



American Recycler

NewsVoice of Salvage, Waste and Recycling

AmericanRecycler.com

Reconditioning or recycling plastic auto bumper covers makes sense

by MIKE BRESLIN

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Bumper covers are the most frequently replaced body part since most all makes and models use them. They cover a reinforcement bumper bar made of steel, aluminum, fiberglass composite, or plastic. Some bumper bars are designed to absorb energy on low speed impacts. The theory behind the plastic cover is that it deflects and deforms when hit lightly and pops back into its original shape. If you really bang one hard, or even hit it lightly on a sharp object it will abrade or tear. The plastic bumper evolved for several other reasons, primarily design aesthetics and aerodynamics, but also for cost and durability issues when compared to chrome.

Warren Struz, owner of Midland Park Auto Body, a shop serving northern Bergen County, New Jersey, told us what happens to his damaged bumper covers. His shop handles over 1,000 vehicles annually, many requiring bumper cover repair or replacements. "There are guys who come with a trailer and take away damaged covers. One comes down from Canada, picks them up, hauls them back to Canada, refurbishes and sells them. There's no set price per cover. He may take ten

covers and give me \$20 to \$40 bucks for the lot. But these types come and go. They are unreliable. Some want me to save covers for them, but I can't because they accumulate and I don't have the space. On occasion, when I have a good, damaged cover, I will give it to the parts supplier when the new one is delivered. If nobody picks them up, they go to the landfill."

Struz, like many shops, also repairs and recycles covers in his own shop, and in many cases feels he can do a far better job than a reconditioner. He has plastic welders and a paint shop and believes he can make it look like new. "A few weeks ago we ordered a Mercedes Benz cover. The OEM cover was \$1,500 dollars and you still have to paint and install it, which would be an additional \$1,000. I told the woman we could fix it, if she preferred. It worked out beautifully and cost her \$700 dollars for the repair, paint and install."

Insurance companies dictate whether OEM, aftermarket, or reconditioned covers are used. There is a saying in the auto body business that insurance companies follow the golden rule: they have the gold and they rule. "Every insurance company is negotiable if you get a part that does not fit

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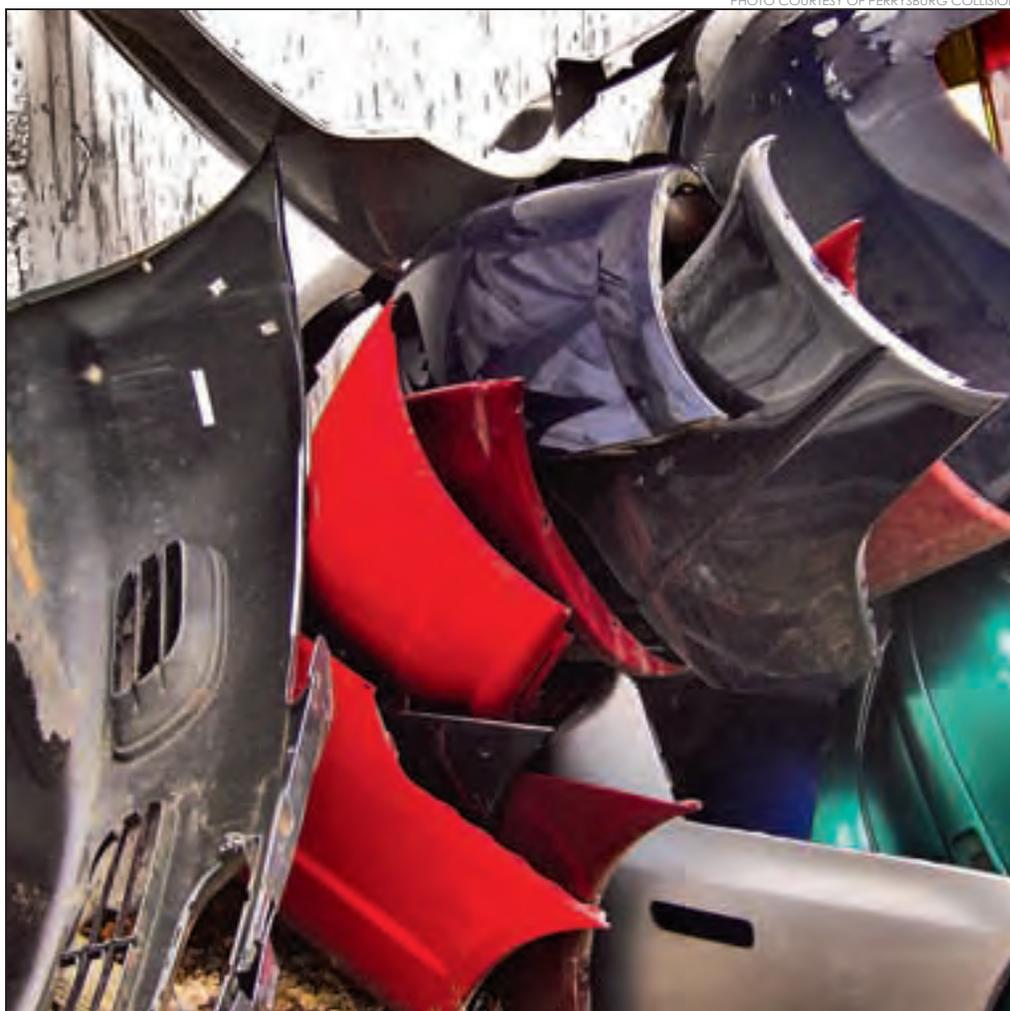


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Collision repair shops store bumpers on-site until a recycler picks them up for reconditioning or recycling based upon the bumper's condition.

Used oil: An often overlooked resource



■ Focus Section Cover, Page B1

Oregon bans landfill electronics

Effective January 1, 2010, it became illegal for consumers and businesses to dispose of computers, monitors and televisions in the garbage or at disposal sites including landfills, transfer stations and incinerators in the state of Oregon.

The new Oregon law is part of 2007 legislation that also created a free, statewide recycling program for these items.

Penalties for anyone knowingly violating the disposal ban may be as high as

\$500 for each violation. Each computer, monitor or TV that is disposed of improperly is considered a separate violation.

The purpose of the ban is to require reuse or recycling of unwanted electronics and reduce the amount of harmful waste that goes into the environment.

DEQ offers Oregon residents and business operators the following advice about the ban:

•If your garbage is picked up at the curb or in

commercial dumpsters, do not place computers, monitors or TVs in the trash, recycling bin, at the curb or alongside the dumpster. These items require special handling and cannot be collected via your regular garbage service.

•If you haul your own trash, remember that disposal sites cannot accept computers, monitors and TVs for disposal. A recycling depot located at a landfill, transfer station or other

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Keep America Beautiful shares results of study

Litter and littering behavior examined

National nonprofit Keep America Beautiful has announced the results of the largest litter study ever conducted in the United States. The study identifies and dissects the causes, effects and costs of litter in America, and is the first major national survey of litter in the United States in 40 years.

Behavioral studies observed nearly 10,000 individuals in 130 locations in 10 states. Quantitative surveys measured roadway litter in GIS-selected samplings of 45 metropolitan areas nationwide, as well as 180 non-roadway sample locations.

Key findings:

•In the past 40 years, since 1968, the amount of litter in America has decreased by 61 percent nationwide, a change attributed to aggressive, long-term public education and cleanup programs. Yet litter remains a costly and often underestimated problem for the environment and quality of life.

•Litter conservatively costs our nation \$11.5 billion per year. These are direct costs, including cleanup and prevention programs, and are carried largely by businesses and taxpayers. Not included in this figure are significant indirect costs.

•Decreased property values. 93 percent of homeowners, 55 percent of real estate agents and 90 percent of property appraisers surveyed stated that a littered neighborhood will decrease their assessment of a home's value.

•Health effects and related costs of littered environments.

•The study concludes that at least 51.2 billion pieces of litter are left on roadways; an average of 6,729 pieces of litter per mile.

•Cigarette butts comprise 38 percent of all items littered on the highways, streets, parks and playgrounds (in urban, suburban and rural areas of America).

•People matter. Most littering observed in the study – 81 percent – was committed “with intent” by the individual, and was mainly attributable to lack of individual awareness or sense of obligation. The study showed that 17 percent of all observed disposals were classified as “improper” or littering.

•Context matters. 15 percent of all littering can be attributed to context. The strongest contextual contributor to littering is the prevalence of existing litter. Other contextual variables affecting litter are the number of trash or ash receptacles present, and the distance between receptacles.

•Age matters. Older individuals (30 and over) littered less than younger individuals, but gender was surprisingly not related to litter rates.

For additional information, including a list of recommendations made by Keep American Beautiful based upon the study results, view this article on www.AmericanRecycler.com.

Columbus sports teams team up for recycling success



Recycling began at Crew Stadium in 2005, as reported in American Recycler's May 2005 edition.

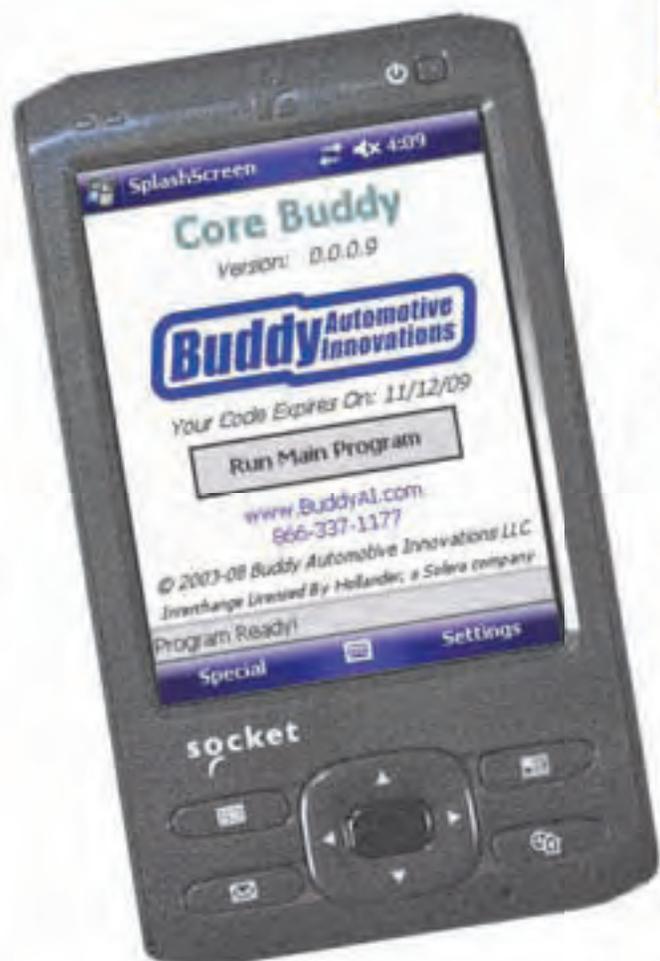
For the first month of the 2009-2010 season, The Blue Jackets (National Hockey League) and Nationwide Arena, located in Columbus, Ohio, recycled over 64 tons. During the entire 2008 hockey season, the Jackets recycling numbers totaled 346 tons. Arena director of operations Scott Lofton sees a growing impact. “Thanks to our collaborative efforts with the Solid Waste Authority of Central Ohio (SWACO) to improve solid waste and recycling volumes at Nationwide Arena, we salvage more than 46 tons of baled corrugated, mixed recyclables and scrap steel each month. Over the course of a year, we are able to divert nearly 15 percent of our total waste away from landfills.”

The inaugural season for Huntington Park has been a very green one for The Columbus Clippers. General man-

ager Ken Schnacke reports 97 tons recycled. That includes 13 tons of grass clippings that are now composted. “The Columbus Clippers and Huntington Park are proud to have contributed as much to the recycling efforts of SWACO as we did this first year at our new ballpark. SWACO was a great influence on our recycling efforts and their assistance and expertise helped us to maximize our recycling programs.”

At Crew Stadium, recycling by fans and staff also scored well. For the 2009 season just a little over 19 tons of recyclables were collected.

SWACO branded recycling containers are available for use by fans at Nationwide Arena, Huntington Park, and Crew Stadium. SWACO also provides recycling advice to the teams as well.



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Philadelphia to use Recyclebank Rewards Program

Philadelphia Mayor Michael A. Nutter along with the Philadelphia Recycling office announced that Philadelphia is launching the RecycleBank rewards service. RecycleBank will reward households in Philadelphia for the amount they recycle and the waste diverted from the landfill. All participating Philadelphia residents will be able to put all recyclables into one container – any container.

In addition to rewards for recycling, residents in Philadelphia will be the first in the nation to be rewarded for waste reduction. This bold move is in line with Mayor Nutter's green initiatives and goals for becoming the greenest city in the nation.

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

Beginning in February 2010, Philadelphia households will receive their individual RecycleBank accounts where they track their recycling activity, check their RecycleBank Points balance and redeem their Points.

Members redeem their RecycleBank Points online or via phone, where they can also learn about their personal environmental footprint through recycling, read about easy ways to be greener, and learn what happens to recyclables once picked up curbside.

SPSA agrees to sell waste energy plant

The Southeastern Public Service Authority (SPSA) of Virginia's board of directors voted to reject offers to purchase all of its assets and instead sell only its Portsmouth waste-to-energy (WTE) plant to Wheelabrator Technologies Inc.

Wheelabrator had submitted a proposal to acquire the assets of SPSA for approximately \$240 million.

The Wheelabrator's offer had been to acquire the waste-to-energy plant for \$150 million cash. Their offer also was to acquire the remaining assets of SPSA, including the landfill, transfer stations and trash trucks for \$90 million.

The sale of the waste-to-energy plant is expected to close in early 2010.

Illinois opens foam recycling facility

Foam recycling has arrived in Kane County. Dart Container Corporation of Illinois unveiled its latest post-consumer foam recycling drop-off site – the first in the state. As one of a growing number of regions to be equipped with foam recycling infrastructure, the free drop-off will pioneer a new way for Illinois residents, businesses and organizations to use and reuse foam with the number 6 on it.

