwork of state laws. The Congressional E-Waste Working Group's (CEWG) intention is to introduce legislation that would create a national program, and we hope to introduce the bill as soon as possible.

to craft the bill. We aim to get the bill finalized as quickly as possible; however, it's critical that this bill is carefully crafted.

Is the issue of e-cycling legislation a bipartisan issue or will it require that one party has effective control of the Congress and the presidency?

Thompson: The CEWG is a bipartisan effort including members from both sides of the aisle and both sides of the Capitol. The issue of e-waste is not a political one, and I do not anticipate any trouble finding support from either party.

What type of electronics would you like to include in national legislation?

Thompson: Any cathode ray tube, flat panel screen, or similar video display device with a screen size greater than four inches measured diagonally, and any central processing unit, which would cover desktop and laptop computers.

Individual states are passing producer responsibility laws in terms of dealing with e-waste. Should there be a level-playing field across the nation and how would federal legislation mesh with existing state legislation?

Thompson: I am pleased that 13 states and New York City have adopted e-waste laws and 20 more states have proposed bills. That being said, it is also important to consider the issues that arise from a patchwork of fifty different state regulations. The CEWG's concept paper addresses this problem by setting high standards for federal certification of state programs; at the very least, states will have minimum benchmarks to meet.

Can the federal government restrict e-waste exports to nations that already have an established e-cycling infrastructure and standards that guarantee that such products are deconstructed and recycled in a way that is environmentally sound?

Thompson: We are currently developing legislative language that would address the export of e-waste, so it is too soon to discuss details. But the public health and environmental impacts of e-waste are the primary reason we are working to address this problem.

What is the state of the negotiations regarding the proposed federal legislation on e-cycling and when do you expect legislation will be introduced into the House of Representatives and the Senate?

Thompson: A few months ago, the staff of the CEWG released a framework for the legislation and solicited feedback from stakeholders. We are currently reviewing their comments and beginning

ELECTRONICS

Comcast collects more than 70,000 pounds of e-waste

Denver-area residents responsibly recycled their unused televisions, computer monitors and other e-waste at Comcast Colorado's Screen to Green Recycling Rally held in June in Denver. More than 70,000 pounds of e-waste, including nearly 1,000 screens and computer monitors were collected at the event in four hours.

Denver-area residents were able to drop-off their unused electronics for a reduced rate at the event where e-waste recyclers Guaranteed Recycling Xperts (GRX) and Waste Management collected the e-waste and prepared it to be responsibly recycled. On average, each participant recycled about two screens per vehicle. In addition to recycling, participants received a mini-education on electronics recycling through the event's e-Waste Education Alley that was staffed by volunteers armed with knowledge and facts about electronics recycling.

Participants learned that electronic waste, including televisions, if improperly disposed could become toxic waste. Electronics are full of toxic materials such as

lead, mercury and beryllium and other elements that if not responsibly managed, could be harmful to people and the environment. Also, each television or computer monitor may contain up to eight pounds of lead. When televisions and other e-waste are discarded and crushed in landfills, they may leach chemicals into groundwater and pollute the air. The Screen to Green Recycling Rally provided residents with the opportunity to responsibly recycle their electronics and keep them out of local landfills.

In addition to keeping electronics out of landfills to protect the environment, recycling has additional benefits. For example, valuable resources such as precious metals, plastics and glass can be extracted and reused. According to the EPA, reusing and recycling these materials from end-of-life electronics conserves natural resources and avoids air and water pollution as well as green house gases that are emitted by the manufacturing of new products.

Former Fujicolor employee pleads guilty to environmental crime

Gerald Lakota, a former employee of Fujicolor Processing, pleaded guilty to willfully concealing and covering up a material fact in reports required to be filed under the Clean Water Act, the Justice Department announced.

According to a plea agreement, while employed at Fujicolor's film developing facility in Terrell, Texas, Lakota was responsible for environmental compliance at the plant, which included preparing and submitting the plant's wastewater Discharge Monitoring Reports.

In order to ensure compliance with the plant's monthly Discharge Monitoring Reports, Lakota selectively screened or "cherry-picked" samples of the facility's wastewater effluent. Samples that were out of compliance with the facility's pre-treat-

ment permit for silver were not reported on the Discharge Monitoring Reports as required by the facility's permit. The film finishing process at the facility generated a significant amount of process wastewater that contained silver.

Using this sampling process, Lakota falsely presented the analysis of the final "good" samples as representative of the facility's discharge, when he knew this was not true, and created the false impression that the facility was meeting its effluent limits required by the discharge permit.

Lakota was charged in the Northern District of Texas and pleaded guilty in U.S. District Court for the Eastern District of Tennessee. He faces up to five years in prison, a \$250,000 fine, and five years of supervised release.

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ELECTRONICS

United States Postal Service launches e-waste recycling program

The United States Postal Service is developing a free national collection program for small electronic items.

The pilot program provides envelopes with pre-paid postage for patrons to deposit their digital cameras, printer cartridges, MP3 players, cell phones, and PDAs. International recycling company Clover Technologies Group will process the devices in its United States and Mexican facilities to refurbish and resell them, if possible.

Now limited to select cities, including Chicago and Los Angeles, the program may expand nationwide in the fall, and it eventually may accept a wider range of devices. "It doesn't cost us anything because [Clover] is paying for postage on the envelope," said Joanne Veto, a post office spokesperson. "For us, it's a really smart thing to do."

The program would be a de facto national electronic recycling program - the first for the United States. As the only industrialized nation not to ratify the 1989 Basel Convention, which requires its signatories to notify developing nations of incoming hazardous waste shipments, many environmentalists have criticized the country for its lack of action to reduce the international spread of electronic garbage, known as e-waste.

Americans discard at least 2 million tons of household electronics each year, according to the Environmental Protection Agency (EPA). Less than 20 percent of that e-waste is recycled, although

state-led initiatives are beginning to improve this recycling rate. Once recycled, however, e-waste is frequently sold to brokers who ship it to the developing world, where it is often dismantled with little regard for worker safety, then burned in the open air or dumped into bodies of water.

The postal service program made it a priority to avoid sending e-waste to developing countries. "Are all these shipped to non-approved third world countries? No. Not at all. That was a big concern of the contract," said Eric Martin, Clover's vice president of sales.

If a product is not recycled, it is shipped internationally to smelters that strip the item of its plastics and metals. The remaining waste - in some facilities as little as half of one percent of the total collected waste (by weight) - is burned as fuel. But even the best industry practices are incapable of removing all e-waste toxins. A typical cell phone, for example, contains hazardous lead, beryllium, chromium, arsenic and flame retardants.

While the United States is among the leaders of e-waste production, it is not alone. According to the United Nations Environment Program, the world produces 50 million tons of e-waste each year. But while the United States has encouraged manufacturers to reduce hazardous waste in their products on a voluntary basis, the European Union has made such reductions mandatory.

Kraft Foods and Terracycle sponsor recycling program

Kraft Foods announced a partnership with TerraCycle, a company that takes packages and materials that are challenging to recycle and turns them into affordable, high quality goods.

The partnership will expand the number of collection sites TerraCycle has available across the country and will help prevent a significant amount of packaging waste from going into landfills.

Kraft will become the first major multi-category corporation to fund the collection of used packaging associated with its products. Several Kraft brands, including Balance bars and South Beach Living bars, Capri Sun beverages, and Chips Ahoy! and Oreo cookies, are now the lead sponsors of TerraCycle Brigades. These nationwide recycling programs make a donation for every piece of packaging a location collects.

"Sustainability is about looking out for future generations. Kraft is proud to partner with TerraCycle, an innovative company that has made it their mission to reduce the impact on landfills and to educate consumers on the importance of recycling," says Jeff Chahley, senior director, sustainability, Kraft Foods.

To encourage more recycling, each program is free to individuals and organizations looking to participate and all shipping costs are paid. Once the used packaging items are collected, TerraCycle upcycles each material into an eco-friendly product because it's made from waste.

The Energy Bar Wrapper Brigade collects used bar wrappers and donates two cents for each wrapper collected. TerraCycle has found a unique way to braid these wrappers into colorful, durable purses and backpacks.

The Cookie Wrapper Brigade collects used Nabisco cookie wrappers and donates two cents for each wrapper collected. TerraCycle will fuse the wrappers together into sheets of waterproof fabric, which then can be made into umbrellas, shower curtains, backpacks, placemats and much more.

The Drink Pouch Brigade collects used drink pouches and donates to participating school or community groups two cents for every pouch collected. The used pouches are then sewn into tote bags, handbags and other durable items that will be available as early as April 1st at several major retailers.

By encouraging people to rethink 'what is waste,' TerraCycle is making it simple for consumers to have a positive impact on the environment. And with a monetary reward as incentive to recycle, the programs help schools, community groups, and non-profits across the country earn funds to support local activities.



Used packaging materials are collected and upcycled into eco-friendly products.



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METALS

Georgia Power cracks down on copper theft

Rising prices for copper have led to increased thefts from utilities, construction and industrial sites, creating a serious problem throughout Georgia.

Georgia Power has been no exception. As the price of copper goes up, Georgia Power has seen a steady correlated increase in the number of thefts, attempted thefts and break-ins at substations,

from the poles themselves and other property locations.

In the past two years the average price of a pound of copper has gone up almost 200 percent. But from 2005 to 2007, the number of wire theft cases the company has investigated has gone up more than 500 percent, while losses have increased more than 600 percent.

“We actively investigate all thefts or attacks on our property,” says Philip Peacock, investigations supervisor for Georgia Power. “We work closely with local law enforcement to identify and prosecute anyone who does something like this. Arrests of individuals involved in these thefts from Georgia Power have increased more than 900 percent.”

Not only is there a financial impact to the company, there are significant safety implications as well. When thieves target electric lines and equipment they put themselves, utility employees and, potentially, residents in danger.

Many substations receive power at 500,000 volts and reduce it down to about 11,000 volts, which is still a lethal dose.

These thefts also threaten the operation of the electric grid, which can cause widespread outages and endanger employees working on lines.

The company has initiated a number of programs to tackle the problem. Security has been increased at all company locations. Peacock says, where possible, copper wire in the system is being replaced with steel-clad wire, which has little value in the scrap metal market.

In addition, the Georgia legislature passed a new law in 2007 increasing the penalties for anyone who steals or knowingly recycles stolen copper.

Alter exec named CFO of the Year

Keith Rhodes, CPA, chief financial officer and vice president of finance of Alter Trading Corporation, was named 2008 CFO of the Year at the inaugural St. Louis Business Journal CFO of the Year Awards.



—Keith A. Rhodes

The awards were developed to honor St. Louis-area chief financial professionals in the St. Louis region for outstanding performance in their roles as corporate financial stewards. An independent panel of academic and finance-industry leaders selected Rhodes as the CFO of the year in the large private company category. In total, there were 70 nominees, 15 finalists and five category winners.

With new acquisitions always on the radar, Alter has reached nearly \$2 billion in annual revenue and is generating record profits. Leading the charge is Rhodes, Alter's CFO for the past 11 years. Rhodes has successfully led the senior management team in developing strategic plans for growth, investing \$100 million in capital improvements over the past four years (not counting acquisitions), and acquiring nine companies. In addition, he converted Alter's information systems to an integrated database environment, developed an industry-leading payment solution to better serve suppliers, and pioneered new branding and marketing initiatives.

Prior to joining Alter in 1997, Rhodes served as president of Homestar Industries, a building products manufacturer. Rhodes currently serves as a member of the board of directors for the Association for Corporate Growth - St. Louis.

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METALS

New Kentucky law helps authorities stem metal thefts

A new Kentucky law will help combat copper metal theft across the state. The new law became effective on July 15, 2008 and gives law enforcement authorities valuable new tools to help curb the growing trend of copper metal theft.

“Kentucky residents are put at risk by these thefts, which can cause phone service outages that leave people without access to 911 emergency services,” said Joan Coleman, president of AT&T Kentucky. “The new law will help police catch thieves and makes it harder for thieves to profit from such thefts.”

Coleman said the passage of the new law was the result of leadership by the bill’s sponsor, representative Mike Denham of Maysville, as well as Gov. Steve Beshear, who signed the bill into law on April 11, 2008. The bill passed both legislative chambers unanimously.

By requiring scrap metal dealers to keep records related to resale transactions, the law is expected to deter metal thefts and make it easier for police to apprehend criminals.