This is the state's first public site to accept foam food service containers, including foam cups, plates, take-out containers, egg cartons, as well as shaped or molded foam often used to package electronics. This effort, Dart's tenth drop-off location in the country, will divert foam from area landfills and allow it to be recycled into new products such as picture frames and moldings.

"We're thrilled to open our first public drop-off in Illinois and will con-

tinue to open new collections centers across the country," said Michael West-erfield. "Dart wants to heighten public awareness that foam is recyclable. Throwing foam away is easy, but we hope that this new facility will provide private residents, businesses and organizations with an equally as easy alternative to recycle it instead of contributing to the waste stream."

Once foam is dropped off at Dart, it is then compacted and shipped to a company that will use it as feedstock to make new materials. To be accepted for recycling, the foam must bear the "6" symbol with chasing arrows.

To mark the occasion, Dart Corporation held a ribbon-cutting ceremony outside of the new drop off facility at Dart Container Corp. of Illinois. In attendance was United States Congress-

man Bill Foster, Village of North Aurora President Dale Berman and Trustee Mark Gaffino, Jonathan Wood of the Board of Education in West Aurora, and Julie DeVilbiss of Insite Managed Services.

Dart is driving recycling efforts from its manufacturing facilities to workplaces, warehouse recycling centers and consumers' homes in curbside recycling efforts across the country. Recycled foam food service products can be reprocessed into building insulation, plastic lumber, and many other products.

Foam products generate less waste in their production than paper alternatives, are stable and safe in landfills, and burn cleanly in modern municipal energy-from-waste facilities.

Stericycle to divest assets to merge with MedServe

The Department of Justice announced that it will require Stericycle, Inc. to divest certain infectious waste collection and treatment services assets in order to proceed with its acquisition of MedServe, Inc.

The agreement with the United States Department of Justice, as well as the states of Missouri and Nebraska clears the way for Stericycle to complete the deal by the end of this year. The company said it will pay MedServe \$182.5 million instead of \$185 million, and will sell a sterilization facility in Kansas, four transfer stations, and some large customer accounts and assets related to those facilities.

"Without the divestitures required by the department, critical healthcare facilities in Kansas, Missouri, Nebraska and Oklahoma would have faced higher prices," said Christine A. Varney, assistant attorney general in charge of the Department of Justice's Antitrust Division.

As part of the settlement, Stericycle agreed to notify the Justice Department and states of Missouri and Nebraska before it acquires any business involved in collecting and treating infectious waste in the four states.

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Continental Airlines releases expanded recycling results

Airline recycled enough aluminum to build 20 Boeing 777s and saved 584,300 trees

Continental Airlines has announced a major increase in the effectiveness of its recycling programs after the company put special emphasis on recycling projects in support of its commitment to the environment.

Continental said that so far in 2009, it has collected more than 4 million pounds of mixed recyclables from terminal operations at its Houston Bush International, New York/Newark Liberty and Cleveland Hopkins hubs – an 800 percent year-over-year increase. Mixed recyclables include newspapers, cans, and plastic bottles contributed by co-workers and customers via designated “EcoSkies” recycling bins in hub airport terminals.

“While Continental has had a robust recycling program for more than a decade, we have made substantial enhancements to the program throughout 2008 and 2009, increasing recycling onboard our aircraft, at our airport terminals and at other supporting facilities, like our food service kitchens,” said Leah Raney, Continental’s managing director of global environmental affairs. “We have had strong encouragement and support from our co-workers and customers, and we are excited to see such great results from our expanded recycling program.”

In 2008, Continental’s expanded inflight and flight kitchen recycling efforts resulted in the recovery of more

than 462 tons of plastic and aluminum, and more than 1,300 tons of cardboard. So far in 2009, Continental has more than doubled that amount, recovering more than 1,500 tons of plastic and aluminum, and more than 30,000 tons of cardboard.

Continental also works with contract caterers at the non-hub airports it serves to encourage recycling; now, more than 91 percent of Continental’s domestic caterers and more than 87 percent of its international caterers recycle.

Due to Continental’s focus on increasing its recycling efforts in 2009 alone, Continental has:

- Recycled enough aluminum to build 20 Boeing 777 airplanes;
- Saved more than 584,300 trees;
- Saved enough water to meet the monthly freshwater needs of 106,900 homes;
- Saved enough energy to heat and cool more than 49,600 homes;
- Reduced greenhouse gas emissions by 35,208 metric tons; and
- Reduced carbon footprint to landfills by saving 116,900 cubic yards of waste.

Proceeds from Continental’s recycling program are re-invested in the program or donated to We Care, a nonprofit charity organization that provides financial assistance to Continental employees in need.

New Jersey DEP awards record grants

The New Jersey Department of Environmental Protection (DEP) is providing New Jersey’s municipalities and counties a record \$14.5 million in grants to boost local recycling efforts, Department of Environmental Protection Acting Commissioner Mark N. Mauriello announced.

“These grants will be of great help to local governments that want to keep doing the right thing for the environment by maintaining strong recycling programs,” Commissioner Mauriello said. “Local governments will use this money to help pay recycling coordinators who quarterback these efforts, fund public education campaigns, and make sure residents continue to comply with recycling laws.”

The \$14.5 million in recycling tonnage grants is nearly double the previous record of 2008, when \$8 million was awarded as the result of the implementation of the Recycling Enhancement Act, signed into law by Governor Jon S. Corzine that year to help New Jersey reach its recycling-rate targets. This year’s total is also nearly three times higher than the pre-Recycling Enhancement Act high of \$5.5 million awarded in 1995.

The Recycling Enhancement Act significantly increased the amount of grant money available to local governments by creating a recycling enhancement fund through a \$3 per ton surcharge on trash taken to solid-waste disposal facilities.

Municipal governments, vital to the overall success of recycling, receive 60 percent of the money the fund generates to help them enhance outreach and compliance efforts. The balance is awarded to county solid-waste management and household hazardous-waste collection programs, county and state promotional efforts, and recycling research.

The individual grant awards for this year are based on the amount of materials municipalities and counties recycled in 2007, the year before the Recycling Enhancement Act took effect.

New Jersey recycled 3.8 million tons of 10.5 million tons of municipal solid waste generated in 2007, for a municipal solid waste recycling rate of 36.5 percent. Materials recycled as part of municipal programs includes paper, cardboard, glass, metal cans and plastic.

For a link to the list of grant payouts to local governments, view this article on www.americanrecycler.com.

Two friends were standing in a bank when a pair of robbers entered. Not only did the thieves clean out the tills, but also they walked around with bags and ordered everyone to throw their valuables in.

Just as the robbers got to the pair, one of the friends turned to the other and, passing him a bill, said, “By the way, Joe, here’s that twenty bucks I owe you.”

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CRI releases study on impact of single stream recycling

The Container Recycling Institute (CRI) has undertaken a study of the impact of single stream collection of residential recyclables. CRI selected Clarissa Morawski, principal of CM Consulting, to research the issue. Morawski reviewed 60 previously published studies, reports and articles in trade publications. The report finds that there are many negative downstream impacts of contaminated stock due to the mixing of the materials at curbside.

“Basically, the report confirms that you can’t unscramble an egg,” explained CRI executive director Susan Collins. “Once the materials are mixed together in a single-stream recycling system, there will be cross contamination of materials and glass breakage. These issues then result in increased costs for the secondary processors.”

The report describes the evolution of single-stream recycling in the United States, the recent downturn in the scrap market for all recyclable materials, and explains factors affecting collection costs. The real purpose of the study, however, is to examine the impacts of single stream recycling, as compared to other methods, on every step of the recycling process, including:

- Initial ease of collection and collection costs;
- Contamination rates and overall material yield at material recovery facilities (MRFs);
- Impacts on material yield at paper mills;
- Impacts on yield at plastics processors;
- Impacts on paper mills, on quality, quantity, equipment maintenance and costs;
- Impacts on aluminum processors on contamination levels, resulting equipment shutdowns, and profit losses;
- Impacts on glass, including color mixing, suitability for certain end-uses, and increased operating costs; and,
- Impacts on plastic quality and costs.

Recycling’s real purpose is remanufacturing and end use. Most lay people, and perhaps most local officials, assume that all recycled items go to their best use. They are shocked to learn that the materials they dutifully put in a recycling bin may in fact wind up in a landfill. The key to achieving the environmental and economic benefits of recycling is to keep the material circulating for as many product lives as possible. This is the closed loop that reduces the need for virgin materials, thus avoiding the energy consumption and greenhouse gas emissions associated with primary materials extraction, transportation and processing.

Ensuring that secondary recovered recyclables are utilized for the highest possible end-use is a critical part of successful diversion. For plastic, high-end uses can have ten to twenty times the environmental benefit in terms of the replacement of virgin materials and those avoided upstream impacts. Using glass to make containers saves much more energy than using recycled glass for other purposes.

The historical focus of residential recycling (in the 1990’s) has been on keeping materials out of landfills. This led to creating systems that could collect the

greatest volume of material, with less of a focus on final end-use of the materials.

In an effort to increase recycling volumes and reduce high recycling collection costs, the waste management sector created single stream recycling collection, which increases efficiencies by collecting more material with less labor and less distance traveled. Automated single stream collection can reduce the number of employees, improve route efficiency, and reduce workers compensation costs. Single stream can encourage residents to place more material in their recycling bin by giving them a larger bin and by simplifying the system.

Glass is the material most affected by the amount of breakage in each type of collection system.

In single-stream programs, it is virtually impossible to prevent glass from breaking as it goes to the curb, is dumped in the truck, gets compacted, gets dumped on the tipping floor of the MRF, is driven over by forklifts, and is dumped on conveyor belts to be processed by the MRF. On average, 40 percent of glass from single-stream collection winds up in landfills, while 20 percent is small broken glass used for low-end applications.

Only 40 percent is recycled into containers and fiberglass. About one third of the non-recyclable glass is broken glass, too small to separate for recycling, some of which can be used for sandblasting base, aggregate material, or Alternative Daily Cover (ADC). These down-cycled uses do not have the same savings in terms of energy conservation and avoided emissions. In contrast, dual-stream systems have an average yield of 90 percent, and

container-deposit systems yield 98 percent glass available for use in bottlemaking.

In general, the final commodities from single stream programs will be more contaminated than those that are collected in a dual-stream system or sorted at the curb. This contamination increase often results in the commodity being worth less than cleaner material, and can create problems at paper mills, leading to equipment failure, lost productivity and expensive repairs. In other words, the cost savings for a municipality from single-stream collection show up as cost increases for the processors and remanufacturers. The contaminants are thrown away by the paper mills. So an item, such as a plastic bottle that was recyclable when it was placed at the curb, becomes trash by the time it is sorted as a contaminant by the paper mill.

A study conducted in 2002 by Eureka Recycling (of St. Paul, Minnesota) compared five different collection methods, and found that single-stream collected 21 percent more material than the baseline method. However, the study did not ultimately recommend a single-stream system, because the lower collection costs were outweighed by higher processing costs and lower material revenues.

In another study, Daniel Lantz of Ontario, Canada-based Metro Waste Paper Recovery analyzed recovery rates for three single-stream and four dual-stream programs in that province. The study found that a drop in collection costs sees a commensurate rise in processing costs. In a recent article, Lantz concluded that the supposed benefits of single-stream systems over dual-stream do not outweigh their costs.

In summary, with increased processing costs and lost revenues in total far exceeding collection savings in most instances (and zero under alternating-week collection), overall single-stream recycling does not show the cost advantage that was originally anticipated. As well, the expected increases in capture rate are also not apparent. Overall, dual-stream recycling still appears to be more advantageous.

In spite of these challenging conditions and their impact on the current demand for recyclables, recycling continues to be a vital component of a national strategy to conserve resources, supply the manufacturing base and reduce greenhouse gas emissions, toxics and waste going to landfills and incinerators.

Manufacturers of new glass, metal, plastic and fiber products continue to encourage clean collection so that they can use secondary feedstock instead of virgin material for remanufacturing. While manufacturers will continue to invest capital into their systems to increase recycled inputs, these investments will remain contingent upon a regular supply of clean material.

The upstream environmental benefit of remanufacturing materials is 10 to 20 times greater than downcycled or disposal options.

More simply put, when a product is made from recycled material, the use of virgin materials is not required. Therefore, all the upstream energy and associated environmental impacts from the extraction, transport and processing of those virgin materials are not required, or avoided.

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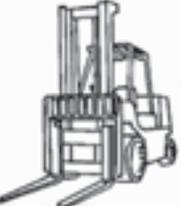
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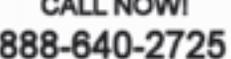
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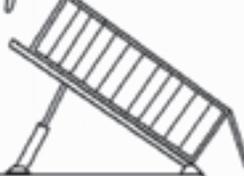
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ALTERNATIVE ENERGY

Rentech and ClearFuels receive biorefinery grant

Rentech, Inc. and ClearFuels Technology Inc. jointly announced that they have been selected to receive up to \$23 million as a grant from the United States Department of Energy (DOE) to construct a biomass gasifier at Rentech's Energy Technology Center (RETc) in Denver. The gasifier will be integrated with Rentech's Product Demonstration

Unit (PDU) for the production of renewable synthetic fuels from biomass.

The grant will be used to manufacture and install at RETc a 20 ton-per-day ClearFuels biomass gasifier designed to produce synthesis gas (syn-gas) from sugar cane bagasse, virgin wood waste and other cellulosic feedstocks.

The gasifier will be integrated with Rentech's existing PDU at the site, which uses the Rentech Process and UOP's upgrading technologies to produce renewable drop-in synthetic jet and diesel fuels at demonstration scale of 10 barrels per day. This joint demonstration of an integrated bio-refinery will lead to the final design basis for commercial

facilities that are expected to use the combined technologies.

Rentech has a 25 percent strategic ownership interest in ClearFuels, which has begun development of multiple commercial-scale biomass-to-energy projects in the southeastern United States, Hawaii and internationally. These projects are expected to use an integrated ClearFuels-Rentech design and be co-located at sugar mills, and at wood and other biomass processing facilities.

The ClearFuels-Rentech project is one of nineteen integrated bio-refinery projects selected to receive funds from the DOE under the American Recovery and Reinvestment Act to accelerate the construction and operation of pilot, demonstration, and commercial scale bio-refineries. The DOE indicated that these projects will validate refining technologies and help lay the foundation for full commercial-scale development of an advanced bio-fuels industry in the United States.