The law, originally House Bill 106, establishes stronger record-keeping

requirements for metal sales to scrap dealers. Scrap metal dealers must register the date and time of the transaction, description of the metal and the amount paid. In addition, scrap metal dealers must retain for two years, the seller’s identification information, including a copy of the photo ID of the seller and tag number of the vehicle used to transport the material. They must also retain the metal material in its original form for three business days or keep a digital photograph of the material.

The bill, similar to laws passed in more than 30 other states, was backed by many Kentucky associations and companies in the telephone and electric industries as well as law enforcement officials.

Such thefts are on the rise nationally, particularly as the price of copper has increased over the last several years. Thefts in Kentucky have included copper wire from power poles, electric substations, construction sites and telecommunications companies. Nationally, copper thefts have caused power and 911 service outages in entire neighborhoods and knocked out railroad signals. Repairs and replacement can cost millions of dollars.

Nucor settles lawsuit against SeverCorr and John Bell

Nucor Corporation has settled its pending lawsuit against former employee John Bell and SeverCorr. The lawsuit was brought by Nucor in Federal Court in South Carolina to protect Nucor against the theft of its confidential information when Bell left Nucor to join SeverCorr.

Under the terms of the settlement, the Court has entered an order extending the injunction it previously entered in Nucor’s favor on March 14, 2008. The order prohibits Bell, and SeverCorr, from using the

services of Bell in the preparation or manufacturing of interstitial free and ultra-low carbon steels. The court-ordered prohibition will remain in place until June 2009.

In addition, the new order prohibits SeverCorr from producing, qualifying, promoting or marketing any ability to produce and sell interstitial free and ultra low carbon steels to prospective or actual customers. The order will remain in place until at least September 2009.

China imports at highest level since August 2007

Based on the Commerce Department’s most recent Steel Import Monitoring and Analysis (SIMA) data, the American Iron and Steel Institute (AISI) reported that steel import permit applications for the month of June totaled 2,533,000 net tons (NT).

This was a 1 percent increase from the 2,514,000 permit tons recorded in May 2008, and a 3 percent increase from the May preliminary imports total of 2,451,000 NT. Import permit tonnage for finished steel in June was 2,075,000 NT, an increase of 4 percent from the preliminary imports total of 1,998,000 NT in May. For the first six months of 2008 (including June SIMA and May preliminary), total steel imports were 15,684,000 NT, down 12 percent from the 17,822,000 NT imported in the first half of last year. Total steel imports for 2008 would annual-

ize at 31.4 million NT, or 6 percent below the 2007 12-month total.

For June 2008, the largest finished steel import permit applications for off-shore countries were for China (359,000 NT), Korea (196,000 NT), Japan (130,000 NT), and Germany (107,000 NT).

Finished steel import permit applications for China increased 25 percent in June compared to May preliminary imports and were the highest monthly total since August of 2007. Product categories that increased in June vs. May preliminary include: Wire Rods (up percent 48 percent), Hot Rolled Bars (up 40 percent), Standard Pipe (up 41 percent), Oil Country Goods (up 21 percent) and Line Pipe (up 16 percent). Products that showed a significant year-to-date increase vs. 2007 include: Oil Country Goods (up 25 percent) and Line Pipe (up 16 percent).

CMC acquires assets of ABC Coating

Commercial Metals Company (CMC) has completed the acquisition of substantially all the operating assets of ABC Coating Company of Texas, Inc. of Waxahachie, Texas; ABC Coating Co., Inc. of Brighton, Colorado; Banner Rebar, Inc. of Denver, Colorado; and Toltec Steel Services, Inc. of Kankakee, Illinois.

The acquisition also includes Texas-based Rebar Trucking, Inc. and the 50% interest of the ABC Coating of North Car-

olina joint venture with CMC in Gastonia and ABC Coating Tennessee of Nashville. Established in 1978, ABC Coating companies are involved in rebar fabrication and epoxy-coated reinforcing bar servicing the southwest, midwest and southeast United States with approximately 250 employees. All six locations will become a part of the CMC Americas Fabrication and Distribution segment.



Scrap Metals MarketWatch



Commodity	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	\$368.00	\$345.00	\$551.00	\$509.00	\$807.00
#1 Bundles	360.00	340.00	542.00	459.00	734.00
Plate and Structural	360.00	325.00	478.00	450.00	528.00
#1 & 2 Mixed Steel	479.00	300.00	448.00	419.00	478.00
Shredder Bundles (tin)	330.00	265.00	339.00	341.00	321.00
Crushed Auto Bodies	335.00	259.00	340.00	330.00	322.00
Steel Turnings	289.00	170.00	268.00	250.00	379.00
#1 Copper	3.35	3.22	3.47	3.41	3.33
#2 Copper	3.21	3.01	3.29	3.20	3.13
Aluminum Cans	.95	.85	.90	.93	.90
Auto Radiators	2.00	1.70	2.01	2.09	2.10
Aluminum Core Radiators	.80	.78	.80	.74	.78
Heater Cores	1.78	1.58	1.92	1.42	1.28
Stainless Steel	.75	.80	.95	.89	.96

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METALS

AISI appoints new president and CEO to replace Sharkey

The American Iron and Steel Institute (AISI) announced the selection of Thomas J. Gibson as the association's president and chief executive officer.

Currently senior vice president of advocacy for the American Chemistry Council (ACC), Gibson will assume his new responsibilities on September 1.

Gibson will succeed AISI president and CEO Andrew G. Sharkey, III, who has announced his retirement after leading the Institute over the past 15 years and following a distinguished 30 year career leading steel-related trade associations.

Over his years at ACC and PCA, Gibson has established a track record of achieving legislative objectives working with both Democrats and Republicans. At ACC, he led the chemical industry's global, federal and state advocacy efforts and has represented the Association before government and media.

At PCA, he led efforts to increase the cement industry's visibility and clout in Washington, including spearheading industry efforts on climate change and successfully advocating for the cement

industry's inclusion in the Asia Pacific Partnership.

As chief of staff to administrators Whitman and Leavitt, Gibson directed the activities of EPA's 12 program offices and 10 regional offices, serving as the administrator's day-to-day manager for the 17,000 employee agency. While serving as majority deputy staff director to the U.S. Senate Committee on Environment and Public Works, his most significant legislative accomplishment was in leading the Senate effort on the bipartisan Water Resources Development Act of 2000 that included the \$8 billion Everglades Restoration Bill.

Prior to that, Gibson served as the Congressional Liaison Specialist for the EPA, representing the Agency on Capitol Hill on issues diverse as the Resource Conservation and Recovery Act, Superfund, energy policy, global climate change and the Clean Air Act. Before that, he worked for Raytheon Company, first as a naval architect for the Systems Engineering Laboratory and then as a program manager for the Submarine Systems Directorate.

Masdar Clean Tech Fund and Virgin Green Fund acquire Texas metal recycling business

Masdar Clean Tech Fund and Virgin Green Fund announced the buy-out of DuraTherm, Inc., a petroleum and metal recycling business based in Texas City, Texas. The transaction, structured as an asset acquisition, was supported by debt from HSH Nordbank AG.

DuraTherm provides treatment services, either at its facility in Texas City or with its mobile units at a customer's site, for waste streams generated by petroleum and olefin-related industries. The proprietary technology produces "clean" residuals while maximizing the recovery of metal and oil values contained in the wastes.

DuraTherm addresses a variety of waste streams, including oil-contaminated drill cuttings, refinery wastes, petrochemi-

cal wastes, hydrocarbon-contaminated soils, spent catalysts, and other petroleum-compatible residuals.

The new investors are providing additional capital to support DuraTherm's growth. DuraTherm will also invest in improving and deploying its mobile DuraTherm Desorption units, thus expanding its geographic availability to both United States and international customers.

Kevin Trant has been hired as CEO to lead the next phase of DuraTherm's growth. Trant was previously with Siemens Water Technologies where he was executive vice president of its Services and Products Group, a division focused on five business segments targeting municipal and industrial customers.

Nucor reports record results for first half of 2008

Nucor Corporation announced record consolidated net earnings for the second quarter of 2008 of \$580.8 million (\$1.94 per diluted share), an increase of 68% over \$344.9 million (\$1.14 per diluted share) earned in the second quarter of 2007 and an increase of 42% over the \$409.8 million (\$1.41 per diluted share) earned in the first quarter of 2008.

In the first half of 2008, Nucor's consolidated net earnings increased 36% to a record \$990.5 million (\$3.36 per diluted share), compared with net earnings of \$725.9 million (\$2.39 per diluted share) in last year's first half.

In the second quarter of 2008, Nucor's consolidated net sales increased 70% to a record \$7.09 billion, compared with \$4.17 billion in the second quarter of 2007 and increased 43% compared with \$4.97 billion in the first quarter of 2008. Average sales price per ton increased 24% over the second quarter of 2007 and increased 19% over the first quarter of 2008. Total tons shipped to outside customers were 7,734,000 tons in the second quarter of 2008, an increase of 38% over the second quarter of 2007 and an increase of 20% over the first quarter of 2008.

The increases in sales and net earnings are also attributable to the significant acquisitions made by Nucor in the last 18 months, specifically, the acquisition of Harris Steel Group, Inc. (Harris) in March 2007 and The David J. Joseph Company (DJJ) in February 2008. In addition, Nucor has used these two companies as platforms

for additional acquisitions to grow the rebar fabrication and scrap businesses.

The average scrap and scrap substitute cost per ton used in the second quarter of 2008 was \$456, an increase of 57% over \$291 in the second quarter of 2007 and an increase of 37% compared with \$333 in the first quarter of 2008. The average scrap and scrap substitute cost per ton used in the first half of 2008 was \$396, an increase of 44% over \$275 in the first half of 2007.

Total energy costs in the second quarter of 2008 increased \$5 per ton from the second quarter of 2007 and increased \$2 per ton from the first quarter of 2008. During the first half of 2008, total energy costs increased \$5 per ton compared with the first half of 2007.

Total steel shipments increased 9% to a record 12,068,000 tons in the first half of 2008, compared with 11,067,000 tons in last year's first half. Steel shipments to outside customers increased 5% to 10,597,000 tons in the first half of 2008, compared with 10,119,000 tons in last year's first half.

In June, Nucor's board of directors declared a supplemental dividend of \$0.20 per share in addition to the \$0.32 per share base dividend. The total dividend of \$0.52 per share is payable on August 11, 2008 to stockholders of record on June 30, 2008.

Nucor expects that their third quarter results will be strong, with earnings in the range of \$1.80 to \$1.85 per diluted share.

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METALS

United States aluminum can recycling grows in 2007

The Aluminum Association, Can Manufacturers Institute (CMI), and Institute of Scrap Recycling Industries (ISRI) announced a 2.2 percentage point increase in aluminum can recycling rates, the largest gain in recycling rates in ten years.

In 2007, Americans and the aluminum industry recycled nearly 54 billion aluminum cans - nearly two billion more than in 2006. At a recycling rate of 53.8 percent, the aluminum can is by far the most recycled beverage container in the United States.

"This increase in the recycling rate demonstrates the serious commitment to recycling by the Aluminum industry," said Kevin Anton, chairman of The Aluminum Association and vice president of Alcoa and president of Alcoa Materials Management, Inc. "The aluminum can is environmentally sustainable. Our industry is committed to doing the right thing and continuing to work to increase the number of aluminum cans recycled annually."

The Aluminum Can Council, made up of members from both the Aluminum Association and the Can Manufacturers Institute—Alcoa, Anheuser-Busch Packaging Group, ARCO Aluminum, Ball Corporation, Novelis and REXAM supports several recycling initiatives.

The Curbside Value Partnership (CVP) is one of these important programs that works with material recycling facilities and municipalities assisting them in making curbside recycling programs more efficient for their communities. Currently,



CVP is engaged with more than 40 communities. Partner communities have seen an average increase of 22 percent in recycling volume and 20 percent in participation.

Other Aluminum Can Council programs include: The Recycle Challenge school drop-off program, can advertising promotions, recycling promotions, student environmental education programs, school and civic organization collection programs, and other projects. Through this group's efforts, the aluminum can industry recognizes and promotes the value and importance of recycling.

The aluminum beverage can is 100 percent recyclable into new beverage cans indefinitely - a demonstration of recycling at its finest. Today's lightweight beverage can weighs only 0.468 ounces with 34.17 cans per pound of aluminum. The can is the only beverage container that more than covers the cost of collection and re-processing for itself. It also helps subsidize the collection of other recyclable materials.

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AUTO

Copart files antitrust lawsuit

Copart, Inc., an online vehicle remarketing company, filed an antitrust lawsuit alleging that Auto Auction Services Corporation (AASC) is restraining competition and stifling innovation by denying Copart access to an essential electronic network called AutoIMS.

AutoIMS is an electronic vehicle inventory management system owned and operated by AASC, which in turn is owned and controlled by a consortium of major vehicle remarketing firms which compete with Copart, including Manheim Auctions, Inc., ADESA, Inc., and other members of the National Auto Auction Association.

A vehicle remarketing company like Copart must have access to AutoIMS in order to receive and accept assignments of vehicles for resale from banks, finance companies, and fleet operators. Yet when Copart recently requested access to AutoIMS in order to effectively compete in that market, AASC insisted Copart pay discriminatory access fees, including an initiation fee of \$50,000 per location. Because Copart operates over 130 locations in North America, that fee would exceed \$6.5 million — a discriminatory demand equal to denying access altogether.

Copart also claims that other companies in direct competition with Copart such as Manheim and ADESA paid a nominal initiation fee for access to AutoIMS.

The suit was filed in the United States District Court for the Northern District of California.

Study confirms benefits of lightweight aluminum use in auto bodies

Consumers could save fuel and money while reducing carbon emissions through greater use of low weight aluminum in hybrid- and diesel-powered vehicles, according to a new study released by The Aluminum Association, Inc.

It is well known that diesel and hybrid powertrains provide better fuel economy, but at an increased cost to the consumer. In addition, at equivalent vehicle performance levels compared to a gasoline engine, the advanced powertrains have a payback period of several years. The study titled, "Benefit Analysis: Use of Aluminum Structures in Conjunction with Alternative Powertrain Technologies in Automobiles," specifically demonstrates that by reducing the weight of the vehicle, the power requirements can be correspondingly reduced, leading to a more affordable powertrain and vehicle, with a shorter payback period.

"With sky-high fuel costs expected over the long term and intense consumer pressure demanding long-term solutions, the time has come to rethink the basics of vehicle design," said Steve Larkin, president of the Aluminum Association. "Aluminum builds a better car, and this study demonstrates that high-strength, low-weight aluminum offers safe and affordable alternatives for the next generation of vehicles, compared to the heavier, less-efficient vehicles on the road today. If automakers opt to reduce the weight of

vehicles with next-generation hybrids and diesels through greater use of aluminum, consumers will be "paid back" faster at the gas pump, compared to the payback time associated with the added costs of today's heavier hybrids and diesels."

The study, conducted for the aluminum industry by IBIS Associates, was released during a panel discussion with the Washington Automotive Press Association. The study analyzed the impact of vehicle mass reduction on the cost and power requirements of modern diesel and hybrid powertrains.

"Our study revealed impressive fuel economy gains of 46 percent in diesel-powered vehicles and 51 percent in hybrid-powered vehicles complemented by aluminum structures when compared to existing gasoline-powered vehicles," Larkin added. "While the aluminum-bod-

ied hybrids' upfront costs would be more than the aluminum-bodied diesels, they offer significant potential for fuel economy gains and related consumer payback at the pump."

Generally, all new fuel-saving technologies come with an added cost. An aluminum vehicle platform on its own costs more than a current platform. However, by reducing the horsepower and torque requirements of the new powertrain and hence cost, the overall costs almost balance out. The increased cost of the aluminum platform is almost balanced out by the decreased cost of the powertrain and other components. For example, a smaller fuel tank is required for the same driving range. The fuel savings gained offsets the additional cost of the platform and powertrain within one to four years.

SALVAGING Millions

by Ron Sturgeon
Autosalvageconsultant.com

Climbing above the competition: Marketing vs. advertising Part 1 of 5

How do you promote your company? There is so much noise out there in the form of advertising that you must have a good answer to this question, or you won't climb above your competitors. If people don't know about you and your business, you won't be in a position to be considered when they need the products or services that you sell. This is just as true for an e-commerce website as it is for a shop on the street.

Are marketing and advertising the same thing? Many people believe they are. The typical small business makes this assumption. Some small business owners don't think about marketing.

That's too bad. A clear understanding of the difference between marketing and advertising is something every businessperson should have.

Marketing is the crafted means of letting people know you are in business and where they can find you. Advertising is paid promotion of your products or business. You might channel revenue into marketing, perhaps even contract a marketing firm, but that's not the same as advertising.

A good location can compensate for a poor understanding of marketing, but that's an exception to the rule. On the flipside, properly run and marketed businesses routinely excel in poor locations. Marketing has many, many forms. It's press releases, magazine articles, newspaper articles, and interviews. It's company participation in public events. It's participation on a private level on public boards. Marketing is contacting people who can influence others and help create awareness of your market presence. Effective marketing is even having your banker speak favorably of you when you are not present. Marketing is having a customer refer your business to a friend.

How are these things achieved? Do they happen because your doors are open between 8:00 a.m. and 5:00 p.m.? No. Marketing does not just happen. It is a calculated effort that comes from careful planning.

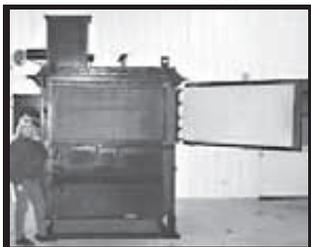
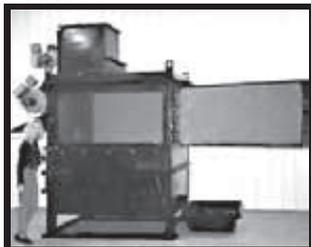
Before the first plans are made, every entrepreneur should grasp the key difference between marketing and advertising. Not only that, but it is equally important to know which of the two is more important. Start your marketing efforts by asking yourself who your customer is and where your market is. If you answer: everyone is a potential customer, that's a hint that you need to sharpen your marketing focus. In the auto-recycling industry, not everyone driving a car is a potential customer. In the floral industry, not everyone is a potential customer to buy flowers.

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This article was provided by autosalvageconsultant.com which was formed in 2001 by recyclers for recyclers, to help them improve their businesses.

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EQUIPMENT SPOTLIGHT

Conveyors for e-scrap recycling

by Mark Henricks

Each year United States electronics recyclers process more than 2.8 billion pounds of e-scrap, including 65 million units of computer equipment, according to the International Association of Electronics Recyclers. Electronics recycling yielded 1.3 billion pounds of recyclable materials, according to the Albany, New York based trade association for the electronics recycling industry. E-scrap is also growing, up from just over 2 billion pounds in 2000.

Recycling e-scrap is packed with challenges, from safely handling toxic metals to economically sorting recyclable materials from a mixed waste stream. Before recyclers can deal with these issues, however, they have to move the e-scrap to shredders, balers and other equipment. That's where conveyor manufacturers come in.

At NEXGEN Baling Systems in Vernon, Alabama, Joe Szany, director of NEXGEN sales, says the company takes much the same products it might use as ancillary feeders to recycling apparatus such as separators and sorters used for recycling any materials. "The quality and strength of these conveyors is very comparable to what you would need on the electronic scrap business that we've done to date," Szany says.



Metso Minerals Industries, Inc.

One difference is that e-scrap tends to be lighter-weight material than other recycling applications, so e-scrap conveyors may be less robust. E-scrap may also contain sharp edges, from such sources as broken CRT tubes that can damage conveyor belts used to transport the materials. "You typically have to have pans underneath to keep from ripping belting," Szany says.

Most units his company sells for e-scrap use combination belts consist-

ing of a flexible belt over a steel trough. Steel belts work well for heavier materials, but not for e-scrap because they are hinged. "The hinges leave a lot of gaps that smaller valuable pieces of recycled e-scrap would fall through," Szany explains.

"Slider beds right now are the most popular," Szany continues. "A lot of that has to do with that they are among the lowest cost conveyors. It's a pretty simple operation compared to what we have done traditionally."

E-scrap is a fairly new business for NEXGEN, but the company is finding appealing applications for its product. "One of the recent projects that we sold was to a company that wants to destroy hard drives," Szany says. "They need to destroy them to prove to their customers that nothing is readable and they were using some kind of process that took them 30 minutes per hard drive."

NEXGEN's system, which includes conveyors, magnetic separators and hammer mills, will be able to destroy 2,000 hard drives an hour. "And it's just simple slider bed technology, almost like the ones you'd see in a warehouse moving clothes," Szany says.

Shredded hard drives are worth around \$1 per pound according to Szany, and more once materials are conveyed to a separator and separated. "Once they realized the kind of product we'd make out of their hard drives, they're no longer interested in sending their destroyed material to a land fill," he says. "The material commingled is worth practically nothing. The material separated is worth what the components are worth."

Government regulations on information security are pushing demand for recycling electronics that are used to store data about people or organizations. "There is a driving force out there, especially with anybody that's doing business with banks or insurance companies," Szany says.

Szany is looking for continued good news about e-scrap. "Quite frankly with the coming change in televisions starting in February, there is

an expected massive amount of televisions that are going to be destroyed," he says. "This is the next big thing in recycling."

Not everyone is finding e-scrap as exciting today. At Metso Minerals Industries, Inc. in Brunswick, Ohio, Tim Frajter says the company's e-scrap recycling business remains small compared to auto recycling. "We haven't seen too much to be honest," he says.



Green Machine Sales, LLC

"The technology itself is more on the separation of the scrap than the conveyance," Frajter adds. "The conveyance is an afterthought. More attention is on the shredding and separation." The main difference he's seen in e-scrap conveyor markets is on the requirements for being robust. "It's just a little lighter duty," he says. "We convey it two different ways, either by belt or a twin motor vibratory feeder. Our biggest sellers are our twin motor feeders."

At General Kinematics Corporation in Crystal Lake, Illinois, Tom Musschoot, marketing manager, says the company's most popular models for e-scrap are its Syncro-Coil vibratory conveyors and Paramount II Vibratory Feeders. General Kinematics models feature low horsepower and energy efficient two-mass drive, Musschoot says. "All our equipment is custom-designed for each customer's application," he added.

Buyers today are increasingly interested in energy usage. "We have a very diverse customer base for recycling equipment, from typical C&D/MRF applications to specialized minerals recovery," Musschoot adds. "We have also been successful in the recycling of CRT screens using a combination of our equipment."

Musschoot agrees that regulatory and legislative changes have not tended to hurt his business with e-scrap

recyclers. "Actually, it seems some regulations are in favor of using our recycling solutions," he says.

He also considers e-scrap's future to be bright. "With the reduction in natural resources on top of the need for raw materials, the future of all forms of recycling looks promising for everyone involved in the industry," Musschoot says.

Manufacturer List

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Metso Minerals Industries, Inc.

Tim Frajter
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www.metsominerals.com

NEXGEN Baling Systems

Joe Szany
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Recycling Equipment Manufacturing

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INTERNATIONAL

Scotland explores recycling plastics

New research from Waste Resources Action Programme (WRAP) has found that recycling not just plastic bottles but other plastic packaging as well can be cost-effective and environmentally friendly. WRAP has launched its first business plan for Scotland and proposes to review the outcomes of its mixed plastics research against Scotland's circumstances.

Scotland produces around 250,000 tons of mixed plastic packaging waste every year.

WRAP did the research to see if it made financial sense to recycle this waste and if recycling it would be better for the environment than other options – such as burning it or sending it to landfill. In particular, WRAP wanted to see if these ordinary household items could be recycled to make new ones, rather than having to use virgin plastics every time.

WRAP's research included trials of sorting different types of plastics, an analysis of the type of technology needed, estimated costs and modeling of the financial rate of return. It also compared the environmental impacts of various methods, including burning or sending it to landfills. Research showed that recycling can be cheaper than both these options.

Overall, landfill is the least favorable option for disposing of plastics waste. However, in terms of global warming potential, the research found that incineration of plastic packaging was the worst option. This is because more CO2 is emitted by burning plastics than by burning gas or coal to generate the same amount of electricity.

The research showed that, on balance, the best environmental option is to invest in technology to produce high quality recycled plastics, but there will still be a need for solid recovered fuel (SRF) in some cases. Consequently, it makes sense to build integrated plants capable of both options, as this improves the economic benefit and maximizes the environmental impact.

Italy's first composite recycling plant planned by Boeing and partners

Agreement establishes framework for recycling aircraft composite waste into reusable materials

The Boeing Company and Alenia Aeronautica, a Finmeccanica company, are joining forces to help establish Italy's first composite recycling facility, which will be located in Southern Italy.