Collaboration formed to develop fuels from algae oil

Endicott Biofuels, LLC, a Houston-based, next-generation biodiesel producer, and TransAlgae, Ltd., an algal biotechnology company, have signed a Memorandum of Understanding for the development of algae as a potential transportation fuel and renewable chemical feedstock source.

TransAlgae's mission is to develop commercially viable algae strains for a variety of algae biomass growth platforms in order to deliver cost effective transportation fuels as well as other non-energy applications.

For the past year, Endicott has been involved in a fully flexible feedstock development program for the production of biodiesel, which includes algae oil-to-biodiesel commercialization. Among its future development plans are technologies that provide a higher degree of freedom for algae producers in algae strain selection and algae oil extraction for the production of biofuels.

"We believe that genetically modified algae provides the best, large-scale, sustainable solution to the multiple resource limitations the global economy is experiencing, providing high-quality alternatives to fossil fuels, petro-chemicals and protein sources without impacting arable land and water," said Dr. Noam Gressel, co-founder and board member of TransAlgae.

"Well designed algal crops can fix carbon dioxide emissions into biological molecules, such as carbohydrates, protein and oil, enabling waste carbon dioxide (CO₂) producers to turn a cost into a revenue stream."

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Bumpers

Continued from Page 1

and will pay for an OEM part. Certain companies could care less if we use aftermarket covers, some only allow reconditioned or OEM. About 10 percent of the reconditioned covers we receive are sent back because the quality of the repair is unacceptable," said Struz. "I actually got a reconditioned cover the other day that was a reconditioned aftermarket cover. It had been installed on a car, damaged, taken off, reconditioned and sold as a reconditioned. We took photos for the insurance company because it's unacceptable."

The type of plastic is easy to identify and recycle because it is stamped on the back, PP for polypropylene, PPO for polyphenylene oxide and TPE for thermoplastic elastomer as examples.

Costs for bumper cover repair-replacement vary wildly depending on make and model, but to get some perspective we spoke with the Insurance Institute for Highway Safety. For the latest round of bumper tests they conducted we obtained some costs for repair and full refinishing, including paint and labor. It varied from a low of \$519 for Mazda 6 front bumper cover to a high of \$740 for a Ford Fusion rear cover. The

average purchase price for the same OEM covers is \$358 and \$437, respectively and without labor.

"As a general rule a refurbished bumper cover costs a little more than an aftermarket product, perhaps five percent higher, but less than an OEM part. Reconditioning is very labor intense, but you wind up with an original equipment bumper. There are people who prefer a refurbished OEM than an aftermarket," said Jim Devlin, vice president of manufacturing special products at LKQ Corporation.

LKQ is the largest nationwide provider of recycled light vehicle OEM products and related services, and the largest nationwide provider of aftermarket collision replacement products. In late 2007, LKQ acquired Keystone Automotive Industries, Inc. which already had a large national market share in bumper covers and made LKQ the major North American provider of refurbished, aftermarket and OEM bumper covers.

"I believe we sell about six times as many aftermarket bumper covers as refurbished. In rough numbers, we are refurbishing about 1,200 a day," said Devlin. "It's one of the really exciting parts of the business for us. We are targeting a 21 percent increase in volume for 2010 in refurbished. The trend on the refurbish side is continually more demand for the product. The price of OEM covers is doing nothing but going up as they get larger and more complex. And, we have gotten better on the repair technique and acceptance of the remanufactured product has increased."

The increase in sales of refurbished covers is undoubtedly due to the economy. Rather than buying new vehicles,

people are repairing the ones they have and holding on to them longer. "I don't think we've seen much if any market effect because of the recession. A refurbished or aftermarket part is a great alternative to buying a new OEM part," Devlin said.

In any major metropolitan area there are several small shops that refurbish bumper covers. It's a labor intensive operation, usually one worker doing one bumper cover at a time and does not necessarily require large investments in capital equipment.

High production operations like those employed at LKQ's Lineres, Mexico bumper refurbishing plant use advanced equipment and a station-to-station workflow procedure where workers specialize in a specific task. Employing about 275, the Lineres plant produces in excess of 400 refurbished units per day.

Currently, LKQ has a total of 37 locations dedicated to bumper cover repair in the United States, Canada and Mexico that employ approximately 600 workers.

To ensure uniform quality of the finished product, LKQ instituted standard procedures and standardized the repair materials used at all refurbishing facilities.

The process begins with thermal reforming in high temperature soak tanks to soften the plastic and chemically clean the cover. This returns it to the original molded shape.

After paint stripping, double-sided airless plastic welding is the primary method for repairing tears and breaks. A technician tapes and glues the torn area to secure it and uses a die grinder to cut a groove in the torn areas so a

plastic welding rod can achieve penetration. This process is repeated on the reverse side of the torn area.

After structural repairs, the bumper cover is sanded and filler is applied to level the surface.

The cover is sanded using successively finer grits until a smooth surface is achieved. A primer coat is applied and the unit goes to quality control for an inspection to detect surface imperfections.

After final sanding, the cover receives an application of a durable black coating which serves as a finish coat for some black bumpers, or as a primer coat for matched colors applied at the auto body shop. "We strip it down and refinish it and when we give it to you it looks about as good as it was when it was brand new," Devlin claimed.

Obtaining damaged bumper covers, or "cores" as they are called, is a challenge for all refurbishing shops, especially for cores in high demand. Too many lightly damaged cores and those thought beyond repair wind up in landfills, by one estimate, ten million pounds per year of non-biodegradable plastic that could have been repaired or recycled into new products or converted to energy. "If we had more cores to match up with demand, we could produce a tremendous amount of refurbished. The key to this business is cores and one of our main concentrations is getting a wide variety of good cores," said Devlin.

Cores coming into LKQ result from transactions with body shops when their drivers deliver new, reconditioned or aftermarket parts and pick up cores, often for free. "The informal deal is that when we drop off a bumper cover we like to get a damaged one in exchange. We offer incentives for our drivers to pick up cores and we review that on a continual basis to make sure the motivation is there," said Devlin. LKQ also gets cores from used parts consolidators who buy cores from scrap yards and body shops and sell to reconditioners, often LKQ provides wish lists of the types of covers it wants.

Many cores collected in the United States are trucked to LKQ's Mexico plant for remanufacturing and sent back to the United States. No sales take place in Mexico. "They have proven to be an excellent facility producing an excellent quality product. The biggest advantage is it allows us to repair covers that otherwise could not be repaired in the United States for economic reasons and we can repair more heavily damaged ones that require more time."

"I think we are looking at tremendous growth in refurbished bumper covers. We have a great process manual that is like a cookbook. We can put in an operation anywhere we choose and have the same looking product coming out anywhere. That's a very powerful thing to be able to hand over and start an operation," Devlin concluded.

A tourist was being led through the swamps of Florida. "Is it true," he asked, "that an alligator won't attack you if you carry a flashlight?"

"That depends," replied the guide, "on how fast you carry the flashlight."

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ELECTRONICS

Motorola establishes take-back recycling program

Motorola, Inc. has established a take-back recycling program for its United States Enterprise Mobility Solutions (EMS) customers to help them responsibly dispose of used equipment.

The products covered in the program include all Motorola-branded enterprise mobility equipment, such as mobile and portable two-way radios; handheld mobile computers; barcode scanners; imagers; in-vehicle mobile workstations; accessories; network infrastructure equipment; and computers, laptops and monitors. Batteries are also included but must be removed from the equipment before they are shipped for recycling. There is no cost incurred by the customer; however, freight charges may be applied in some cases.

To return smaller or more portable items, customers can arrange shipment to one of Motorola's e-waste recycling partners online. For larger equipment returns, customers are contacted for pick-up by a Motorola e-waste partner. Motorola audits its recyclers to ensure they comply with laws governing the disposal of electronic equipment, following the company's supplier code of conduct and industry standards.

In 2008, Motorola collected more than 2,560 tons of electronic and electrical equipment waste for recycling. This includes take-back programs, internal electronics recycling efforts and community electronics recycling events sponsored by Motorola.

Oregon

Continued from Page 1

site may accept them for recycling purposes. Check with the facility first. If you are hauling trash for your business, consider arranging services with an e-waste recycler.

Remember to use the Oregon E-Cycles program to get rid of your unwanted computers, monitors and TVs for free. Anyone can bring seven or fewer computers, monitors and TVs at a time to participating Oregon E-Cycles collection sites for free recycling. Households, small businesses and small nonprofits may recycle more than seven items at one time. Oregon E-Cycles defines small businesses and small nonprofits as having 10 or fewer employees.

The Oregon DEQ requires that all materials collected at participating Oregon E-Cycles sites are recycled responsibly and under environmentally sound management practices. DEQ tracks and documents recycling locations and how the materials were handled.

The ban is limited to computers, monitors and televisions and does not include computer peripherals such as keyboards, mice, speakers, printers and scanners, or other electronics such as cell phones. DEQ encourages all Oregonians to recycle these items as well. If your local E-Cycles collection site does not accept other devices, there are many other businesses that recycle electronics.

For more information about the disposal ban and answers to commonly asked questions about the ban, visit www.deq.state.or.us.

LG starts recycling program for hotel TVs and monitors

Manufacturer partners with WM

LG Electronics USA, Inc., and Waste Management, Inc. announced the first recycling program for hotel operators to responsibly dispose of outdated television sets and computer monitors.

In 2010 alone, hundreds of hotels are expected to upgrade thousands of rooms with energy-efficient LG flat-panel digital TVs, which will displace older analog picture tube TVs. To support this growing trend, LG Electronics will now offer environmentally conscious hotel, motel and resort operators a convenient, cost-effective opportunity for recycling the obsolete hotel TVs.

Under this new program planned for launch in 2010, LG Electronics would facilitate the recycling process through Waste Management's subsidiary WM Recycle America LLC. In addition to

offering the TV and monitor-recycling program, LG would assist hoteliers in working with WM to recycle the packaging from the new LG flat-panel HDTVs and computer monitors being installed in their properties.

The hotel TVs and computer monitors collected under this program will be processed in an environmentally responsible manner at one of four regionally designated Waste Management e-cycling facilities that are ISO 14001 and 9001 certified to protect the local environment in those communities along with the people handling this waste. Waste Management is also committed to the United States Environmental Protection Agency's R2 Standards for the management of electronic waste.

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ON TOPIC — Q & A

by Irwin Rapoport

Auto recycling is a crucial element of America's recycling infrastructure as it oversees the end-of-life stage for millions of cars that are retired on an annual basis from the nation's nearly 300 million vehicles.

Ensuring that it is economically viable and environmentally-friendly is essential to both recyclers and the general public, which at times does not recognize the full implications of having a system that dismantles vehicles to provide quality spare parts, provide steel mills with feedstock, recovers valuable non-ferrous metals and ensures that hazardous materials found in cars contaminate the environment.

Joseph Holsten, president and chief executive officer, LKQ Corporation, spoke with American Recycler about the current state of the industry.

Do you have any thoughts on methods to increase the percentage of the vehicle that can be recycled?

Holsten: At LKQ, we have a Zero Landfill Goal and are working hard to meet that target. On average, we are able to recycle more than 80 percent of total vehicle weight from the recycling of the metals, fluids and tires. The viability of recycling the plastic, glass, foam and fabric from vehicles remains a challenge. While the technology to recover post-shredder materials exists, the costs remain too high to support the collection, transport and processing of non-metal solid materials.

What more can be done to promote the sale of recycled oil and its use as an energy source?

Holsten: LKQ supports the use of recycled oil as an energy source. Every vehicle we purchase – and, last year, that meant more than 440,000 cars – is first processed through a fluid station where the fluids, including motor oil, are separately removed and, whenever possible, reused. For example, many of our salvage yards heat their plants with EPA-approved oil furnaces. Each of our recycling facilities sells the used oil it collects to recycling companies that process it for heating and other purposes.

What is being done to promote the sale of recovered fluids to recyclers and fluid manufacturers?

Holsten: The collection and recycling of fluids from vehicles is driven by regulatory constraints, the inherent value of the fluids for reuse, and current recycling and fluid management practices. LKQ collects fluids and utilizes cost effective, approved approaches for treatment, reuse, recycling and energy recovery. The best option for fluid treatment is often driven by market demand, geography, and availability of the services of recycling companies.

What type of federal and state legislation is needed to help the industry?

Holsten: The recycling of vehicles for parts, metals and fluids, makes sense. Why use scarce resources and subject the environment to additional emissions in order to create more of what we already have? Legislation works best when the objectives of the free market and public policy coincide and the economics of recycling are aligned with what is good for the environment.

We feel strongly that in order to maintain the safety of the motoring public and to protect the environment only qualified buyers should have access to

purchase salvaged vehicles at the auctions. We also have advocated in support of state compliance with the National Motor Vehicle Title Information System or NMVTIS. NMVTIS is an important industry program that tracks the transfer of vehicles and helps protect consumers from purchasing unsafe and fraudulently obtained vehicles.

What action can the industry take to increase the percentage of a vehicle that can be recycled?

Holsten: To increase the recyclable portion of vehicles, we need viable options for recycling plastic, glass and foam materials. One approach that would support improving the supply of recycled plastics would be to work with vehicle manufacturers on product designs that encourage the use of plastics that are compatible for easier recycling. Another approach would be to work with plastic recycling companies to gain a better understanding of the collection requirements and separation methods that can accommodate the recycling of different types of plastics.

Extensive labeling of all plastic parts and their components would further assist recycling efforts, and help in the collection and proper separation of materials before the vehicles are shredded.

What are some of the problems facing auto recyclers in terms of the actual dismantling of vehicles and what can be done about them?

Holsten: There are a number of challenges facing auto recyclers including the handling of the materials selected for use in new cars and the design of the vehicle systems and components. New specialty and boron steels and other high strength metals create challenges in cutting, removing parts and other dismantling procedures. The design of fluid reservoirs often makes it difficult to completely drain and capture fluids for recycling. LKQ is working through the Automobile Recyclers Association to collaborate with the OEMs on fluid collection, vehicle design and material selection in order to improve the recycling process.