Together with partners Milled Carbon (based in Birmingham, United Kingdom), Karborek (based in Puglia, Italy), and ENEA (Italian National Agency for new Technologies Energy and the Environment), the two companies have signed a letter of intent to apply their expertise and work with academia to advance industry knowledge surrounding the recycling of composite airplane parts into reusable materials for manufacturing. Financial terms were not announced.

The composite recycling facility, which is expected to be operational in mid to late 2009, will be in Italy's Puglia region, near the Alenia Aeronautica manufacturing center and its supply

chain production centers. When fully operational, the center is expected to process an average of 1,000 metric tons (1,102 tons) of composite scrap annually and add approximately 75 jobs to the regional economy.

Boeing, which is pioneering the use of composites as the primary structure on the 787 Dreamliner, and Alenia, a major 787 partner, will support the project by partnering to advance associated knowledge and technologies and reuse of recycled aircraft parts and manufacturing materials. Both companies will work together to process carbon fiber scrap material from all of the Alenia facilities and related supply chain facilities. Over the longer term, Boeing and Alenia will work closely with Italian industry and academia to develop additional markets for the reuse of the carbon fiber, which could include automotive, civil engineering, sporting goods, nautical and other industrial applications in Italy and across Europe.

Working collaboratively with Boeing, Milled Carbon has demonstrated the ability, in a pilot industrial plant, to process cured and uncured composite parts on a continual feed that extracts

high-quality carbon fibers. The recycled material potentially can be used for non-critical structures such as interior linings, galley and seat parts and tools that can benefit from stronger, lighter-weight materials.

ENEA, the Italian Research Institute, has long worked with Karborek to develop recycling process technologies for the recovery of carbon and glass fiber from composite materials. ENEA and Karborek have separately developed prototypes of complementary technology.

Boeing and Milled Carbon are both members of the Aircraft Fleet Recycling Association (AFRA), an international nonprofit organization dedicated to developing best practices for the recycling of end-of-service aircraft and parts. The new joint venture is also anticipated to become an AFRA member and ultimately bolster the organization's capabilities in the area of composite recycling.

Karborek, located in Lecce, is teaming with Milled Carbon with regards to the building and operation of the composite recycling plant.

AR EQUIPMENT SPOTLIGHT

To be included in the spotlight, you must manufacture the equipment featured.

We require a company name, contact person, telephone number and, if applicable, a website address.

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UPCOMING TOPICS	
09/08	Sorting Systems for Single Stream Recycling
10/08	Wheel Loaders
11/08	Wire Removal Systems (tires)
12/08	Can Flatteners/Blowers
01/09	Catalytic Converter Shears
02/09	Shredders

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Events Calendar

September 7th-10th

2008 Global Waste Management Symposium. Copper Mountain Conference Center, Copper Mountain, Colorado. 203-358-4314 • www.wastesymposium.com

September 11th-13th

State of California Auto Dismantlers Association. Hyatt Regency, Newport Beach, California. 916-979-7088 • www.scada1.com

September 21st-24th

National Recycling Coalition's 27th Annual Expo. David Lawrence Convention Center, Pittsburgh, Pennsylvania. 202-789-1430 • www.nrc-recycle.org

October 20th-21st

75th Annual Meeting of the Aluminum Association. The Greenbrier, White Sulphur Springs, West Virginia. 703-358-2975 • www.aluminum.org

October 21st-25th

ARA 65th Annual Convention & Exposition. Hyatt Regency Crown Center, Kansas City, Missouri. 888-385-1005 • www.a-r-a.org

October 21st-23rd

Wastecon 2008. Tampa Bay Convention Center, Tampa, Florida. 800-467-9262 • www.wastecon.swana.org

October 26th-29th

The 2008 National Renewable Energy Marketing Conference. Marriott City Center, Denver, Colorado. 415-561-2135
www.renewableenergymarketing.net

November 1st-3rd

APRA's 2008 International BIG R Show. Riviera Hotel & Casino, Las Vegas, Nevada. 703-968-2772 • www.bigrshow.com

November 6th-8th

International Autobody Congress & Exposition. Mandalay Bay Convention Center, Las Vegas, Nevada. 888-529-1641 • www.naceexpo.com

February 24th-25th, 2009

Plastics Recycling 2009. Disney Coronado Springs Resort, Orlando, Florida. 503-233-1305 • www.plasticsrecycling.com

March 1st-4th

The Southeast Recycling Conference & Trade Show. Hilton Sandestin Beach Golf Resort & Spa, Destin, Florida. 800-441-7949 • www.southeastrecycling.com

MHF Logistical Solutions opens branch offices

■ MHF Logistical Solutions, Inc. announced that it has opened an office for its parent company, MHF Holdings, in Jacksonville, Florida.

In addition to housing MHF Holdings, this new office will also be the regional branch office for the company's non-asset-based division, Magellan Transport Logistics.

Magellan Transport staff in Jacksonville includes Melinda Yates, logistics manager, and Janet Haber, logistics sales and operations.

IronPlanet sets manager of governmental sales

■ IronPlanet appointed Greg Forke to the position of governmental sales manager. Forke will be responsible for IronPlanet's continued expansion in the governmental/municipal equipment market.

Forke has nearly 30 years of experience in the auction industry. He began his career as part of Forke Brothers, where he held several positions, including vice president of North American auction operations. Most recently, he helped start the heavy construction equipment division for GoIndustry Michael Fox International, an auction company specializing in industrial machinery and equipment.

ReCellular campaign aids American Red Cross

■ ReCellular announced a new cell-phone recycling campaign to benefit the American Red Cross.

The goal of the initiative is to raise a minimum of \$50,000 for the Red Cross, through the collection and recycling of cell phones.

The program will include cell phone donations from Red Cross supporters. Those who would like to participate can download a prepaid shipping label from the Red Cross website at www.redcross.org/sponsors/howtohelp/recellular.asp.

For every cell phone collected and sold until October 31, 2008, ReCellular will donate \$1 to the American Red Cross, with a minimum commitment of \$50,000.

BUSINESS BRIEFS

Key personnel appointed at Eriez Magnetics

■ Eriez® Magnetics announced the appointment of Andy Lewis to the newly created position of vice president international. Andy joined Eriez in 1976 and has served as managing director of Eriez-Europe since 1995, during which time the Company experienced significant growth and profitability.

Also, Paul Fears has been appointed to the position of managing director, Eriez-Europe, and now reports to Andy Lewis. Fears joined the company in 1989 as marketing executive. His most recent assignment has been as marketing director of Eriez-Europe. Paul takes the reins of the company's largest operation apart from the Erie World Headquarters.

Eriez-CPT Canada and Eriez-CPT Brazil, manufacturers of Column Flotation Systems for the minerals processing industry, will continue to report through Mike Mankosa, vice president operations, while Eriez-North America's export sales group will continue under the direction of Charlie Ingram, vice president of sales and marketing.

Kenyon named Roll-Rite North America VP

■ Jim Kenyon recently joined Roll-Rite, LLC as vice president of sales and marketing in North America. In his new position, Kenyon will be responsible for developing and implementing Roll-Rite's domestic sales and marketing initiatives.

Previously Kenyon served as regional sales manager for East Manufacturing, Inc., a manufacturer of aluminum dump, platform and refuse trailers, and as sales manager for Scientific Brake & Equipment, Inc. in Saginaw, Michigan, a premier truck and trailer distributor and Roll-Rite tarp system installer.

CRA acquired by Strategic Materials, Inc.

■ Strategic Materials, Inc. (SMI), located in Houston, Texas, has acquired the Container Recycling Alliance (CRA), located in Lombard, Illinois.

CRA previously was acquired by WHI Capital Partners in 2006 from Waste Management. CRA consists of eight plants that handle 800,000 tons per year of post-consumer container glass. CRA's specialty is the processing of three-color mix from curbside collection.

Strategic Materials processes 2.4 million tons of glass per year, specialty is on flat glass and sorted bottle cullet.

Alcan Packaging president re-elected

■ Alcan Packaging, part of Rio Tinto Alcan, announced that Michael Cronin, president, Alcan Packaging Food Europe has been re-elected chairman of the Flexible Packaging Europe (FPE) association for a second consecutive year. One of Cronin's priorities as chairman will be for the association to take a leading position on sustainability.

Consolidated Scrap acquires Brandywine

■ Consolidated Scrap Resources, Inc., a large metal shredding and recycling plant located in Harrisburg, Pennsylvania, is acquiring the recycling business assets of Brandywine Recyclers, Inc.

Brandywine Recyclers operates a 12-acre recycling facility in Lebanon, Pennsylvania, where it collects and processes ferrous and non-ferrous scrap metals. Brandywine also processes paper and plastics.

Financial terms of the acquisition were not disclosed.

American Chemistry Council names new CEO

■ Cal Dooley, currently the president and CEO of the Grocery Manufacturers Association (GMA), has been selected to lead ACC. The ACC Executive Committee approved Dooley's selection to take over the position as current ACC president and CEO Jack Gerard leaves to head up the American Petroleum Institute (API) on September 1. Dooley will officially begin at ACC on September 8.

Dooley has led GMA since it merged with the Food Products Association (FPA) in January 2007, and was president and CEO of FPA for two years before the merger. Prior to that, he served seven terms as a member of Congress from the San Joaquin Valley area of California.

In 2005, President George W. Bush appointed Dooley to the President's Advisory Committee for Trade Policy and Negotiations. Before his election to Congress, Dooley was a partner in his family-owned Dooley Farms.

Nucor acquires 50% of Duferdofin - Nucor S.r.l.

■ Nucor Corporation has completed the acquisition of 50% of the stock of Duferdofin - Nucor S.r.l., for a purchase price of approximately US\$658 million. The company will continue to operate from its current headquarters in San Zeno (near Brescia) Italy.

Duferdofin - Nucor S.r.l. operates a steel melting and bloom/billet caster in San Zeno, Italy as well as rolling mills in Pallanzeno in the Piedmont region and Giammoro in Sicily. Total production in 2007 was approximately one million tons.

A new merchant bar mill is under construction at the Giammoro plant and is expected to be fully operational in late 2008.

The new mill at the Giammoro plant is expected to produce approximately 450,000 tons. The new company also includes the distribution companies of the former Duferdofin.

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BUSINESS BRIEFS

Pennsylvania appoints acting DEP secretary

■ Pennsylvania Governor Edward G. Rendell appointed Joseph R. Powers as acting secretary of the Pennsylvania Department of Environmental Protection (DEP). Powers has served as executive deputy secretary at DEP since 2003.

Powers' appointment was effective July 19. He will serve until a permanent successor is named.

Prior to joining the Rendell administration, Powers worked in a number of policy development and committee management positions within the General Assembly. He also was chief of staff to the Lieutenant Governor from 1987 to 1993. He has taught Political Science classes at several universities and holds a bachelor's degree from St. Joseph's University in Philadelphia.

Scott Nelson named CEO of Doosan Infracore

■ Scott R. Nelson has been named chief executive officer of Doosan Infracore International (DII), a United States-based subsidiary of Doosan Infracore, a global manufacturer of construction equipment. The appointment was made by Yongmaan Park, chairman of Doosan Infracore.

Nelson will continue as worldwide president of Bobcat Company while serving as DII chief executive officer. His chief executive officer responsibilities include all aspects of the global business for DII. Nelson replaces David Rowles. With over 20 years of experience with Bobcat, Nelson most recently served as president of Bobcat Europe. Prior to that he was president of Bobcat Americas.

Stellar Industries adds regional sales manager

■ Stellar Industries announced the addition of Ron Alexander as the Southeast regional sales manager for their demountable product lines.

Alexander has over seven years of experience in a sales role covering the southeast region of the United States.

ASA Electronics chooses new business manager

■ ASA Electronics, an Elkhart, Indiana based manufacturer and supplier of mobile audio and video equipment, announced the recent hiring of Aaron Irions as its new product/business development manager.

In his new position, Irions will be developing and investigating new business opportunities within current distribution as well as outside normal business channels. His job responsibilities also will include researching competition and coordinating with ASA engineering on proposed product design and cost.

Irions has extensive experience in the mobile electronics industry. Irions began his career at ASA Electronics working in various positions before serving his country in the U.S. Army. Prior to his most recent hiring at ASA, Irions was employed at Gulf Stream Coach as a purchasing agent.

Norcal Waste appoints chief operating officer

■ Norcal Waste Systems' board of directors named George P. McGrath, executive vice president and chief operating officer.

McGrath will be responsible for all Norcal facilities and operations with a focus on customer service and sustainability programs associated with the company's integrated collection, recycling and diversion services to over 60 communities in California.

For the past ten years, McGrath has served as Norcal's senior vice president and chief information officer, responsible for the company's information systems. From July 1996 to June 1997, he served as vice president and general manager of Alta Environmental Services, Inc., a wholly-owned Norcal subsidiary that manages and administers landfill and compost operations.

Prior to joining Norcal in October 1995, McGrath served as vice president and area general manager for Chemical Waste Management in the Western Region of the United States.

Vecoplan promotes two new managers

■ Vecoplan, LLC has promoted Gary Kolbet to the newly created position of vice president of engineering. Prior to his promotion, Kolbet was engineering manager at Vecoplan, during which time he won numerous engineering awards. In his new position Kolbet will oversee all aspects of engineering, new technologies development and complete systems integration.

Vecoplan also named Dale Walker to the position of manager-sales engineering. Walker was formerly a sales engineer at Vecoplan working on project designs with the sales team.

Walker's responsibilities, as manager-sales engineering, will expand to include the oversight and coordination of interactions between customers, sales staff, and sales engineers as projects develop from initial contact with the customer through design, engineering, and production.

McClellan named chairman of Commercial Metals

■ Stanley A. Rabin, chairman of the board of Commercial Metals Company (CMC) announced that the board of directors has elected Murray R. McClellan chairman of the board, in addition to his responsibilities as president and chief executive officer, effective upon Rabin's previously announced retirement August 31, 2008. McClellan has served as a director since July 2006 and was named chief executive officer in September 2006.

McClellan joined Commercial Metals Company in 1985 as managing director of its marketing and distribution office in Sydney, Australia. In 1993, he was appointed president of the International Division of the Marketing and Distribution segment. Following his appointment as president of CMC's Marketing and Distribution segment in 1999, McClellan relocated to the Company's headquarters in Dallas, Texas, was named executive vice president and chief operating officer in September 2004, president in January 2006 and CEO in September 2006.

German firm ELG Haniel acquires Utica Alloys

■ Utica Alloys, Inc. headquartered in Utica, New York, has been acquired by ELG Haniel GmbH, headquartered in Duisburg, Germany. With this acquisition, ELG unites their existing activities in the superalloys and titanium market segments with Utica Alloys, strengthening logistics and processing services to particularly aerospace, power generation and chemical industries worldwide.

Utica Alloys will continue to operate under the direction of its founder, Joseph Jampietro, who remains as managing director. Jampietro, together with Dimitrij Orlov, ELG's head of this segment, who will take a seat on the board of Utica Alloys.

TCEQ commissioners name executive director

■ The Texas Commission on Environmental Quality (TCEQ) voted unanimously to appoint Mark Vickery as the executive director of the agency, effective June 17, 2008. Vickery has served as the deputy executive director since May 1, 2004. He succeeds Glenn Shankle, who is retiring from state government. Vickery previously served as deputy director for the Office of Permitting, Remediation and Registration, as well as for the Office of Compliance and Enforcement.

Vickery began his career in state government 21 years ago as an enforcement coordinator with the Texas Water Commission, a predecessor agency of the TCEQ. His experience includes work in all areas of the agency, including industrial and hazardous waste enforcement, municipal solid waste compliance and enforcement, waste tires, and as director of field operations which included supervising more than 800 employees in 16 regional offices across Texas.

As the deputy executive director, Vickery served as the agency's chief operating officer and provided oversight of the day-to-day operations of more than 2,900 employees and an annual operating budget in excess of \$564 million.

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Fiat Allis FR15 (874) \$24,900	(2) Fiat Allis FR-20B (865 & 847) \$29,500	John Deere 544 , includes forks & bucket \$12,900
Fiat Allis 745-C (851) \$20,900	Fiat Allis FR-15B , prior gov.-owned, very nice \$32,900	New Holland LW80 '00 , (2) coupler, bucket, fork (919) \$34,900
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BUSINESS BRIEFS

EPA Great Lakes regional administrator chosen

■ The United States Environmental Protection Agency (EPA) administrator, Stephen L. Johnson, announced the appointment of Lynn Buhl. Buhl will serve as regional administrator for EPA Region 5, which encompasses Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.

Bharat Mathur, EPA's acting regional administrator since May of 2008, will resume his position as deputy regional administrator.

Since September 2006, Buhl has served as deputy assistant administrator in the Office of Enforcement and Compliance Assurance at EPA Headquarters, where she advised the administrator on a wide range of environmental enforcement issues.

Previously, Buhl served as acting secretary of Maryland's Department of the Environment and deputy secretary of Maryland's Department of Natural Resources. During her years of service in Maryland, she provided policy advice to Governor Robert Ehrlich, Jr. and was instrumental in reforming Maryland's contaminated site cleanup program.

Prior to her service in Maryland, Buhl worked at Michigan's Department of Environmental Quality, Daimler Chrysler Corporation and in EPA's Region 5 office as an assistant regional counsel.

Peterson appoints new parts sales representative

■ Peterson, a Eugene, Oregon-based manufacturer of grinders, chippers and blower trucks, appointed Claudia Moug as a parts sales representative.

Moug has worked in the heavy equipment parts industry for many years. She has most recently worked for Madill, an equipment manufacturer, and several equipment dealers including Triad Machinery, Papé Brothers and Howard Cooper.

Gerdau Ameristeel appoints Mills to board

■ Gerdau Ameristeel announced the appointment of Rick J. Mills, former corporate vice president of Cummins, Inc., to its board of directors.

With more than 30 years of experience in global business development within the manufacturing industry, Mills' broad experience in corporate finance, accounting and global management will provide strategic depth to Gerdau Ameristeel's board of directors, which now consists of eleven members.

Mills joined Cummins, Inc., a manufacturer of large diesel engines, in 1970. He has served in various senior executive positions, most recently as a corporate vice president for Cummins, Inc. from 1996 until his retirement in May of this year. He also serves on the board of directors at Rohm and Haas Company and Flowserve, Inc.

New sales manager joins Erie Press Systems

■ Anders Vesterholm has been named sales manager of Forge and Custom Hydraulic Presses for Erie Press Systems. The announcement was made by Doug Currie, president of the company.

Vesterholm will be responsible for domestic and international sales of application-based forging machinery and custom hydraulic applications. He will manage new equipment orders, and the sales process for equipment rebuilds and replacement parts. He will also determine sales direction, effective sales strategies and marketing support to achieve product line sales objectives.

Vesterholm has over 20 years of metal forming, hydraulic press and automation system experience, in addition to a broad international and domestic background that includes sales, new product development, engineering, service and manufacturing in various industries.

His educational background is from Sweden with degrees in Mechanical Engineering and Control System Engineering.

He was most recently employed at AP&T North America as sales account manager for mainly the automotive and appliance markets in the United States, Canada and Mexico. Vesterholm has also held positions with ABB and Emerson Electric Corporation.

Commercial Metals expands rebar fabrication

■ Commercial Metals Company, Texas, announced the Company has entered into a definitive agreement to purchase substantially all the operating assets of Reinforcing Post-Tensioning Services, Inc. (RPS), Regional Steel Corporation, and RPS Cable Corporation, based in Claremont, California.

RPS is a fabricator and installer of concrete reinforcing steel, post-tensioning cable and related products for commercial and public construction projects, with facilities in Fontana and Tracy, California, and Las Vegas, Nevada, with annual capacity of approximately 150,000 tons.

Completion of the acquisition is contingent upon regulatory approval and satisfaction of other closing conditions which are expected to be finalized within 60 days. At closing, the acquired assets will operate as part of the CMC Americas Fabrication and Distribution segment.

Doosan Infracore opens headquarters in Charlotte

■ Doosan Infracore International recently moved into its new global headquarters in Charlotte, North Carolina.

Doosan Infracore selected Charlotte after conducting a feasibility study comparing the city with other major metropolitan areas, including Atlanta, Chicago, Minneapolis and New York.

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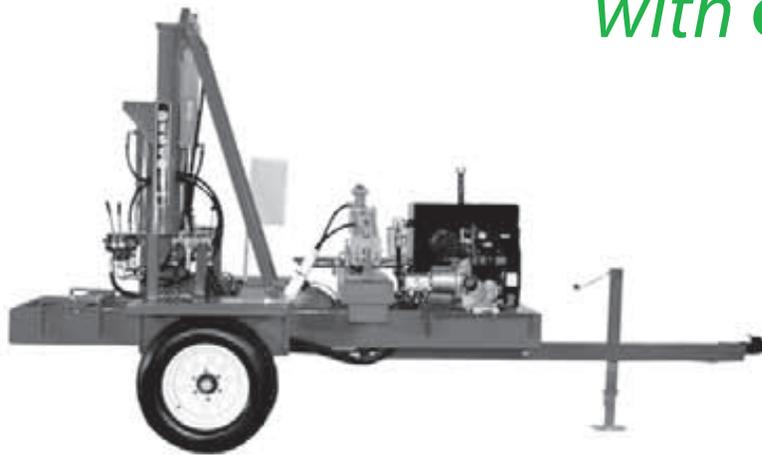
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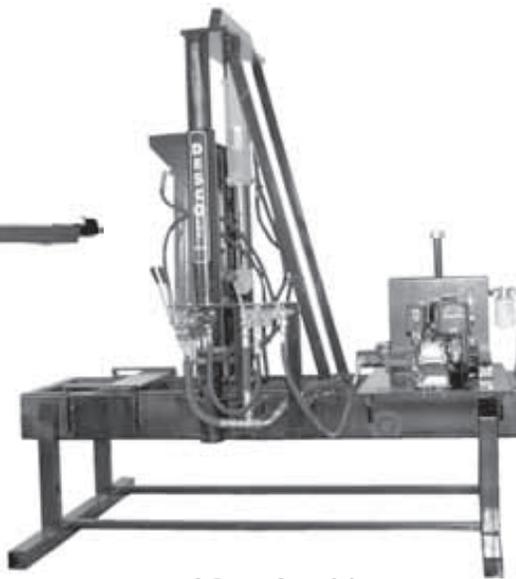
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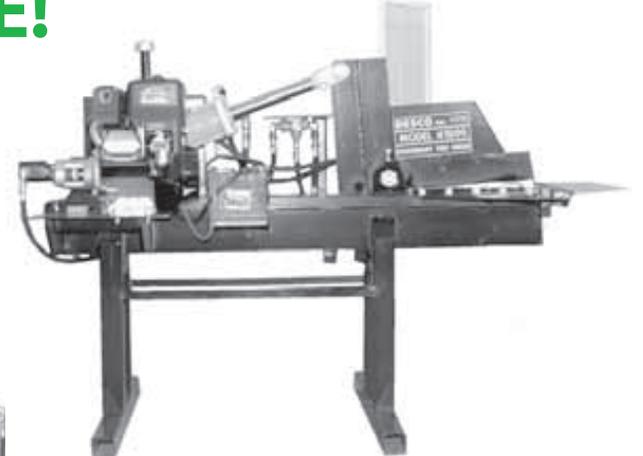
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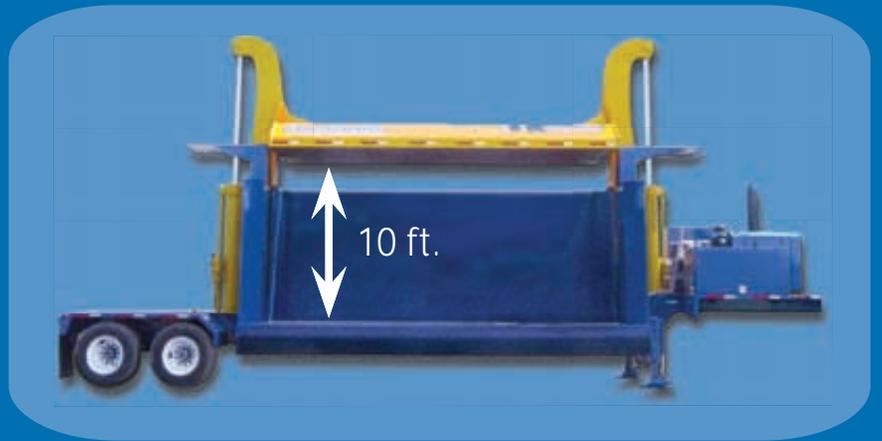
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EPA tests air curtain burners for disaster waste disposal

On June 25, 2008 the Environmental Protection Agency (EPA) concluded a week long test in Louisiana for disaster debris reduction by means of air curtain burners or air curtain incinerators. Air Burners, LLC made available one of its largest above ground S-327 fireboxes. The goal was to compare the emissions data from the burning of vegetative waste, for which the machines are traditionally used, with debris from disaster demolished houses, such as those destroyed by Hurricane Katrina, in order to determine whether the machines should be used to dispose of such debris. Potentially toxic components, such as asbestos, were not included in the debris mix.