As hybrid electric vehicles become more common, they ultimately will end up in salvage yards, posing new recycling challenges. These vehicles contain new battery chemistries that are potentially dangerous and do not, yet, have an established infrastructure for recycling. We are working with the OEMs and battery recycling companies to establish safe handling procedures, and to help develop markets and the infrastructure to recycle these batteries.

CONSTRUCTION & DEMOLITION

Allied Waste dedicates first compressed natural gas refuse and recycling fleet

Allied Waste Services of Boise, a Republic Services company, unveiled a compressed natural gas (CNG) station that will fuel the company's CNG refuse truck fleet and will also serve as the first public fueling station in Idaho starting next year. Republic has a contract with the City of Boise to provide all solid waste and recycling services for residential and commercial customers in the Greater Boise area. Clean Energy, a provider of natural gas for transportation in North America, provided the fueling infrastructure.

"We believe that CNG, because it is a domestic fuel resource, is a positive move for the country and will help us achieve energy independence," said

Kory Coleman, area president Mountain Region, Republic Services. "The use of these clean-burning CNG trucks as replacements for our older diesel models aligns with the City of Boise's strategic plan to achieve consistent compliance with increasingly stringent standards set by the United States Environmental Protection Agency."

Using CNG helps lower harmful emissions like nitrogen oxides, particulate matter, toxic pollutants and greenhouse gas carbon dioxide in the air. The public fueling station, which will be complete in 2010, will make it possible for individuals, fleet operators and local governments to switch to CNG fuel.

Owens Corning recycles shingles

Owens Corning announced that it will provide a new program that simplifies recycling asphalt shingles for its Preferred Roofing Contractors. The Company is the first roofing manufacturer to connect contractors with convenient recycling facilities through a national strategic alliance.

Based on a pilot conducted in Indiana, Owens Corning will roll out the program nationally, starting in the Midwest.

Contractors pledge to recycle their shingle tear-offs. In addition to keeping shingle waste out of landfills, contractors benefit by promoting sustainable business practices to homeowners.

Owens Corning is working with Heritage Environmental Services which will provide dedicated, convenient drop-off centers that will recycle and process shingle tear-offs.

Bob Moore Construction completes LEED project in Texas

Bob Moore Construction has completed the largest LEED Gold Core and Shell Industrial project in the state of Texas.

The three-building, 1.16 million square foot business park along State Highway 360 in Arlington is also one of the first industrial projects in Texas to earn LEED Gold Core and Shell certification.

Some of the considerations for Pioneer 360 Business Center's LEED Gold certification include:

- The project began with the demolition and asbestos abatement of the Festival Marketplace mall; over 91,634 tons – of steel, concrete, asphalt, copper and alu-

minum coming from the mall were recycled rather than sent to landfill.

- Community connectivity and infill-redevelopment rather than adding to suburban sprawl – the project replaced an abandoned mall and was built on already developed land instead of a previously undeveloped area.

- A white roof and light-colored concrete was used to reflect heat and reduce facility cooling costs.

- Use of T-5 warehouse lights for energy conservation.

- Sunlight harvesting – use of a watt stopper system to automatically control lights in skylight areas.

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PLASTICS

Plastic Package utilizes solar power

Plastic Package Inc., a Sacramento, California manufacturing company, is now forming plastic using solar power as an energy source that fits well with their sustainable business practices.

Already a manufacturer of 100 percent post consumer recycled plastic containers, Plastic Package, Inc. has committed to using power from the sun in its manufacturing processes.

“The plastics business is not normally thought of as a green business,” said Jim Kaye, Plastic Package Inc.’s chairman, “but we are making major strides in that direction by using recycled soda bottles as well as bio-based materials in our products. Now that we’ve added solar, we want to let the community and our clients know, so they can feel comfortable that when they use our packaging, they are part of the sustainable process.”

The company is using the latest technology and products to produce plastic products that are both recyclable, non-petroleum based (instead using corn-based components) and compostable.

The company selected an innovative solution by installing the largest cylindrical thin film solar system

west of New Jersey. This technology produced by Solyndra, a Bay Area company recently funded by a \$535 million loan guarantee from the Department of Energy, was designed, engineered and installed by Premier Power Renewable Energy of El Dorado Hills – all within 10 weeks from signing the contract and just seven weeks for the installation. The installation was completed one week before the scheduled time.

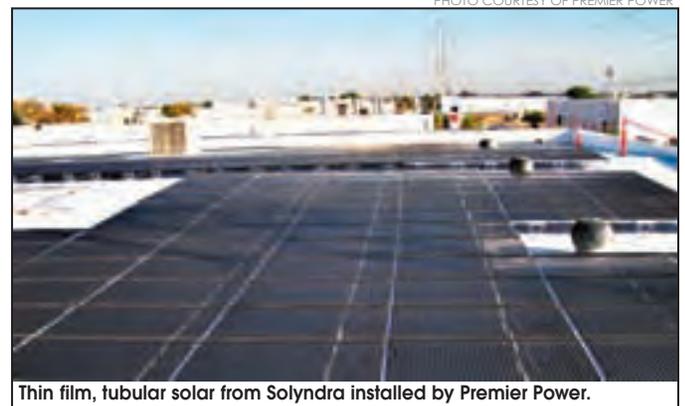
The new 208 kW system installed on the roof will initially handle all of Plastic Package’s peak demand and assist its local power provider, Sacramento Municipal Utility District in reducing its summer peak loads during the hottest part of the day.

With solar, the production peaks simultaneously with energy demand. As the sun heats up into midday, power demand increases. With the sun higher in the sky the output from the rooftop solar system is increased. With the addition of a white membrane roof, the unique cylindrical solar panels boosts production even further.

The new cylindrical modules capture sunlight over a 360 degree photovoltaic surface.



Congresswoman Matsui, Jennifer Kaye, President of Plastic Package, Jim Kaye, CEO of Plastic Package, Dean Marks, CEO and President of Premier Power.



Thin film, tubular solar from Solyndra installed by Premier Power.



Shoppers utilize the recycling bins placed in downtown Traverse City.

Grand Traverse County recycling bins made available to shoppers

The Grand Traverse County Resource Recovery Department declared that the downtown Traverse City recycling program is being welcomed by local shoppers, businesses and the community in general.

In August, 2009, the Grand Traverse County Resource Recovery department, along with the Downtown Development Authority (DDA), initiated a pilot recycling program by placing 14 recycling

containers within the downtown area. The bins provide the opportunity to recycle paper and beverage bottles made of plastic and glass, as well as metal containers.

Traverse City is one of very few communities within the state that offers the community service opportunity. Staff is monitoring the success of the recycling containers for future expansion.

Naya Waters uses recycled plastics

Canada-based Naya Spring Water announced it is the first bottled spring water company to use 100 percent recycled plastic in its bottles.

After seven years of research and development, Naya’s rPET plastic used in the new bottle is FDA approved and meets the same rigorous safety standards as virgin plastic bottles. Naya’s pure spring water will be available in the new bottles in early 2010.



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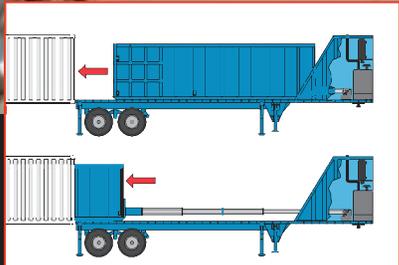
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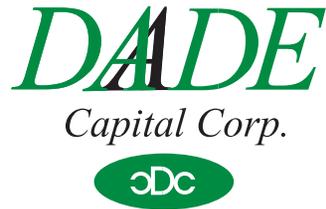


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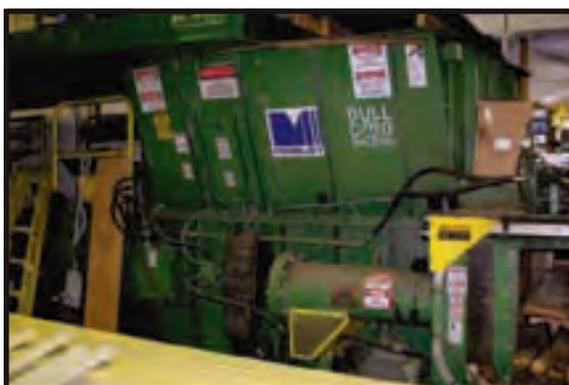
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200 h.p., 12" main cylinder, bale release. Reconditioned with 90 day warranty \$195,000



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In like-new condition. Very low hours and big savings over new. \$310,000



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INTERNATIONAL

UK recycles more PVC

More end-of-life PVC waste is being recycled than ever before, despite the challenging economic times, according to Recovynyl, UK's PVC recycling initiative.

Figures for the first 9 months of 2009 show that just over 20 percent more grade B or end-of-life material, mainly PVC-U window and door frames that have been removed from properties, was recycled compared to the same period in 2008. During the same period, 9,212 tons were collected for recycling, compared to 7,610 for the same period to end of September 2008.

It is the first time that recycling volumes for end-of-life PVC have overtaken that for other types of PVC waste, such as PVC offcuts, mismeasured windows and cable waste, since the organization began compiling UK statistics in 2005.

Describing this as a 'considerable achievement', Roger Morton, of Axion Consulting, the program's agents, said the figures show that Recovynyl is achieving its original aim of developing markets for post-consumer PVC recycle in the UK and to promote collection, recycling and re-use of the material.

In financial terms, landfill tax is rising each year and is in addition to disposal costs charged by waste companies.

Last year, nearly 43,000 tons of post-use PVC products – mostly PVC-U profile – were recycled in the UK. However, although overall volumes for 2009 are expected to be down, Recovynyl said

trends are looking more positive for the final quarter.

Morton said volumes of post-consumer PVC waste being recycled have held up well, despite the difficult economic climate and lower levels of activity in the construction sector.

"Refurbishment is still happening as evidenced by the increased amount of end-of-life PVC waste arising from the removal of previously-installed PVC products, such as window and door frames," said Morton.

His comments are echoed by Ian Murray, MD, of Manchester-based Recovynyl-accredited PVC Recycling Ltd, which specializes in reprocessing post-consumer PVC frames. Recycled material is used in diverse new applications, from PVC windows and soffits to equestrian fencing.

"Recession or not, we've been seeing frames coming in, so companies are fitting new ones – and recycling those coming out," said Murray. "In fact, October was one of our best months as we recycled 364 tons."

In a report by Vinyl 2010 earlier this year, the UK achieved second place out of 15 countries in a European table for recycling PVC post-consumer waste, mainly from the building and construction sectors.

The UK contributed more than 21 percent to the European total of nearly 195,000 tons by recycling nearly 43,000 tons of post-consumer PVC in 2008. In 2007, 42,162 tons of post-consumer PVC from the UK was recycled.

Tough legislation boosts the South African hazardous waste management market

The South African hazardous waste management market is experiencing rapid growth due to tightening legislation related to waste collection, transportation and disposal. Environmental inspectors have been pressuring waste generating companies to improve their environmental impact management programs, opening up opportunities for waste management companies.

New analysis from Frost & Sullivan, The South African Hazardous Waste Management Market, finds that the market reached a peak growth rate of 14.5 percent in 2008; however, due to the economic slowdown, growth in this market is expected to decline to around 11 percent in 2009.

"The recent tightening of environmental legislation by environmental inspectors has been a major driver for the rapid increase in volumes of hazardous waste emanating from various industries," said Frost & Sullivan research analyst Derrick Chikanga.

Previously, a mere 4.8 percent of the total hazardous waste material generated in South Africa found its way to hazardous landfill sites. However, in 2008, some of the major hazardous waste management companies received record tonnages, with some treating and disposing of 58 percent more hazardous waste than in 2007.

The power generation industry is becoming a greater source of waste material as Eskom Holdings, South Africa's power utility, has embarked on an expansion drive to increase generation capacity. During this process, large volumes of hazardous waste material are likely to be generated from scrubbed-off gasses.

The market segments covered in this research are mining, power generation and industrial and metals finishing. The technologies covered are biological treatment equipment, physico-chemical treatment equipment and thermal treatment equipment.

Hydro opens recycling center in Germany

Norsk Hydro ASA (Hydro) has opened a new 50,000 ton remelting facility at the Alunorf plant in Neuss, Germany, bringing Hydro's total recycling capacity in Germany to 150,000 tons of aluminum.

The Hydro recycling center is a state-of-the-art facility that saves energy by

burning lacquer, as attached to the scrap metal, and directly using the emerging gas to power the remelting process.

The center's environmental features include a regenerative combustion system, the complete reuse of process remains and indoor scrap handling.

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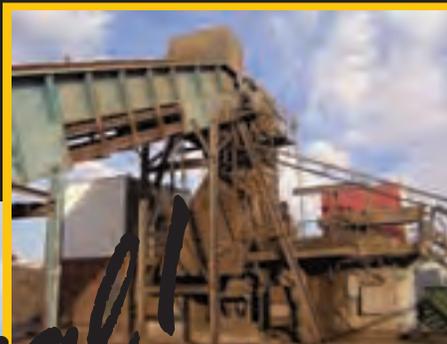
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It was replaced last year by a larger shredding system.

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METALS

Upstate Shredding acquires the Matlow Company

Adam Weitsman, president of Upstate Shredding, LLC, announced the Company's upcoming acquisition of Matlow Company, Inc. located in Solway, New York, a suburb of Syracuse. The all cash deal to acquire the assets, land and equipment of the ferrous and non-ferrous scrap metal dealer was scheduled for closing in December. Matlow, which has been serving the Syracuse scrap metal market for over 90 years, will complement Upstate and its sister company Ben Weitsman & Son scrap metal processing operations in Owego, Binghamton and Ithaca. Steve Green, Upstate's executive VP and former purchasing manager for Nucor Steel, will manage the Syracuse operation. Peter Matlow will join the management team.

"The acquisition of Matlow is part of our strategic expansion that is allowing us to offer some of the highest prices paid for scrap metals in the Northeast. Syracuse will become a modernized, environmentally responsible, customer-convenient location. It will become a feeder station for our Owego mega scrap metal processing plant that is in the process of completing a \$25 million dollar upgrade to make it one of the most technically advanced and efficient in the world," said Weitsman. Upstate also

plans to open a seven-acre Scranton, Pennsylvania facility in spring 2010 and is actively looking at other Northeastern locations.

Upstate's new Syracuse operation will now be open seven days a week and operate under the Ben Weitsman & Son name. The facility will undergo a comprehensive renovation to meet the high environmental and operational efficiency standards set at other Upstate facilities. This will involve new buildings, complete yard pavement, the installation of a new storm water treatment plant and landscaping for noise mitigation and to improve community aesthetics.

Equipment upgrades will include three new Sennebogen cranes, two new mobile shears and a new Harris HRB bailer. By installing new high speed conveyors, new container loading systems and coupled with Upstate's fleet of 1200 roll-on-roll-off containers, and direct rail access, the Syracuse location will have access to global scrap metal markets for the first time.

Until the acquisition, Matlow sales were historically 100 percent domestic, but are expected to become 90 percent export and 10 percent domestic to fall in line with Upstate's sales distribution. After staff reviews, the new operation is likely to create additional jobs.

Import permit applications decline by 11 percent

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 November totaled 1,386,000 net tons (NT). This was an 11 percent decrease from both the 1,561,000 permit tons recorded in October 2009 and the October preliminary imports total of 1,560,000 NT.

Import permit tonnage for finished steel in November was 957,000 NT, which was a decrease of 19 percent from the October preliminary imports total of 1,177,000 NT. November 2009 total and finished steel import permit tons would annualize at 16,089,000 NT and

14,102,000 NT, down 50 percent and 46 percent, respectively, from the 31,927,000 NT and 25,956,000 NT imported in 2008.

In November 2009, the largest finished steel import permit applications for offshore countries were for Korea (101,000 NT, down 1 percent from October), the Netherlands (70,000 NT, up 11 percent), China (61,000 NT, up 24 percent), Japan (54,000 NT, down 40 percent) and Italy (54,000 NT, up 14 percent). Finished steel import market share in November is estimated at 15 percent and at 21 percent year-to-date.

While finished steel import permits in November were down overall, six finished product categories registered an increase.

Valley Brass and Aluminum penalized

The Oregon Department of Environmental Quality (DEQ) recently issued a penalty of \$7,382 to Valley Brass and Aluminum Inc., Salem, for illegally disposing of foundry sand waste that was contaminated with hazardous levels of lead.

DEQ had originally issued the penalty because the company stored piles of sand generated at the foundry on Hilfiker Road in Salem directly on the ground at its site, without cover and not contained. Valley Brass and Aluminum promptly corrected the violation by having the lead-contaminated waste sand treated to render it non-hazardous.

The penalty was for disposing of the hazardous waste at the Company site rather than at a permitted hazardous waste disposal site. DEQ also cited the Company for failing to determine if the waste was hazardous. Failing to determine whether wastes are hazardous often leads to illegal handling of hazardous wastes, which poses a threat to human health and the environment. DEQ did not assess a civil penalty to the company for this violation.

Valley Brass and Aluminum appealed the penalty and has presented additional information to DEQ. It is now negotiating with DEQ to settle the case.



Scrap Metals MarketWatch



Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$240.00	\$210.00	\$242.00	\$250.00	\$315.00
#1 Bundles	per gross ton	240.00	210.00	240.00	249.00	313.00
Plate and Structural	per gross ton	260.00	205.00	265.00	255.00	290.00
#1 & 2 Mixed Steel	per gross ton	250.00	205.00	246.00	259.00	275.00
Shredder Bundles (tin)	per gross ton	195.00	180.00	185.00	180.00	215.00
Crushed Auto Bodies	per gross ton	195.00	180.00	185.00	175.00	215.00
Steel Turnings	per pound	85.00	87.00	98.00	110.00	195.00
#1 Copper	per pound	2.70	2.70	2.90	2.79	2.85
#2 Copper	per pound	2.60	2.60	2.82	2.68	2.75
Aluminum Cans	per pound	.60	.60	.69	.67	.72
Auto Radiators	per pound	1.60	1.65	1.78	1.69	1.70
Aluminum Core Radiators	per pound	.50	.80	.58	.56	.59
Heater Cores	per pound	1.20	1.25	1.40	1.48	1.48
Stainless Steel	per pound	.70	.60	.69	.68	.70

All prices are expressed in USD. Printed as a reader service only.

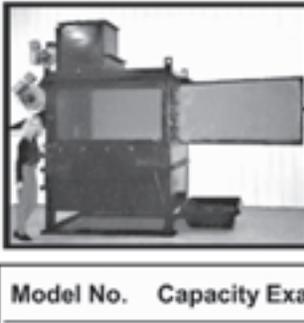
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Aluminum Sweat Furnaces

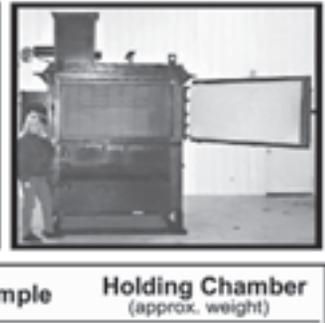
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AK8000



AK7000



AK6000

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AK5500	15-16 transmissions	750-800 lbs.
AK6000	20-22 transmissions	850-900 lbs.
AK7000	40-45 transmissions	1,200-1,500 lbs.
AK8000	50-55 transmissions	3,000-3,200 lbs.
AK8500	70-80 transmissions	4,500-5,000 lbs.

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METALS

Steel imports increase 29 percent

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the United States imported a total of 1,560,000 net tons (NT) of steel in October 2009, including 1,177,000 NT of finished steel (up 29 percent and 15 percent, respectively, vs. September final data). This was the highest monthly total import figure since February. Finished steel import market share was an estimated 18 percent in October and is an estimated 22 percent year-to-date (YTD) through ten months.

Key finished steel products with increases in October 2009 compared to September include reinforcing bars (105 percent), wire rods (55 percent), hot rolled bars (42 percent) line pipe (35 percent) and oil country goods (29 percent).

In October, the largest volumes of finished steel imports from offshore

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)					
	OCT 2009	SEP 2009	OCT 2008	2008 Annual	% Change 2009 Annual vs. 2008
SOUTH KOREA	102	64	168	2,305	-42.6%
JAPAN	91	52	134	1,614	-38.8%
TURKEY	69	11	72	827	-34.6%
NETHERLANDS	63	23	111	474	-36.9%
INDIA	52	39	71	1,102	-43.2%
CHINA	50	42	727	4,821	-66.4%
AUSTRALIA	50	35	70	626	-55.8%
GERMANY	45	31	88	1,122	-55.1%
All Others	656	728	1,048	13,065	-37.3%
TOTAL	1,177	1,026	2,490	25,956	-44.7%

were from South Korea (102,000 NT, up 59 percent), Japan (91,000 NT, up 76 percent), Turkey (69,000 NT, up 509 percent), The Netherlands (63,000 NT, up 170 percent) and India (52,000 NT, up 32 percent).

SALVAGING Millions

by Ron Sturgeon
Autosalvageconsultant.com

Strategic thinking: A habit that pays dividends

Strategic thinking means asking yourself the short and long-term effects of every major business decision you make. Strategic thinking is a habit.

The value of strategic thinking was brought to light for me during my time with the United Recyclers Group, a limited partnership of 300+ auto recyclers that I helped create to pool resources and address industry issues. Most of the other managers in the group said they learned more about strategic thinking from the exchange of ideas at our meetings than they had in years of making decisions as owners and managers.

Being involved in a well run industry association is a great way to develop strategic thinking skills because of the kinds of questions that associations consider. The seasoned business owners that started the URG might have been too busy with their day-to-day operations to delve as deeply into the big picture issues facing our industry as they did had they not come together at association meetings. The involvement forced them to think strategically. The same was true for me. Hearing from counterparts forced me to think more deeply about long-term issues facing our businesses and the industry.

I have a rule for weighing the upside gain against the downside risk. First, I define the goal of any decision or action I am considering. If it isn't

definable, then going with the decision or action probably isn't worth the effort or risk. What's the real upside? What's the downside? The decision, if you pause to ask yourself these questions, is usually easier than it appears to be.

What happens after the decision is made is critical. I make a habit of measuring results in the key facets of my operations. How did the decision I made affect results? Weighing decisions and measuring results is a good business habit.

For example, what's the consequence of refusing to accept credit cards because a customer passed a stolen card on you? Some customers won't be able to buy from you. What's that cost you? You might be losing more by not accepting cards. Look at the big picture, not just one bad transaction.

In another typical scenario, what would result from your hiring a relative or in-law? Suppose this person does not have the skills but needs a job. You want to help. What will the consequence be? Can you afford the time to train her? What will be the consequence? Does she show willingness and desire to learn? What will be the consequence?

These are the kinds of questions you need to ask yourself until the asking becomes second nature and you have become a truly strategic thinker.

Horsehead Holding acquires INMETCO

Horsehead Holding Corp. (Horsehead), the parent company of Horsehead Corporation, a producer of specialty zinc and zinc-based products and recycler of electric arc furnace (EAF) dust, a listed hazardous waste, announced its plans to acquire International Metals Reclamation Company (INMETCO), a recycler of metals-bearing wastes in North America.

Based in Ellwood City, Pennsylvania, INMETCO employs 108 people and operates the only secondary smelter in North America dedicated to recycling nickel, chromium and other metals from hazardous and non-hazardous wastes generated mostly by stainless steel and specialty metals producers.

INMETCO is also a leading processor of nickel-cadmium (NiCd) batteries, and its process has been recognized by the EPA as the Best Demonstrated Available Technology for the recycling of NiCd batteries. In 2008, INMETCO generated earnings before interest, taxes, depreciation, and amortization of \$12.8 million on revenue of \$61.1 million on total remelt alloy shipments of approximately 27,000 tons.

The combination of Horsehead and INMETCO will enhance Horsehead's hazardous waste services platform and diversify its range of capabilities and products including the recycling of electric arc furnace dust and stainless steel flue dust for the recovery and reuse of a wide range of valuable metals.

Under the terms of the Stock Purchase Agreement, Horsehead is expected to pay a purchase price of \$34 million in cash, subject to adjustment, and the assumption of certain financial assurance obligations associated with environmental regulatory requirements that are currently in the form of a \$8.55 million letter of credit.

How are husbands like lawn mowers?

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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.

BUSINESS BRIEFS

Tube City IMS opens trading office in Taiwan

■ Tube City IMS, LLC, a provider of products and services to steel mills and foundries globally, announced that it has opened its first representative trading office in Kaohsiung City, Taiwan.

J. David Aronson, president and chief operating officer, Raw Material and Optimization Group, Tube City IMS, said Taiwan is an increasingly important market in the Asia-Pacific region.

Heading up the newly-opened Taiwan office will be Kenny Hung as chief representative. Prior to joining the Company, Hung worked at a large Asian trading company specializing in steel products. He has a bachelor's degree in international business from Tunghai University in Taichung, Taiwan.

Innov-X Systems and BT Wolfgang Binder partner

■ Innov-X Systems, Inc. and BT Wolfgang Binder GmbH recently announced they are increasing their level of cooperation by further developing their Redwave QXR technology – this time for the plastics recycling markets.

Earlier this year, Innov-X and BT Wolfgang Binder entered into an OEM agreement to develop and market a new high volume glass sorting system – the Redwave QXR G. This system combines Innov-X's automated XRF technology and BTW Binder's novel Redwave concept which effectively separates heat resistant and leaded glass from clean glass cullet.

The success of this partnership has made Innov-X and BT Wolfgang Binder decide to further strengthen the cooperation by developing the Redwave QXR technology for the plastics recycling markets.

The Redwave QXR technology sorts material based on the chemical composition, it could potentially have a big impact on the plastic recycling market. The Company believes there is a strong demand for a sorting system that can effectively remove black PVC and brominated plastic from shredded plastics.

Doosan Infracore announces new dealer

■ Doosan Infracore Portable Power has appointed Air Systems LLC of Louisville, Kentucky, as an authorized dealer of its Ingersoll Rand-branded line of portable air compressors, mobile generators, light compaction equipment and lighting systems.

Air Systems has been providing quality compressed air solutions in Kentucky and southern Indiana since 1968. The company specializes in both portable and stationary air compressors, from small reciprocating air compressors to large industrial compressors used in power plants and automotive facilities. With the addition of the entire portfolio from Doosan Infracore Portable Power, Air Systems expands its product offerings to include a full array of quality construction equipment.

Air Systems offers a full line of Ingersoll Rand-branded portable air compressors from 90 cfm to 1600 cfm, the entire line of mobile generators from 25 kVa to 570 kVa, as well as light towers, rammers, walk-behind plate compactors and rollers.

Advanced Disposal acquires All Star Waste

■ Advanced Disposal Services of Jacksonville, Florida, has completed its acquisition of All Star Waste Systems, LLC, located in Memphis, Tennessee.

The acquisition will expand Advanced Disposal's marketplace in the Southeast. All Star Waste provides services to over 61,000 residential and commercial customers in the Memphis area.

Advanced Disposal has operations in Florida, Alabama, Georgia and Mississippi.

Bhasin appointed senior IT VP at Waste Management

■ Waste Management announced that Puneet Bhasin has been named as the company's new senior vice president, information technology (IT). Bhasin, a professional with 25 years of experience in IT and logistics systems, also joins the company's senior leadership team as chief information officer (CIO).

Bhasin joins Waste Management from Monster Worldwide where he previously held roles of senior vice president, Global Product & Technology and CIO, North America. Previously, he was senior vice president with Putnam Investments and served as senior vice president and CIO for Greenlight.com.

Bhasin received a B.S. in mechanical engineering from the National Institute of Technology in India and an M.S. in operations research from Ohio State University.

EnergySolutions promotes new chief financial officer

■ EnergySolutions, Inc., a provider of services to the global nuclear industry, announced that Philip O. Strawbridge, its chief financial officer, is resigning from the company effective December 31, 2009 to pursue personal business interests.

Strawbridge, who played a key role in the company's initial public offering and has been instrumental in integrating the nine companies brought together since 2005 to provide EnergySolutions' broad range of global nuclear services, will be succeeded by Mark C. McBride, the company's current senior vice president and corporate controller.