Disaster recovery planning must include the safe and economical disposal of debris. Air curtain burners have been used to deal with vegetative debris, such as trees, but they were not extensively used to reduce debris from destroyed houses. The cost of disposing of this debris by hauling it to a landfill is high. Burning it on site in an air curtain firebox would result in a quick return to normality for the affected residents and a significant cost savings.

The preliminary results confirmed that the mass reduction of vegetative waste is nearly 99% with no harmful emissions. The burning of a demolished house was equally efficient with little visible smoke. Extensive emissions samples were collected for analysis at the EPA laboratories and the results will be published in due course.

Air curtain burners were designed solely as a pollution control device for open burning. Their sole purpose is to reduce or eliminate the particulate matter (smoke) that results from burning clean vegetative waste. These machines do not incinerate nor do they inject any fuels to support incineration. They develop a curtain of high velocity air over a fire that traps the smoke particles and causes them to re-burn. One hundred tons of waste can be reduced to less than one ton of ash which has several potential uses, or could be recycled into the soil.

Biofuel cells provide long-lasting power, potential military uses

by Brian R. Hook

Biofuel cells, using enzymes to trigger chemical reactions to produce electricity for long periods, might soon power remote sensors for the United States military.

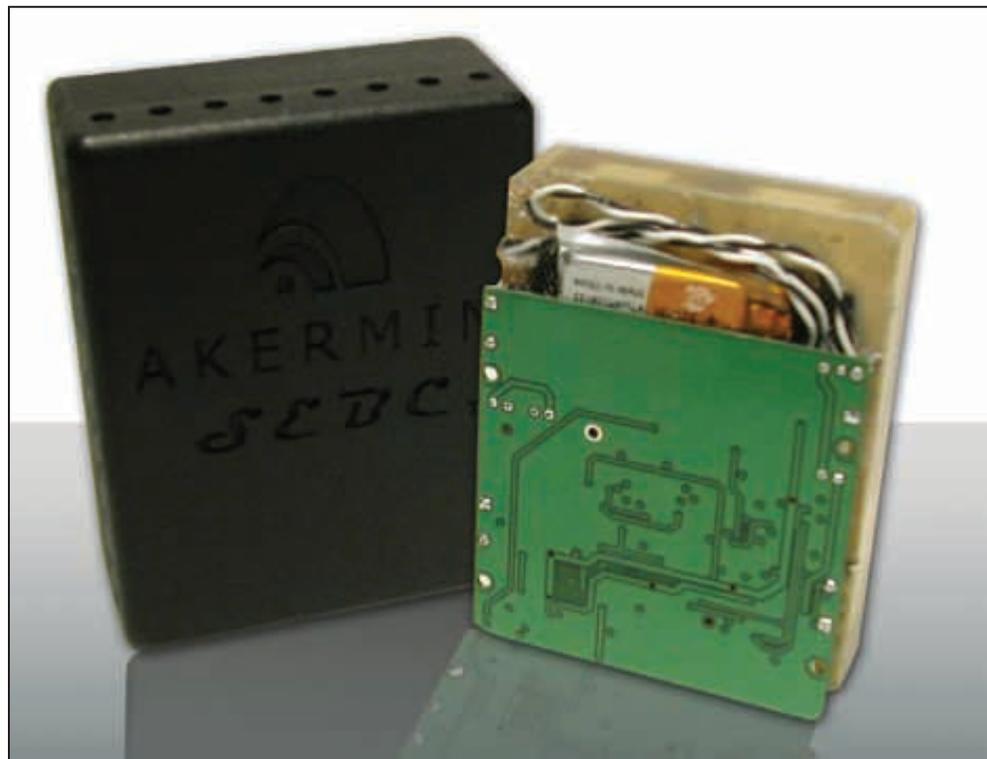
Akermin Inc., a biocatalyst technologies company, has developed a biofuel cell in the lab that has generated power continuously for more than three years. This new technology lasts two to four times longer than high-performance lithium batteries.

The biofuel cell technology, first invented at Saint Louis University, uses enzymes that replace the metal catalyst in conventional cathodes to create electricity.

"We employ naturally occurring enzymes that we immobilize in our proprietary polymer that stabilizes them for the reaction condition of the fuel cell," says Nick Akers, founder and director of business development of the Creve Coeur, Missouri-based firm.

"Other biofuel cell work has demonstrated enzyme operating times of days to weeks, whereas our unique immobilization technology has demonstrated over three years, and counting, enzyme stability for the reaction to generate electricity from alcohol."

Enzymes, which have been used as catalysts for years in a variety of indus-



Akermin, Inc. is developing fuel cells that use naturally occurring enzymes

trial processes, react with the fuel at the electrode's surface to generate electricity. However, enzymes usually exhibit a short life span when exposed to harsh chemical environments and high temperatures. Akermin's stabilization technology solves this problem.

Akermin developed an enzyme stabilization technology using a protective

polymer structure to extend the operating life of the biofuel cell. The technology immobilizes the enzyme so it can be attached to a support structure that does not inhibit enzyme contact with the substrate, yet protects the enzyme from harsh elements.

"The key barrier to commercial via-

Continued on Page 3

Republic and Allied to form \$20 billion company

Waste Management makes counter bid

Republic Services, Inc. and Allied Waste Industries, Inc. have announced that their boards of directors have unanimously approved a definitive merger agreement. The merger would create an entity with expected pro forma annual revenues of approximately \$9 billion and an expected total market capitalization of approximately \$12 billion.

These numbers are daunting, and perhaps the spur that goaded competitor Waste Management, Inc. to make an unsolicited counter bid for Republic. The counter bid, an offer for \$6.19 bil-



John Zillmer, Allied Waste CEO

lion in cash, was Waste Management's attempt to have a say in the ongoing negotiations, and perhaps to prevent the

emergence of a unified competitor.

A merged Allied and Republic would employ more than 35,000 people, and serve more than 13 million customers in 40 states and Puerto Rico. Before Waste Management became involved, the proposed merger was expected to be complete by the fourth quarter of 2008 and to generate approximately \$150 million in net annual synergies. Now, however, the deal isn't quite so clear.

The originally proposed merger would integrate the collection, transfer, recycling, and disposal operations under the management of Republic's chairman

Continued on Page 2



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Republic and Allied merger

Continued from Page 1

and chief executive officer, James E. O'Connor. It would also assemble a growing landfill gas-to-energy portfolio and significant untapped renewable energy resources.

Cash flows from operations are expected to be in excess of \$1.7 billion annually, much of which would be slated for reinvestment in the business, dividend program funding, and debt reduction.

The terms of the agreement dictate that Allied shareholders will receive 0.45 shares of Republic common stock for each share of Allied common stock held. The completion of the transaction would see Republic issuing approximately 198 million shares of common stock to Allied shareholders, or approximately 52% ownership of the combined company.

The merger agreement also allowed for Republic to enter into discussions with a third party who offered them a better deal. Enter Waste Management.

Waste Management's offer initially represented a 22% premium over Republic stock's July 11th closing price. But Republic's shares have risen on the recent news, and the original premium has fallen to approximately 5%.

The counteroffer, however, was not an idle one. Waste Management has made provisions with Credit Suisse Securities, LLC to make any necessary divestitures in order to maintain compliance with its 1999 Department of Justice decree and to stave off anti-trust inquiries. The company believed that this could all be accomplished by early 2009.

Republic was not swayed. The offer was firmly rejected in a letter to Waste Management, calling it opportunistic, and asserting that it would deny Republic shareholders the benefits that the original merger with Allied would provide.

Shortly after Republic's rejection of its offer, Waste Management expressed its disappointment with the decision. Waste Management CEO David P. Steiner noted that it was uncertain how far his company might go in order to acquire Republic, if indeed they decide to pursue the matter.

If the original merger of Republic and Allied goes through, the board of directors for the combined companies would consist of 11 members including Mr. O'Connor and five independent directors from the current boards of each company. The company would be based in Phoenix, Arizona.



James E. O'Connor, chairman and CEO of Republic Services

Pennsylvania DEP discovers violations on waste trucks

Forty-four operational and safety violations were discovered on 36 trucks during recent inspections by the Department of Environmental Protection (DEP) at four landfills and one municipal waste transfer station in Pennsylvania's north-west region.

The inspections were conducted on June 24 at Lake View Landfill in Erie County, Northwest Landfill in Butler County, Seneca Landfill in Butler County, Veolia Greentree Landfill in Elk County, and Tri-County Waste Transfer Station in Mercer County.

"Our inspections underscore the priority we give to ensuring that trash trucks on Pennsylvania highways are safe and in compliance with environmental regulations," said DEP Regional Director Kelly Burch. "We have conducted thousands of trash truck inspections over the past several years because we want to get unsafe trash trucks off the highways."

The DEP regional staff inspected a total of 519 trucks and found the following:

- Lake View Landfill – 170 trucks inspected, 3 trucks with violations;
- Northwest Landfill – 40 trucks inspected, 6 trucks with violations;

- Seneca Landfill – 115 trucks inspected, 14 trucks with violations;

- Veolia Greentree Landfill – 161 trucks inspected, 11 trucks with violations; and

- Tri-County Waste Transfer Station – 33 trucks inspected, 2 trucks with violations.

Some trucks had more than one violation. All of the violations were against haulers, not the landfills or transfer station.

Trash haulers must obtain authorization from DEP through Act 90, the state's Waste Transportation Safety Act, to haul waste in Pennsylvania to in-state facilities. DEP inspectors look at compliance history, and if outstanding violations exist or there is an inability to comply with Act 90 regulations, the state can revoke authorization.

In addition to checking the Act 90 authorization, DEP inspectors look for fire extinguisher and sign violations; drivers not properly managing waste during transportation; leaking loads; improper covers over the waste; trucks that are overweight or otherwise overloaded; and log book or record-keeping violations.

OAKLEAF recipient of Rising Star

OAKLEAF, a provider of waste logistics and recycling solutions, has been awarded two Business Champions Rising Star awards – largest employee growth and largest revenue growth, for the second year in a row. The Business Champions Awards program, established by the MetroHartford Alliance and their partner, the Hartford Business Journal, recognizes privately-held, fast track companies headquartered in Central Connecticut.

OAKLEAF was selected due to its impressive year-over-year revenue – exceeding 10% from the previous year, as well as for its continued job growth in the region. These two key factors were major components in OAKLEAF being chosen among a wide pool of applicants from around the region.

CleanTech to develop revenue through carbon credit protocols

CleanTech Biofuels, Inc. has announced the signing of an agreement with Terra Vista Systems to develop and implement Carbon Sequestration Protocols for CleanTech's waste-to-ethanol processes and manage CleanTech's Carbon Credits program.

CleanTech Biofuels' waste-to-energy cellulosic ethanol technology systems utilize waste otherwise filling landfills to produce renewable sources of ethanol fuel locally. The Carbon Credits Protocols being integrated by Terra Vista Systems into CleanTech's systems will quantify and capitalize on CleanTech's added benefit of mitigating methane and other dangerous greenhouse gases emissions from release into the atmosphere through traditional disposal of waste in landfills.

Plasco to build 440-ton Ottawa waste conversion facility

Plasco Energy Group, Inc. (PlascoEnergy) of Ottawa announced that the Ottawa City Council unanimously agreed to issue a letter of intent to PlascoEnergy to build, own and operate a 440 ton-per-day waste conversion facility that will process residual household waste that would otherwise be sent to landfill.

The City will continue to operate source separation blue box (plastic, metal and glass), black box (paper and paperboard) and yard waste composting programs introduced many years ago, and is currently introducing source separation of organics for anaerobic digestion. The Plasco Conversion Facility will convert substantially all residual household waste to valuable products, including synthetic fuel gas for operation of internal combustion engines. Generators driven by the engines and by waste heat from the conversion process will produce approximately 21 MW of net saleable base-load power for delivery to Hydro Ottawa.

Upon approval, the facility will be funded, built, owned and operated by PlascoEnergy and will be capable of processing 440 tons per day (150,000 tons per year) of garbage. PlascoEnergy will separate large metal objects prior to feeding the garbage into the conversion system and will send them back to the City for recycling. The City will pay a tipping fee of \$60 per ton of waste processed, escalated to reflect CPI over a 20-year contract. All risks of operation and efficiency of power generation are assumed by PlascoEnergy. The City will receive 25% of annual revenues that exceed an amount mutually agreed to by PlascoEnergy and the City.