Tubelite hires Nicklas as national sales manager

■ Tubelite Inc. has added Mike Nicklas as a national sales manager helping grow the company's architectural aluminum products nationwide. As part of Tubelite's sales team, Nicklas reports to Steve Green, director of sales, and works in close collaboration with the company's client development managers, marketing, client services and engineering staff.

Before joining Tubelite, Nicklas served as the architectural sales and marketing manager at JE Berkowitz, LP. An architectural glass fabricator located in Pedrickton, New Jersey, some of the company's notable projects include Bank of America Office Tower in Charlotte, North Carolina, Comcast Tower in Philadelphia; the new Meadowlands Stadium in Seacacus, New Jersey, and the Howard Hughes Medical Institute's Janelia Farm Research Campus in Virginia.

In addition to his extensive sales and marketing experience with JE Berkowitz, Nicklas also worked in various sales and marketing positions for 10 years with PPG in the glass and architectural metals groups. Prior to his employment with PPG, he earned a bachelor's in business administration from Westminster College in New Wilmington, Pennsylvania.

Throughout his career, he has been involved with many professional associations. At Tubelite he will represent the company at industry conferences and educational presentations with American Institute of Architects, Glass Association of North America, U.S. Green Building Council, and Construction Specifications Institute.

Events Calendar

January 12th-15th

2010 North American Environmental Field Conference & Exposition. Embassy Suites Hotel at The University of South Florida Location, Tampa, Florida. 575-532-5535 www.envirofieldconference.com

January 20th-22nd

9th International Electronics Recycling Congress, IERC 2010. Salzburg Congress, Austria. www.icm.ch

January 24th-27th

US Composting Council's 18th Annual Conference & Tradeshow. Wyndham Orlando Resort, Orlando, Florida. 631-737-4931 • www.compostingcouncil.org

February 23rd-25th

Renewable Energy World Conference & Expo North America. Austin Convention Center, Austin, Texas. 918-831-9736 www.renewableenergyworld-events.com

March 7th-10th

The Southeast Recycling Conference & Trade Show. Hilton Sandestin Beach Golf Resort & Spa, Destin, Florida. 334-356-0200 • www.southeastrecycling.org

March 10th-12th

Waste & Recycling Expo Mexico. CIEC World Trade Center, Mexico City, Mexico. +52 (55) 5545 4488 www.wasterecyclingmexico.com

March 23rd

NERC's Spring 2010 Workshop. Northampton, Massachusetts. 802-254-3636 • www.nerc.org

March 28th-30th

C&D World Annual Meeting of the CMRA. Rio Hotel and Casino, Las Vegas, Nevada. 630-585-7530 • www.cdrecycling.org

May 3rd-6th

Waste Expo 2010. Georgia World Congress Center, Atlanta, Georgia. 800-927-5007 • www.wasteexpo.com

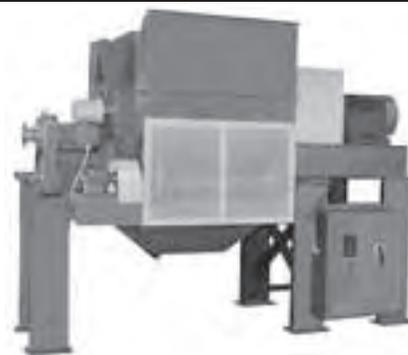
May 4th-8th

Annual ISRI Convention and Exposition. San Diego Convention Center, San Diego, California. 919-563-5291 • www.isriconvention.org

November 3rd-4th

Canadian Waste & Recycling Expo. International Centre, Toronto, Ontario, Canada. 877-534-7285 • www.cwre.ca

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BUSINESS BRIEFS

Plastinum in Emmen opens new production line

■ Plastinum Polymer Technologies B.V., the municipality of Emmen, N.V. NOM and Emmtec Services B.V. announced that Plastinum has opened a new production line for the recycling of post consumer mixed plastic household waste. The opening will generate production capacity of 10,000 tons per year, creating roughly 25 direct and 20 indirect new jobs. UWV Werkbedrijf in Emmen played an important part in filling the vacancies.

Plastinum's newly developed technology, called Blendymer, produces Infinymer, a new thermoplastic material.

The company's decision to base itself in Emmen was made in close consultation with N.V. NOM, the municipality of Emmen and Emmtec Services B.V. NOM has since taken a minority shareholding in Plastinum. The company also received support from the Drenthe Innovative Action Programme 2008-2010 and Senter-Novem in developing the new technology.

Republic Services redeems \$400 million in notes

■ Republic Services, Inc. has notified the registered holders of its 7.375 percent senior notes due 2014 that it will redeem all of the notes outstanding (originally \$400 million) in December. The notes will be redeemed at a price equal to 103.688 percent of the principal amount of the notes, plus accrued and unpaid interest up to, but not including, the redemption date. Payment of the redemption price will be made by United States Bank National Association, the trustee under the indenture governing the notes, on the redemption date upon presentation and surrender of the notes as set forth in the redemption notice.

Republic intends to use cash on hand and, if necessary, incremental borrowings under its revolving credit facility to fund the redemption. The Company expects to incur a charge upon extinguishment of the notes of approximately \$46 million. This charge will be reflected in its fourth quarter 2009 financial results.

Navistar acquires Continental Mfg. Company

■ Navistar International Corporation announced it has acquired Continental Mfg. Company, Inc., the largest privately-held mixer manufacturer in North America,

Continental offers a full line-up of rear discharge mixer products sold under the CBMW brand and also sells replacement parts for all mixer makes.

Continental will continue to operate independently with manufacturing operations in Houston. Navistar will also utilize select International® Truck dealers to distribute and service mixers and mixer parts. Mixers will continue to be sold and mounted on International brand truck chassis as well as those chassis built by other OEMs.

Mascoma listed among hot bioenergy companies

■ Mascoma Corporation announced that it has once again made the top ten list for "50 Hottest Companies in Bioenergy" for 2009-2010. The list, published in Biofuels Digest, recognizes innovation and achievement in bioenergy development.

In total, over 1,000 companies were eligible and 311 companies received votes. Rankings were determined 50 percent on votes from a 75-member panel of international selectors, and 50 percent on votes from subscribers of Biofuels Digest. Mascoma came in 10th.

In February 2009, Mascoma announced that its pilot facility in Rome, New York had begun producing cellulosic ethanol. The demonstration facility has the flexibility to run on numerous biomass feedstocks including wood chips, tall grasses, corn stover (residual corn stalks) and sugar cane bagasse. The company, in collaboration with its commercialization subsidiary Frontier Renewable Resources LLC has plans to build a commercial cellulosic ethanol plant in Kinross Township, Michigan, that will initially produce approximately 20 million gallons of the liquid fuel annually.

Safety-Kleen president, CEO Florjancic to retire

■ Safety-Kleen announced the retirement of its president and CEO Frederick J. Florjancic, effective December 31, 2009.

Florjancic will remain with Safety-Kleen in a consulting capacity for several months to assist the company's board of directors in conducting a search for his successor and provide for an orderly transition.

Florjancic became president and CEO of Safety-Kleen in June 2004, shortly after the company emerged from bankruptcy. During his tenure, Florjancic helped restore operational stability, completed two re-financings of the company's debt, resulting in significant interest savings, and grew company revenues by almost 50 percent, from approximately \$860 million in 2004 to approximately \$1.2 billion in 2008.

IronPlanet reports quarterly gross auction sales record

■ IronPlanet, an online auction company for used construction and agricultural equipment, posted record sales for the third quarter of 2009. Gross auction sales were \$123 million, an increase of 61 percent over third quarter of 2008. IronPlanet's year-to-date performance of \$334 million is a 36 percent increase over the same period in 2008.

In the third quarter, IronPlanet conducted 22 global auctions, up 38 percent from third quarter 2008. In addition, 55 percent of the items sold in IronPlanet North American auctions had bids from international bidders and 25 percent of the items sold went to buyers outside of the United States.

ALL Canada Cranes & Aerials adds new branches

■ The ALL Family of Companies announced the expansion of ALL Canada Cranes & Aerials with the addition of two new facilities, one in Newfoundland and Labrador and a second location in Ontario.

ALL Canada Cranes & Aerials consists of the ALL Canada Crane Rental Corp. and ALL Aerials Ltd. The two companies operate independently under one roof, currently headquartered in Mississauga, Ontario, with each having its own staff and fleet of equipment. The new branches will operate the same way and will be located in Mount Pearl, Newfoundland and Labrador, and Sudbury, Ontario.

Ryan Johnson joins VEIT as project estimator

■ VEIT, a specialty contracting and waste management company based in Rogers, Minnesota, has hired Ryan Johnson as a project manager/estimator. Johnson will focus on drilled pier projects within the foundations group, and will be based in VEIT's main office in Rogers, Minnesota.

Johnson has 10 years of experience in commercial and civil construction. He holds a degree in construction management from North Dakota State University and is a LEED accredited professional.

While focusing on drilled piers, Johnson will assist with VEIT's complete foundations service offering, which includes driven and drilled piles, earth retention systems, helical piles, underpinning and anchors, and grouting.

SWIX director partners to aid municipalities

■ The president of True Green Energy Group, John Lamb, along with the founder of Spectrum Blue Steel, Ronald Flynn, announced Spectrum Blue Steel's newest partner, Eugene B. Jones, who is the executive director for Southern Waste Information exchange, Inc. (SWIX), which is a non-profit clearinghouse and repository for businesses and government agencies in the United States.

Jones will assist Spectrum Blue Steel's businesses and help communicate with American municipalities with waste management issues. Jones has worked with local, state, and federal agencies, legislative and congressional committee staff, trade associations, and with industries regulated under RCRA, CERCLA, and OSHA. His experience is an invaluable commodity to SBS and is essential for locking down government contracts and deploying Biosphere systems in America.

Jones has a vast experience in organizing and managing various conferences for agencies and organizations such as the Waste-to-Fuels Conferences, Florida Bio fuels Association, Inc., Recycle Florida Today, Inc., the Florida Brownfield's Association, Inc., the Florida Environmental Assessors Association, Inc., the United States Department of Energy, and the United States Environmental Protection Agency.

Oakleaf names Santosh Rao chief operating officer

■ Oakleaf, a provider of sustainable waste logistics and recycling solutions, announced the appointment of Santosh Rao as chief operating officer (COO) of its largest subsidiary, Oakleaf Waste Management. Rao has more than 20 years of experience in global technology, services and manufacturing companies. He brings a wide range of experience to Oakleaf, with proven success in driving operational solutions, building teams and delivering financial results.

Current COO Aaron Furman rejoined Oakleaf, in May after retiring in 2007 to support the transition to a new CEO and the launch of major initiatives. Furman, who originally joined Oakleaf in 1999, played a vital role in leading Oakleaf, during a period of rapid growth. Furman will remain active with Oakleaf, on selected business initiatives.

For the past five years, Rao has been the CEO and owner of Performance Systems Inc., a privately held manufacturer of racing superchargers. Under Rao's leadership, Performance Systems doubled its sales in three years while dominating market share.

Rao's previous leadership roles include, executive vice president and chief operating officer for Manufacturers' Services Limited, executive vice president-Asia Pacific for SCI Systems, and vice president and general manager for Solecron Corporation.

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FEATURED PRODUCTS

NEW BOBCAT M-SERIES LOADERS LEAD THE INDUSTRY



Since inventing the skid-steer loader more than 50 years ago, Bobcat has constantly improved loader design to make operators more productive and comfortable.

Bobcat® M-Series skid-steer and compact track loaders feature the most significant design changes undertaken by the company. This new design enables the operator to accomplish more work through performance and durability enhancements that provide more power and keep the loader working longer, while increasing operator comfort through

improved visibility and a more spacious and comfortable cab.

The S630 has a rated operating capacity (ROC) of 2,180 pounds and an operating weight of 7,707 pounds. The S650 has a ROC of 2,690 pounds and an operating weight of 8,327 pounds. The T630 has a ROC of 2,230 pounds and an operating weight of 9,015 pounds. Finally, the T650 has a ROC of 2,570 pounds and an operating weight of 9,440 pounds.

The hydraulic systems on M-Series loaders have been engineered for higher standard flow and pressure that give attachments more power to work more quickly. Hydraulic horsepower has been increased more than 15 percent and the standard auxiliary hydraulic flow is now 23 gallons per minute at 3,500 pound per square inch and an optional high flow reaches 30.5 gallons per minute for maximum attachment performance.



CONTACT:

Bobcat Company
Telephone: 800-743-4340 Fax: 701-241-8700
Website: www.bobcat.com
To locate a dealer, visit <http://bobcat.know-where.com/bobcat/>

ATLAS COPCO MULTI GRAPPLES PROVIDE SHORT CYCLE TIMES

Atlas Copco has introduced three new multi-grapple attachments for use in sorting and loading rubble and in demolition masonry and wooden structures. The grapples feature large hydraulic cylinders to provide powerful closing forces and short cycle times.

At a service weight of 5,975 pounds, the MG 2700 provides 9.2 tons of closing force. Suitable for carriers in the 28 to 50 ton weight class, the MG 2700 operates at a maximum pressure of 5,076 psi. Providing for various demolition applications, the jaws of the MG 2700 open to a width of 87 inches and can handle a high load capacity of 1.3 cubic yards.

The MG 1800 weighs 3,924 pounds and performs on carriers in the 20 to 28 ton range, requiring an oil flow of 34 to 48 gpm. With a jaw opening of 83 inches, it has a load capacity of 1.1 cubic yards. The 3,263 pound MG 1500 can be used on 17 to 28 ton carriers and requires an oil flow of 32 to 45 gpm. It also has a jaw opening of 83 inches with a load capacity of 1.0 cubic yards.

Each multi grapple offers a standard 360 degree hydraulic rotation unit that allows accurate positioning of the attachment to speed up the work progress. They also operate at a maximum pressure of 5,076 psi.