The facility will occupy a six-acre site near an existing city owned and operated landfill. The city's leftover garbage will be converted into synthetic engine fuel, agricultural sulphur, industrial salt and construction aggregate with

no emissions to the air, land or water. In addition, the excess moisture in the waste will be recovered through the process as clean water.

The engines will drive electrical generators to produce reliable base-load power. Emissions from the engines will be monitored by continuous emissions monitoring and by periodic source testing. The results of both continuous and source testing will be reported on the ZeroWasteOttawa.com website and will be reviewed by independent experts approved by the Ministry of the Environment (MOE). An independent Public Advisory Committee will review and make public comments as it sees fit on the environmental performance of the facility and MOE will assure that the facility continuously meets its environmental requirements under the Ministry's Certificate of Approval.

The move by City Council comes three years after the Council approved development by PlascoEnergy of a plant to demonstrate the Plasco Conversion System on a City-owned site on the capped Nepean Landfill on Trail Road. The demonstration facility received funding support by Sustainable Development Technology Canada, and from the Ontario Ministry of Research and Innovation. Ottawa provided the demonstration site and has provided garbage for processing at the demonstration plant. The Plasco Trail Road demonstration plant began commissioning in July last year.

All necessary permits including Certificates of Approval by the Ontario MOE must be received before commencement of operations. Certificates of Approval will be based on exhaustive operating data from the existing Trail Road Demonstration Facility. The entire process of approvals and construction is expected to take approximately two years.

Long lasting biofuel cells

Continued from Page 1

bility has been the instability of enzymes in a fuel cell," says Akers, co-inventor of the stabilized enzyme biocatalyst system.

By immobilizing the enzyme at an electrode surface with Akerman's polymer, the enzyme activity has been retained to continuously oxidize the fuel for over three years. Without the stabilizing technology the enzyme remained active for only hours to days.

Biofuel cells differ from traditional fuel cells. With biofuel cells, the catalyst uses enzymes to directly react with the fuel, rather than using precious metals. The enzymes are naturally occurring and are renewable. Enzymes are also less expensive than metals.

Akerman is targeting the wireless sensor market for both industrial and military uses, where customers seek a low-wattage, long-lasting energy source for unattended devices. Examples include sensor devices for perimeter and border security. Akerman also hopes to enhance the value of food, pharmaceutical and chemical production.

The company is in the process of sampling an advanced prototype with qualified customers. Akerman also received an \$860,000 contract in June from the U.S. Army's Communications-Electronics Research Development and Engineering Center in Aberdeen Proving Ground, Maryland. The award is for the development of a stabilized enzyme biofuel cell for use in unattended ground sensor applications for the military.

"Biofuel cell technology has several advantages for unattended ground sensor applications," says Elizabeth Ferry, fuel cell team leader at CERDEC. In addition to the long run-time and using enzyme catalysts rather than precious metals, the technology is non-toxic, which allows the sensor to be disposable and left in place without recovery.

"The use of unattended sensor technologies for remote battlefield applications has greatly increased," Ferry says. "Unattended ground sensors provide valuable information to the soldier and an increased level of situational awareness on the battlefield."

The unattended sensors can exist in various sizes and forms, contain several sensor technologies and can report information on or about different types of targets, Ferry says. Plus, the longer these

devices can be powered without the need to return to change the battery or power source, the lower the risk is to military personnel.

Akerman is hoping for further military contracts to produce more stabilized enzyme biofuel cells. CERDEC will consider more contracts once the first 12-month process is completed. "If Akerman is successful, we hope to complete a significant amount of government testing and identify a suitable path forward," Ferry says.

Akerman has raised almost \$9 million since its start in 2004. Barry Blackwell, one of the first investors in the firm as part of the St. Louis Arch Angels Network, has been on the firm's board since inception. Members of the Arch Angels provide financing for early-stage companies based in the St. Louis region with high growth potential.

Blackwell, who is now Akerman's president and chief executive officer, says further financing is needed to commercialize the company's technology. He hopes to have commercial products available for the sensor market by late next year.

"We are able to differentiate ourselves for the product runtime versus alternative power sources, whether it is incumbent batteries or other fuel cells," Blackwell says. "We continue to expand our development opportunities with our mobilization technology."

Blackwell says that Akerman plans to build upon its mobilization technology, expanding beyond biofuel cells in the future. He says he hopes to make more announcements about further opportunities in the fourth quarter of this year.

Chrysalix Energy Venture Capital, a venture capital firm in Vancouver that focuses on clean-energy technology, invested in Akerman in 2005. "We felt Akerman had a very interesting platform technology," says Mike Walkinshaw, managing director.

"Our experience in clean energy technologies indicated that the enzyme encapsulation technology will dramatically improve the performance of enzymes in a variety of functions. Lifetime of the enzyme in the application is the key variable and it is where Akerman has shown a significant advantage over comparable technologies."

ASTM approves standard biodiesel blend specifications

ASTM International D02 Main Committee approved a trio of long-awaited ASTM specifications for biodiesel blends.

After more than five years of extensive research and subsequent balloting by the ASTM fuel experts in the blended fuel balloting process, ASTM has finally voted to approve three key sets of biodiesel specifications that should significantly bolster automaker support and consumer demand for biodiesel:

- Changes to the existing B100 biodiesel blend stock specification (ASTM D6751).

- Finished specifications to include up to 5% biodiesel (B5) in the conventional petrodiesel specification (ASTM D975).

- A new specification for blends of between 6 percent biodiesel (B6) to 20 percent biodiesel (B20) for on and off road diesel.

Automakers and engine manufacturers have been requesting a finished blend specification for B20 biodiesel blends for several years, with some citing the need for that spec as the single greatest hurdle preventing their full-scale acceptance of B20 use in their diesel vehicles.

Los Angeles' first hydrogen and gasoline station opens

Shell Hydrogen LLC announced the opening of California's first hydrogen refueling station on a conventional Shell gasoline forecourt in West Los Angeles (LA).

Located on Santa Monica Boulevard and Federal Avenue, the station joins California's 'hydrogen highway', and gives consumers a taste of the future, with refueling services for hydrogen powered fuel cell vehicles becoming just as convenient as conventional gasoline motors.

California already has more fuel cell vehicles (FCVs) and hydrogen refueling stations than any other part of the world, and last year recorded 1.5 million zero emission miles from hydrogen FCV trials. Twenty-five hydrogen stations currently operate in California, most in the San Francisco-Sacramento corridor and the Greater Los Angeles and San Diego regions, serving more than 100 fuel cell passenger vehicles and transit buses, with a further ten stations already in the planning stages.

Hydrogen produced at the Shell station will be done on-site by the electrolysis of water using green electricity purchased from the Los Angeles City Department of Water & Power. It will then be compressed and stored to provide daily fueling.

The station will also support a U.S.

Department of Energy hydrogen infrastructure program, to supply hydrogen to future and existing General Motors FCVs in the LA metro area. GM plans to provide more than thirty Chevrolet Equinox Fuel Cell-Electric compact SUVs to private and commercial customers in Southern California, as part of a three-year trial, called "Project Driveaway" to test the vehicles in real world driving conditions.

The United States, with over 247 million vehicles on its roads, is one of the largest auto markets – and car ownership is predicted to increase by 45% between 2005 and 2020. United States energy consumption is set to rise to 139.9 quadrillion Btu by 2015, and hydrogen FCVs are positioned to play an important part in the country's growing energy and mobility needs.

In addition to zero tailpipe emissions, finding ways to produce hydrogen from renewable sources will be critically important to making the fuel infrastructure sustainable. And with ground breaking approaches to produce 'green hydrogen', manufactured from renewable energy sources, such as bioethanol (derived from biomass) and solar energy being researched for the future, 'well to wheel' emissions will be able to near zero.



Shell Hydrogen opened California's first retail hydrogen and gasoline refueling station in West Los Angeles on June 26, 2008.

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Veolia working with Rinchem to provide chemical services

Veolia ES Technical Solutions, L.L.C., the hazardous waste division of Veolia Environmental Services, and Rinchem Company, Inc., a chemical management services company, announced that they are forming an alliance to provide chemical lifecycle management services to customers. The alliance will be called Chemical Lifecycle Management (CLM).

Chemical Lifecycle Management will give the marketplace an innovative and unique solution for managing the chemical, gas and waste logistics for a customer from "cradle-to-grave," or the lifecycle of a chemical. CLM customers will now have a single point-of-contact for chemical/gas management from the purchasing of chemicals through the recycling, reusing or disposing of the waste generated from that chemical. CLM will also work closely with customers to improve supply chain efficiencies, reduce costs, and reduce environmental liabilities.

The CLM service offering includes: chemical procurement management, chemical transportation and delivery, chemical/gas warehousing and inventory management, on-site chemical and waste management, waste collection services, waste transportation and waste recycling/disposal services. CLM will offer customers a web interface to purchase chemicals, track delivery of chemicals, view detailed material inventory throughout all warehouses and on-site at the production facilities, and track waste activities through the point of recycle or disposal.

Biomethane being produced and utilized in the UK

Gasrec, the UK's first commercial producer of liquid biomethane fuel, BOC, a member of the global gases and engineering Linde Group and SITA UK announced the successful production of liquid biomethane (LBM) fuel from the Gasrec plant at SITA UK's Albury landfill site in Surrey, UK.

Gasrec has been working closely with BOC and SITA UK to develop an LBM production facility at Albury which can recover over 85% of the methane contained in the raw gas produced from the landfill site.

The Gasrec process cleans the landfill gas of all impurities before one constituent gas, methane, is separated and liquefied to create LBM, a valuable vehicle fuel. The liquefaction technology for landfill applications is provided under an exclusive UK agreement with BOC's parent, The Linde Group. BOC provides plant operation and maintenance services as well as risk management and engineering expertise.

LBM not only offers a renewable alternative to fossil fuels, which generate harmful Greenhouse Gases, but also burns more cleanly and quietly than diesel, with a 90% reduction in PM10 particulate, a 60% reduction in nitrous oxide, a 50% reduction in sulphur dioxide and a 30% reduction in noise. The use of LBM as a fuel substitute for fossil diesel or gasoline results in carbon dioxide savings in the region of 70%, throughout the chain from extraction of the fossil fuel from the ground to its use in a vehicle. All vehicles that can operate on CNG (compressed natural gas) or LNG (liquefied natural gas) can run on LBM, however LBM offers a reduction in CO2 emissions which is twice that of natural gas.

The initial target for the use of LBM is commercial vehicles operating in the haulage and waste management sectors. Used widely, this fuel could make a valuable contribution toward the UK's short term CO2 reduction targets and lead to an overall improvement in air quality.

Gasrec has signed an agreement with the Hardstaff Group, one of the largest LNG bulk transporters in the UK, to manage transport logistics and fuel transportation from Albury. The haulage trucks use Hardstaff's dual fuel system running entirely on LBM.

Survey of Indiana flood waste completed

The United States Environmental Protection Agency (EPA) Region 5 has finished assessing 30 Indiana counties for hazardous materials and releases associated with the recent floods. EPA did not discover any significant hazardous debris or chemical releases.

On June 20, at the request of Indiana Department of Environmental Management and the Federal Emergency Management Agency, EPA began to look for hazardous materials, oil, orphan containers and sites that might present an imminent danger to health or the environment. FEMA funded the \$150,000 assesment operation.

Environmental Group urges New York governor to veto bag bill

Governor Paterson should veto well-intended, but flawed state legislation that would preempt and weaken the New York City Council's plastic bag recycling law, a leading environmental group said.

"While we applaud the State Legislature's efforts to pass legislation to require the recycling of plastic bags, we are greatly concerned that this legislation is weaker than the City law," said Andy Darrell, New York Regional Director for the Environmental Defense Fund and a member of Mayor Bloomberg's Sustainability Advisory Board. "We urge Governor Paterson to veto this bill because it sets a dangerous precedent of handcuffing the state's largest city to meet its huge solid waste challenges."

Specifically, the state bill weakens the City law as follows:

- Preempting the City from taking stronger action on bag recycling

- The Council's law applies to stores of 5,000 square feet or more and to chains under a common name; the State bill only applies to stores 10,000 square feet or more. The 5,000 square feet is better suited to New York City as stores tend to be smaller than in other parts of the State.

- The State bill only applies to plastic carryout bags. The Council's law also requires the recycling of film plastic, such as package wrap, dry cleaning bags and newspaper bags.