CONTACT:

Jeff Malarik. Product Manager Hydraulic Attachments
Atlas Copco Construction Equipment LLC
Telephone: 216-520-2036 ext. 313 Fax: 216-520-0216
E-mail: jeff.malarik@us.atlascopco.com

NEW LINE OF STELLAR CRANES CONTROLLED BY CDT



Stellar Industries, Inc., based in Garner, Iowa, is introducing a new line of telescopic service cranes equipped with Crane Dynamics Technology™ (CDT). Stellar® CDT is a proprietary collection of revolutionary, industry first features that control, power and monitor the new cranes.

Models range from a 6,000-pound capacity up to a 14,000-pound capacity. The Stellar CDT-

equipped cranes will engage and communicate with the crane operator by using multiple sensory indicators when approaching maximum capacity. This will include the use of colored LED lights and pulsating vibrations. The Stellar CDT control system will also allow the operator to go into a boost mode and operate at nearly 120 percent of its normal operating capacity for a short period of time.

Another revolutionary feature of the new Stellar cranes is the ability to function in safety mode when a safety feature is damaged or malfunctions. Other Stellar crane features continue to include all hydraulic extensions up to 28 feet, hexagonal boom design, a planetary winch with line speeds up to 60 feet per minute, and a radio remote control as standard.



CONTACT:

Donna Popp-Bruesewitz
Telephone: 800-321-3741 Fax: 641-923-9040
Website: www.stellarindustries.com
E-mail: dpopp@stellarindustries.com

LEAK DETECTION FLASHLIGHT SLASHES INSPECTION TIME

Spectronics Corporation has unveiled the new Spectroline® OPX-3000 OPTIMAX™ 3000 – the world's most powerful, portable fluorescence leak detection flashlight.

With its focused beam, the OPTIMAX 3000 makes

it easier than ever for technicians to pinpoint all refrigerant leaks – even those elusive leaks that are missed by other lamps and by other methods of leak detection. And there are no cords that can become snagged on components of the industrial equipment.

The OPTIMAX 3000 uses breakthrough super-hi-flux LED technology to deliver 15 times brighter leak detection light than regular LED lamps. Its power equals that of 150-watt lamps that must be plugged into an AC power source, and it has an inspection range of up to 20 feet (6.1 m) or more. Powered by a rechargeable NiMH battery, the unit has a 50,000 hour LED life.

The flashlight comes with fluorescence-enhancing glasses and an AC and DC battery charger for added convenience.



CONTACT:

Spectronics Corporation
Westbury, New York
Telephone: 800-274-8888 or 516-333-4840
Website: www.spectroline.com

NEW PRODUCT SHOWCASE



ABANAKI'S DISK OIL SKIMMER GIVES COMPACT POWER

Abanaki Corporation announced that its disk-type oil skimmer – with .5" x 12" plastic disk and 110v fan-cooled gear motor – is a compact, economical powerhouse for removing unwanted tramp oils from coolants and parts washers. Abanaki's new no-drip wiper holder system prevents oil from dripping.

Abanaki's disk skimmer, constructed entirely of plastic and featuring plastic motor housing and frame, offers these advantages: A durable engineered polymer housing that won't corrode; capped troughs that prevent oil drips; and a shaft sealed to prevent premature motor wear from oil contamination.

Abanaki Corporation
17387 Munn Road
Chagrin Falls, OH 44023
800-358-7546
www.abanaki.com



BUILTRITE FOUR-TINE ORANGE PEEL GRAPPLES UPGRADED

Several changes have been made to the Builrite four-tine, orange peel grapple line from Northshore Manufacturing, including:

- Upper head and connecting link now allow hoses to be re-routed over the top of the material handler jib.
- Bolt-on access plates on the sides of the tines to prevent materials from entering, yet allowing easy access for servicing when required.
- High torque, heavy duty rotation motors do not require a case drain line. Internal tooth, rotation bearing allows motor to be mounted inside the rotation head to ensure maximum protection.

Northshore Manufacturing
530 Recycle Center Drive
Two Harbors, MN 55616
218-834-5555
www.builritehandlers.com



AIM ATTACHMENTS OFFERS QC EXCAVATOR GRAPPLES

The AIM QC excavator grapple is highlighted by AR400 steel tines for superior durability. The structure was designed for machines equipped with quick couplers. This grapple incorporates a five tine design with a reinforced solid box body, a vast improvement over commonly used hollow box configurations. The grapple features a mounting bracket with three working positions for added versatility.

The grapples are available in several sizes for excavators in classes ranging from 25,000 lbs. to 100,000 lbs. These grapples are suitable for any number of demolition, recycling, and salvage operations.

Aim Attachments
1720 Feddern Avenue
Grove City, OH 43123
800-803-3365
www.aimattachments.com



ROCKLAND'S THUMB/BUCKET COMBO RAISES PRODUCTIVITY

Rockland's Entek Krypto Klaw is designed to work with all sizes of excavators, from mini-excavators to the larger machines.

Its multi-rib, open design allows for maximum operator visibility while manipulating material. Pin or couple the Krypto Klaw to the excavator, plug in two hydraulic lines and go to work. No welding or additional miscellaneous parts required.

The Krypto Klaw is manufactured from high strength, quenched and tempered steel and reinforced with AR400 in critical wear areas, to include the cutting edge, doubler plates and bottom-side wear plates.

Rockland Manufacturing Company
PO Box 5
Bedford, PA 15522
814-623-1115
www.rocklandmfg.com



CASE ADDS HIGH PERFORMANCE 650L TO CRAWLER DOZER LINE

The new Case 650L crawler dozer delivers a lower overall operating height and weight and superior maintenance features that boost productivity.

The 650L delivers 74 net h.p. through a Tier 3-certified, 4-cylinder, 4.5-liter turbocharged Case Family IV engine with electronic fuel injection for maximum fuel efficiency and easier starts in cold weather. A high-pressure common-rail injection system delivers excellent combustion. A charge air cooler provides a cleaner and more efficient fuel burn.

The shorter track means easier turning, making the machine extremely maneuverable on the job site.

Case Construction Equipment, Inc.
700 State Street
Racine, WI 53404
866-542-2736
www.casece.com



SPECTRONICS' NEW BORESCOPE SNAKES ANYWHERE FOR LEAKS

Spectronics Corporation has recently introduced the CB-400 COBRA-4™, part of the COBRA series of multi-purpose borescopes. The scope features a dual-head blue and white-light LED flashlight that enables technicians to inspect and leak check hard-to-see components without expensive disassembly.

The blue-light LED is ideal for fluorescent leak detection, while the white-light LED is great for component inspection. A press-fit coupler allows quick and easy attachment of the flashlight to the borescope. The COBRA-4 has a super-thin 4mm, 36" shaft to get into tight areas.

Spectronics Corporation
956 Brush Hollow Road
Westbury, NY 11590
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www.spectroline.com



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Auburn, CA 95604
877-823-7075
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1996, 2001 RHL350 REBUILT (crawlers), 50' reach, hydraulic cab, gen-sets and grapples.
2004 MHL 350 (rubber), 50' reach, hydraulic cab, gen-set and grapple.
1998 MHL 331 REBUILT (rubber), 35' reach, hydraulic cab, gen-set and grapple.
2001 & 2003 MHL340 REBUILT (rubber) 41' reach, hydraulic cab, gen-set and grapple.
1995 & 1998 MHL350 REBUILT (rubber) 50' reach, hydraulic cab, gen-set and grapple.

LIEBHERR

2001 A934 REBUILT (rubber), 51' reach, hydraulic cab, gen-set and grapple.
2002 A904 REBUILT (rubber), 38' reach, hydraulic cab, gen-set and grapple.
2001 A924 REBUILT (rubber), 40' reach, hydraulic cab, gen-set and grapple.
2001 A316 (rubber), 30' reach, hydraulic cab, gen-set and grapple.
2000 R914 REBUILT (crawler), 38' reach, 4' cab riser, gen-set and grapple.
2000 A904 REBUILT (rubber), 35' reach, 4' cab riser, gen-set and grapple.
1998 A922 REBUILT (rubber), gen-set, grapple and magnet, no riser.
1994 A932 REBUILT (rubber), hydraulic cab, gen-set and grapple.

CATERPILLAR

2005 M325C REBUILT (rubber) with 50' reach, hydraulic cab, A/C, gen-set and grapple.
2002 M318 (rubber), 35' reach, hydraulic cab, A/C, gen-set and grapple.
2003 M320 REBUILT (rubber), 39' reach, hydraulic cab, gen-set and grapple.
1997 M320 REBUILT (rubber), 39' reach, hydraulic cab, gen-set and grapple.

SENNEBOGEN

2000 830M REBUILT (rubber), 50' reach, hydraulic cab, gen-set and grapple.
2004 SENNEBOGEN 835M, 52' reach, hydraulic cab, gen-set and grapple.

COLMAR

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2003 SIERRA RB5000 portable logger baler.
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1995 NORTHSHORE 2100 SE REBUILT (stationary electric-75HP) MH, 27' reach, cab, A/C and grapple.
2002 KOMATSU PC220LC (crawler) with new gen-set and 48" magnet.

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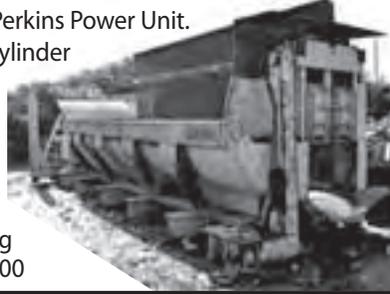
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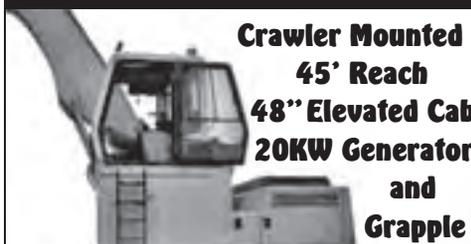
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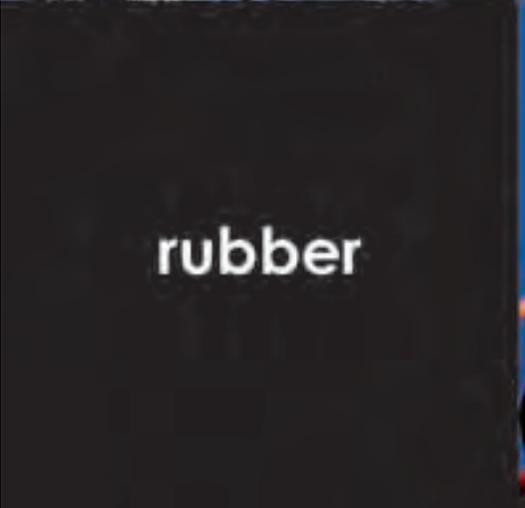
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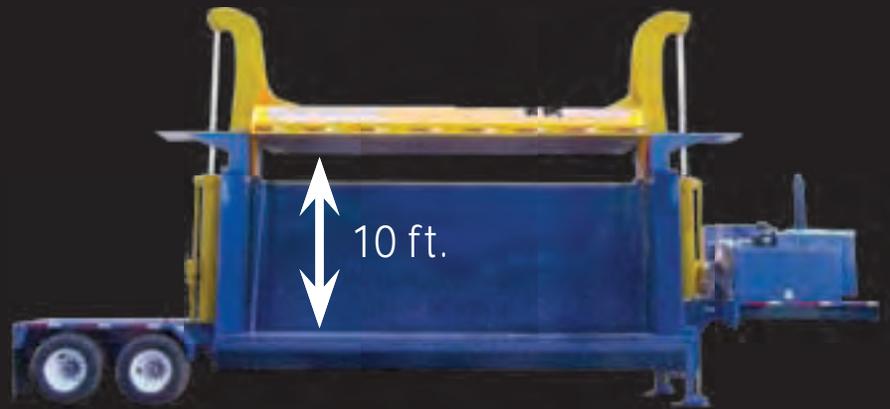
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Used oil: An often overlooked resource

by MIKE BRESLIN

mbreslin@americanrecycler.com

Long before it became widespread practice to recycle paper, plastics and other waste stream commodities, used oil was recycled to recover its innate heating value. Even though it's dirty and exhausted of lubricity, a gallon of used oil contains 140,000 BTUs of energy, approximately the same heating value of a new gallon of oil.

Used oil is a broad category that includes mixes of crankcase oils, transmission and hydraulic fluids, and industrial oils of many grades and qualities. EPA defines used oil as any oil refined from crude or synthetic that has been used and thereby contaminated by physical or chemical impurities. It's not publicly traded as a commodity. Most transactions are private and most people involved in the business are reluctant to talk about price or the volume distributed. Therefore, there is scant and conflicting data on this sector.

An EPA Material Characterization Paper published in December 2008 esti-

imated the quantity of used oil generated annually at 1.35 billion gallons with 784.4 million gallons used as fuel, 160.7 million gallons re-refined and 200 million gallons going to landfills or illegally dumped. A long-time executive in the used oil business estimated that over 50 percent goes to industrial burning for energy, about 20 percent to re-refining into base lubricants and 15 to 18 percent to on-site heating.

Nobody knows how much is illegally dumped, but the consensus is that illegal disposal has decreased substantially over the past few decades. "Used oil is a big business today and grows with each hike in the price of a barrel of crude. Anyone foolish enough to dump it on the ground or down a storm sewer is not only subject to criminal penalties, but is also wasting a valuable commodity," said Rob Stevens, president and CEO of EnergyLogic, a Nashville-based manufacturer of used oil furnaces and boilers.

A 2005 Department of Energy study estimated that 80 percent of oil from do-it-yourself oil changes winds up being illegally disposed. But this is thought to be improving for several reasons. The bulk



PHOTO COURTESY OF ENERGYLOGIC

Waste oil boilers heat water for in-floor radiant heat, ice melt and hot water for a carwash. Used oil is becoming more attractive as the prices of conventional fuels rise.

buying power of quickie-lube shops and the resulting competitive pricing from auto dealerships have reduced the number of home oil changes. A growing number of

state and local governments have instituted regulations banning used oil and oil filters from landfills and have imposed fines

See OIL RECYCLING, Page 2

Ford finds alternatives to petroleum parts

PHOTO COURTESY OF FORD MOTOR CO



Angela Harris and Ellen Lee of the Biomaterials Group injection molding wheat straw reinforced polypropylene specimens for testing.

by IRWIN RAPOPORT

iraport@americanrecycler.com

With the Ford Motor Company using wheat straw biofiller to replace 20 percent of the petroleum-based plastic used in just two internal storage bins for its Flex crossover vehicle, the automobile manufacturer is simultaneously creating a demand for an agricultural waste product and reducing the carbon footprint of its manufacturing process.