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Cellulosic ethanol facility to be built in Michigan

Mascoma Corporation to build and operate the new Upper Peninsula facility

Governor Jennifer M. Granholm and Mascoma Corporation CEO Bruce A. Jamerson announced that the Massachusetts-based company has entered into a series of key strategic relationships to further Mascoma's efforts to build its first commercial-scale cellulosic ethanol plant in Michigan's Upper Peninsula.

Agreements with the Michigan Eco-

nomics build on Mascoma's decision announced last July to locate in Michigan.

Mascoma's single-step cellulose-to-ethanol method, called consolidated bioprocessing, or CBP, uses advanced technologies to make ethanol from non-food based renewable sources such as wood chips and other biomass. The clean-energy technology is critical to producing

MTU to develop and hone scientific processes that utilize Michigan feedstocks for cellulosic ethanol production.

"Working with the state of Michigan, two of its leading universities, and JM Longyear on this significant project brings us closer to commercial scale production of biofuels that can promote energy independence, reduce greenhouse gas emissions, and stimulate regional economic development," Jamerson said.

Since becoming governor, Granholm has been an advocate of growing an alternative energy and alternative fuel industry in Michigan. Under her leadership, the Michigan Economic Development Corporation, led by President and CEO James C. Epolito, has worked with Mascoma to secure one of two locations in Chippewa County. Engineering is underway to finalize the site that will be secured through a land swap under negotiation with the Michigan Department of Natural Resources. The Center of Energy Excellence legislation was recently passed through the Michigan Legislature and with the governor's signature, Mascoma will be eligible for a \$15 million grant to become Michigan's first Center of Energy Excellence.

"There are great synergies in Michigan for Mascoma, not only in the ready supply of wood fiber across northern Michigan, but also great research institutions with a long-time focus on this science and our 21st Century Jobs Fund that is tuned to bringing job-creating alternative energy ventures to Michigan," Epolito said.

Mascoma and Marquette-based JM Longyear, a leading natural resource com-

pany, entered into a strategic relationship to combine Mascoma's technology with JM Longyear's significant project development experience, including its recent \$1.6 billion Minnesota Steel project and its deep natural resource experience.

Mascoma is collaborating with research partners globally to identify and patent additional biomass-to-ethanol technologies. MSU will provide expertise in areas primarily relating to pretreatment technology for cellulosic ethanol production and assistance with renewable energy crops that can be utilized by the biorefinery. MTU will contribute its knowledge of sustainable forestry management practices and access to its automotive engineering laboratories for analysis of the biofuels produced at the project site - part of its "wood to wheels" initiative.

Prior to the announcement of its first commercial-scale production facility in northern Michigan, Mascoma announced a pilot project in Rome, New York, which is now under construction and will be completed by the end of the year, and a pre-commercial scale facility to be run on switchgrass in Tennessee. Last month, Mascoma announced equity investments by General Motors and Marathon Oil Corporation as part of a \$61 million third round of funding.

"Collaborative, private-public partnerships such as this initiative on the part of the state of Michigan and Mascoma are integral to our ability to bring next-generation, environmentally friendly renewable fuels derived from non-food feedstocks out of the laboratory and into full-scale commercial production," said Cliff C. Cook, Marathon senior vice president.



COURTESY OF JONATHAN MARTIN

Mary Beth Stanek of General Motors and Bruce Jamerson, CEO of Mascoma, look on as Michigan Governor Jennifer Granholm speaks about Mascoma's plans for a cellulosic ethanol facility in Michigan's Upper Peninsula.

Development Corporation (MEDC), JM Longyear, and alliances formed with Michigan State University and Michigan Technological University will help bring the plant to Chippewa County, south of Sault Ste. Marie, where clean-burning, fuel-grade ethanol will be produced from wood fiber. The agree-

ment will help produce ethanol more quickly, efficiently and economically.

Mascoma chose Michigan for its first commercial-scale facility based on the vast sustainable forests and agricultural materials available and the expertise provided by JM Longyear. In addition, Mascoma will collaborate with MSU and

Duke acquires Catamount Energy for large scale wind operation

Duke Energy announced the acquisition of Catamount Energy Corporation from funds affiliated with Diamond Castle Holdings, LLC, a transaction that will significantly increase Duke Energy's wind energy operations.

"This acquisition reinforces Duke Energy's commitment to clean, renewable energy as a major component of electricity generation throughout the United States," said Wouter van Kempen, president of Duke Energy Generation Services (DEGS), a business unit of Duke Energy that owns and develops renewable energy assets.

Catamount Energy was formed in 1992. Since 2001, the company has focused on developing wind projects in the United States and United Kingdom. Catamount has approximately 300 megawatts of renewable energy in operation, including its interests in the Sweetwater project in Texas, which is one of the largest wind projects in the world.

The acquisition, valued at approxi-

mately \$240 million plus assumed debt, is a continuation of Duke Energy's strategy to develop renewable energy. In May 2007, Duke purchased Tierra Energy, a leading wind developer in Austin, Texas. The combined entity will have more than 5,000 megawatts of wind energy under development in 12 states and approximately 500 megawatts of operating assets by the end of 2008.

This announcement follows several other recent renewable initiatives announced by Duke Energy, including a \$100 million plan to install electricity generating solar panels at up to 850 North Carolina sites; a plan to purchase electricity output from the nation's largest photovoltaic solar farm to be built in Davidson County, North Carolina; a 20-year contract to purchase 100 megawatts from a wind farm in Indiana; and a request for proposals to purchase significant amounts of electricity from renewable energy providers in Ohio.

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THE SWEEPING CHOICE

The aftermath: Disaster waste management

by Irwin Rapoport

The recent slew of natural disasters around the nation has highlighted the need for systems and procedures designed to minimize the devastating impact and clean up the resulting mess.

Most recently, the flooding and tornadoes in the Midwest have shown that foresight and a healthy dose of common sense can reap big benefits when it comes to disaster cleanup.

Kansas, whose eastern border is bounded by the Missouri River, was not affected by this season's flooding. But the state has been affected by major tornadoes in the past three years, and last year more than 40 counties were flooded by a combination of rising rivers and 20-inch rainfalls over several days.

"The amount of debris from tornadoes in Kansas has been two or three times greater than [the debris] from floods," says Bill Bider, director of the Kansas Bureau of Waste Management (BWM). "It has been two years of major debris and we are in the middle of cleaning up the debris from two tornadoes that hit us a month ago."

Debris cleanup operations are still underway in many places, and one of the key elements in headache avoidance is the state mandates that no new landfills and waste transfer stations (WTS) may be sited on a flood plain.

"A couple of old landfills permitted before current regulations became effective were flooded last year, and they were unusable to handle debris," says Bider. "But for nearly 20 years, no landfills have been or can be sited or permitted in flood plains, and all our new landfills are accessible in cases of flood."

When Coffeetown was flooded last year, the oil refinery, located in a flood plain, filled the town with oil. Many buildings were ruined, and the contaminated debris and vegetation had to be handled carefully.

"The homes had to be demolished and specially managed," says Bider. "We sent some of the waste to an mixed municipal solid waste landfill, but for the majority, we established a new landfill disposal cell adjacent to an existing private landfill."

"We respond quickly and coordi-

nate with local government officials – and in some cases, private companies – that are already in the waste business in the area. It is our philosophy to take care of things promptly but also properly, with an eye to certain environmental considerations. We do not ignore the environment to clean up the mess and we have to follow procedures."

Procedures usually include reasonable attempts to separate debris by type: household hazardous waste, appliances, e-waste, tires, etc., and to recycle whatever is viable.

"Our goal is to always divert the material that cannot go into our landfills," says Bider. "Whether it was a flood or tornado, with recycling it tends to be metals, various chemical waste and e-waste. Woody waste is recovered and some is burned or mulched. We recycle and recover what we can."

However, practicality and the need to redevelop quickly mean that recycling isn't always an option.

"Economics do come into play and FEMA does provide funding when recy-

Continued on Page 7

London pilots waste reduction strategies

The London Government is seeking views on draft guidance for local authorities to pilot strategies to cut household waste through financial incentives.

In response to requests from local authorities, the Department for Environment, Food and Rural Affairs announced in November 2007 that it would allow up to five local authorities in England to pilot incentive strategies. Powers to enable the pilots to go ahead are currently being debated as part of the Climate Change Bill.

"We hope that publishing draft guidance will assist both Parliament – in scrutinizing the proposed legislation – and local authorities in developing pilot proposals."

Waste incentive strategies can charge or reward people according to the amount of unrecycled waste a household produces. Strategies could be rebate-only, offering rewards to those producing the least waste, or could be charge-and-rebate based, levying charges on those producing the most waste and using these to reward households which generate the least. Strategies must be "revenue neutral," so any money raised through charges is paid back as rewards. Local authorities would not be able to keep any of the revenue themselves.

Environment Minister Joan Ruddock will be writing to local authorities, inviting them to come forward with proposals for pilot strategies. The deadline will be 8 weeks after Royal Assent to the Climate Change Bill.

Joan Ruddock said, "Evidence from countries where these strategies already operate is that charges and rebates of around £50 (approx. \$100) are enough to change behavior and deliver real benefits for waste reduction."

"The shape of any pilot strategy will be for local authorities to determine - they know what is most likely to work for them in their own local circumstances. But there are some important principles to observe. For example, the need to have a good recycling service in place already, and the need to take account of vulnerable households. This draft guidance will aim to support authorities through the process of delivering a pilot strategy, whatever their ideas may be."

Joan Ruddock added, "No decision has been made about rolling out powers more widely - we will make a decision only once we have high quality, robust data from the pilots."

"We hope that publishing draft guidance will assist both Parliament – in scrutinizing the proposed legislation – and local authorities in developing pilot proposals."

When the congregation falls asleep, it's time for the minister to wake up.

MONTHLY CROSSWORD

BY Myles Mellor

ACROSS

1. Energy basic
4. ___ can, aka steel food can
6. Litter
11. Lithium symbol
12. Ancient Greek marketplace
14. Thus
15. ___ Control Law, local ordinance controlling the collection of municipal solid waste in a specific area
18. Pro
19. Sun to some
20. Fire remains
23. Morning times
25. "He's a good ___ boy"
26. Music category
27. Bashful
28. CRV part
31. AP part
33. ___inking, process that removes inks, dyes or other contaminants from wastepaper
34. Lady's suitor
35. Anti-oxidant, abbr.
36. Not as old
39. Type of plastic that is clear or colored transparent with high gloss
40. Auto's grill protector
41. Shamu
44. To loosen soil so that oxygen can get into the roots of the grass
46. William Penn state
47. Cover story
49. Measure of weight
50. Mathematical ratio
52. Retirement fund
53. Simpson's neighbor
54. Cool J or Bean preceder
56. Goal
57. Green fields
60. Child's play thing
61. Substances that yield hydrogen ions when dissolved in water
62. Diversion ____, a financial incentive provided to municipalities based on the tonnage diverted from the waste stream
63. Youngster
65. Elaborate melody
67. ___ from Waste, a recognized alternative process to reduction of recyclable materials
68. ___fill, waste burial place
69. Rubber, shredded tires

DOWN

1. Plastic bottles and petroleum products are turned into this material for clothing and carpet
2. NY railway

SOLUTION IS FOUND ON PAGE B7

1		2	3		4		5		6	7	8		9	10
			11				12	13					14	
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67							68						69	

3. Vitality
4. Plastics which can be reformed repeatedly by application of heat and pressure
5. Sodium symbol
6. Department of Conservation
7. Before, in poetry
8. Arts degree
9. Bar or tope preceder
10. ___ waste, non-soluble, discarded materials
13. GHG part
16. Long range, briefly
17. Fast mackerel
19. Sediment deposited during the treatment of sewage
21. Partner
22. Oil company
24. Belonging to me
25. Relating to
27. Trend measure, abbr.
29. Earth divider
30. Born as
31. Mother's helper (2 words)
32. Prius, for example
34. Diesel type
37. Exam option
38. Electronics group
42. Military abbreviation
43. Environmental condition
45. Stretches one's budget
46. Standby flame
48. Compacting and binding recycled material
51. Unwanted materials remaining from manufacturing processes
53. Space association that uses hydrogen fuel
55. Pyro ____, process of producing fuels from waste by heating it in an oxygen-deficient atmosphere
58. Driver's ___
59. Wheat husk
60. Support level
62. Government intelligence
64. Atop
66. Polo maker, initials

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