The new bins, currently being installed in the 2010 Flex, replace bins that were made from 100 percent petroleum-based plastic. For the Flex bins alone, using environmentally-friendly wheat straw will reduce petroleum consumption by 20,000 pounds annually and reduce CO2 emissions by 30,000 pounds per year.

"This first application is relatively small," said Dr. Ellen Lee, a chemical

engineer and technical specialist with the Plastics Research Group at Ford's Research and Innovation Center in Dearborn, Michigan, "but it represents a smart, sustainable usage for wheat straw; the waste byproduct of growing wheat. There are a lot of other potential applications that it can be used for. We are putting wheat straw fiber in with polypropylene to give the plastic more strength and stiffness properties.

"The new material is also lighter in weight and less costly than similar grades of glass fiber or mineral reinforced materials that we use today," she added.

Ford researchers were first approached with the wheat straw-based plastics formulation by the University of Waterloo in Ontario, Canada as part of the Ontario BioCar Initiative – a multi-university effort between the Universi-

See ORGANIC CARS, Page 7

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A Letter from the Editor

Dear Readers,

Happy New Year! We here at American Recycler wish you and yours a happy, healthy and prosperous 2010.

From what I've seen so far, it's looking like 2010 will, at the very least, be more prosperous than 2009, though I can't vouch for it bringing more happiness or health.

It's not like 2009 is going to be tough to top though. Looking back at the past year evokes memories of struggle and hardship as the world found itself mired in an economic nightmare. Frozen credit, failing mortgages, government interventions, bailouts, bankruptcies, failed banks, and other assorted crises characterized a majority of the year past, and none of it has been conducive to business as usual (unless you managed to get a piece of the bailout money, in which case, email me and tell me how you did it – thanks).

Since you've managed to weather the storm so far, though, 2010 is going to be your year.

Many of the companies that we deal with here at AR have expressed that business is picking up again. Some Scrooges even went so far as to be upset that the holidays came and quieted their phones temporarily.

But if any good came of this recent economic fiasco, it's that the businesses left standing are in better positions than ever. Hardship has thinned the competition, and those companies left stand to benefit from the smaller marketplace.

Take advantage of this opportunity. Now is the time to be aggressive and cement your spot as industry leaders. Get your equipment orders in early – if you wait, you'll find that equipment is once again going to be backlogged. Prices for good new and used equipment will rise with demand, so buy ahead of the recovery.

Advertise. Promote your company and differentiate yourself from your competition. Build brand loyalty. Hold on to those customers you have and try to pick up the customers left displaced in the economic fallout.

These, of course, are only a few suggestions. You know your business best, and so make some New Year's resolutions to do what you can to take advantage of a reshaped marketplace. American Recycler will continue to be a resource for you as you decide what those decisions ought to be.

As always, feel free to call or write with any questions or concerns you may have. And again, Happy New Year. Together, we can make it one that puts the spectre of 2009 to rest.



Dave Fournier
Focus Section Editor
david@americanrecycler.com

Oil recycling

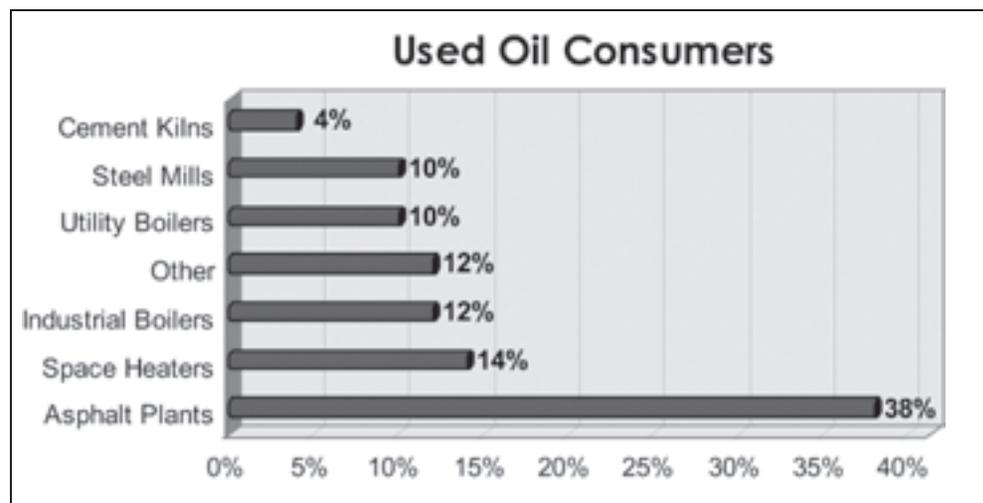
■Continued from Page 1

for illegal disposal. And, there has been increased funding to raise public awareness regarding recycling options and to establish more collection facilities to make it convenient.

Used oil has also become substantively cleaner. "What has occurred over the past ten years is the entire used oil waste stream generated by salvage yards, repair shops, dealerships and quick-change shops have cleaned up considerably due to regulations. Also, engines run much cleaner now as a result of technology improvements and due to better waste stream management," said Stevens.

Waste oil is not considered a hazardous material during transport, but there remain serious liabilities to the generator and the transporter. "Transporting it has many environmental risks and potential consequences. The business that generates the used oil is responsible and liable for that used oil until it is properly disposed, which could literally be for years if the oil is held in a storage facility. I know I needn't tell you about the potential environmental damage that can occur if the oil is spilled in transit. Not to mention the financial damage that has put more than one business out of business," warned Kevin Ferrick of the engine oil licensing and certification system at the American Petroleum Institute.

In view of the liability issue, the inherent energy value in used oil, and the recent high prices for fuel oil, many in the



—DOE 2006

recycling business and businesses across the spectrum of industries are taking a second look at on-site burning for heat, or hauling it short distances for burning to limit liability. As the recycling industry knows, the expense of long distance trucking is often the death of recycled commodities. That is why used oil consolidation and processing is largely regional.

LKQ Corporation, one the largest providers of wholesale recycled and new parts in North America, processed 441,000 vehicles for parts and scrap in 2008. "All of those would have had the fluids, including motor oil, removed," said Sarah Lewensohn, LKQ's director of investor relations. Since the average vehicle yields approximately one gallon of combustible fluids, that equates to nearly half a million gallons of combustibles collected.

The United States Energy Information Administration reported the national average price for diesel fuel in December at \$2.78 per gallon, \$0.16 per gallon higher than last year. A December quote from New Jersey fuel oil dealer was \$2.99 per gallon. "At least 15 locations are using oil-burning high efficiency heaters for their plants. In some cases, it is limited by state law. In others, it is limited by climate," said Lewensohn.

Large generators like LKQ cannot consume all they generate. The excess is sold to consolidators, haulers and processors, some positioning themselves as "environmental service providers." These companies provide a range of services including on-site sampling, lab analysis, and transportation and recycling services ranging from used oil marketing to processing that involves dewatering, filtering and demineralising for use in industrial burners. As best could be determined at press time, used oil from a generator to a dealer sells used oil at approximately \$.25 per gallon.

Getting fluids out of vehicles used for scrap has also become faster and more efficient. In the past scrap yards extracted fluids manually, often assisted by homemade Rube Goldberg contraptions of lifts, funnels, hoses and tanks. Currently there are several manufacturers of self-contained fluid removal systems. One such is Enviro-Rack, made by Iron Ax, that meets EPA and state level regulations for fluid removal. By using air operation it avoids the sparking dangers posed by electric motors or gasoline engines and sucks a vehicle dry in less than five minutes. The system has a catch pan underneath to prevent ground contamination.

Although the majority of used oil is burned in asphalt plants, steel mills, cement plants and industrial and utility boilers, the Department of Energy estimates that approximately 14 percent is consumed by space heaters.

According to Rob Stevens at EnergyLogic, "Our emissions are approximately the equivalent of those associated with diesel powered earth moving and yard equipment," Stevens claimed. That is emissions coming out of his furnaces without additional pollution control equipment, which is usually cost prohibitive for small installs.

With that in mind, it's worth examining the economics of space heating with used oil in context with pollution ramifications. According to EnergyLogic, their entry level furnace costs roughly \$6,000 including installation, tank and filtering between tank and furnace. Such a unit can heat up to 3,000 square feet. In northern climes with fuel oil costing approximately three dollars per gallon, the investment can typically be recovered in less than two seasons. Life expectancy depends on hours of usage, but Stevens stated that ten years or more is average. "Our pollution control is based upon combustion efficiency and cleanliness. We take the raw fuel and combust it at an extremely high temperature, which results in flue stack emissions similar to a standard oil furnace burning #2 fuel oil or diesel fuel, and a very fine, non-hazardous fly ash," Stevens said.

Compare burning used oil and its emissions with those associated with heating oil refined from crude, or with used oil that is re-refined into base lubricants. Think of the emissions created in drilling and transportation to the refinery, heavy emissions from refining and the multi-step transport emissions to deliver fuel oil to a business or home (trucks and locomotives burning diesel). In addition, burning used oil on-site ensures destruction of a potentially hazardous material and eliminates the trucking emissions if it had to be hauled away.

While burning used oil for heating may seem onerous to many environmentalists, it apparently has less universal emissions and conversationalist benefits than newly refined or re-refined lacks. Scrap yards, repair shops, oil change centers, fleet maintenance facilities, heavy equipment dealers, automotive and equipment dealers, or businesses located near used oil sources should consider on-site burning, particularly recycling facilities, as part of their overall effort to clean up the planet and lower heating bills.

Upcoming Section B editorial focus topics

ISSUE	CLOSE	FOCUS
FEB	1/19	Tires/Rubber
MAR	2/16	C&D
APR	3/17	Solid Waste
MAY	4/16	Auto
JUN	5/16	Plastics
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Ford and UDM team up to teach old engineers new tricks

Ford Motor Company is teaming with the University of Detroit Mercy (UDM) to retrain traditional automotive engineers, providing them with the skills and expertise to develop the next generation of advanced electric and hybrid vehicles.

As vehicle electrification plans expand, the automotive industry's need for electric vehicle-savvy engineers also is growing, creating increased demand for electrical, mechatronics, systems and controls engineering education. Ford and UDM have collaborated to create a new graduate-level curriculum focused on key engineering skills for the development of electrified vehicles.

The UDM program will supplement Ford's internal electrical engineering training courses as the company retrains its own employees to deliver an aggressive electric vehicle product strategy. The course series, which begins in January 2010, is designed to advance the knowledge and capabilities of technological team members in the automotive and defense ground vehicle industries.

"The era of electric vehicles is here and it's critical that we meet this technology challenge by retraining our engineers with a broad range of new skills and competencies," said Derrick Kuzak, Ford group vice president of global product development. "This program, together with internal training, will support Ford's aggressive plans to roll out electric and hybrid vehicles in the coming years."

Ford engineers are already at work developing three distinct types of electrified vehicles – hybrids, plug-in hybrids and pure battery electric vehicles. The vehicles include:

- Transit Connect battery electric commercial van in 2010,
- Focus battery electric passenger car in 2011,
- Next-generation hybrid vehicle in 2012, and
- Plug-in hybrid in 2012.

Kuzak added that the magnitude of the training program will be similar to the educational programs undertaken by Ford during the late 1980s when mechanical engineers were trained on electrical engineering.

The UDM Advanced Electric Vehicle Program will begin with the first group comprised of current engineers from Ford and its suppliers. Team members will apply the program's coursework in developing the next generation of electric and hybrid vehicles.

Approximately 125 Ford engineers will participate in the program over the next several years.

"We recognize a greater need for our teams to have access to programs to increase their knowledge of electrical, mechanical, chemical and software engineering," said Nancy Gioia, Ford's director of global electrification. "Ford has a large team of talented and dedicated engineers that are energized by the technological sea change we are seeing happen now in the industry."

The UDM courses are supplementary to Ford's internal online training programs in battery cells and electrochemistry, power-split controls, regenerative braking, calibration and commodity planning.

UDM has created seven new courses that are directly responsive to the training needs of Ford and the entire automotive and defense ground vehicles industries, said Dr. Leo E. Hanifin, dean of UDM's College of Engineering & Science.

"The competencies achieved by these courses will enable teams from automotive OEMs and suppliers to develop the electric and hybrid vehicles that will keep the global leadership of the auto industry for this critical segment of the world's transportation future right here in southeastern Michigan," said Hanifin.

Engineers in this program will select five of the seven newly created courses that are designed by competency teams of Ford and UDM experts to deploy the most current technology, strategies, methods and tools emerging from universities, corporations and national laboratories.

These five courses will be completed in one calendar year. Most courses will be offered at the Ford Training and Development Center in Dearborn; others requiring laboratory experiences will be provided at UDM's McNichols campus in Detroit. The Advanced Electric Vehicle Program courses include:

- Introduction to Advanced Electric Vehicles
- Controls Modeling and Design for Electric Vehicles
- Energy Storage Systems
- Power Electronics for Electric Vehicles
- Electric Drives/Electromechanical Energy Conversion
- Innovation and System Architecture for Electric Vehicles
- System Engineering for Electric Vehicles

Fred returned home from his Sunday round of golf later than normal and looked very tired. "Bad day at the course?" his wife asked.

"Everything was going fine," he said. "Then Harry had a heart attack and died on the 10th tee."

"Oh, that's awful!"

"You're not kidding. For the whole back nine it was hit the ball, drag Harry, hit the ball, drag Harry."

NCOIL approves model airbag fraud legislation

The National Conference of Insurance Legislators (NCOIL) Property-Casualty Insurance Committee adopted draft airbag fraud legislation that lays out a comprehensive set of policy options to discourage deceptive repairs and airbag theft.

The committee's 20-5 vote for the draft legislation, followed by unanimous executive committee adoption included language that recognizes that non-deployed OEM airbags harvested from salvaged or end-of-life vehicles are in the marketplace and state legislatures should consider record keeping, handling protocol and disclosure of their use.

Over the five day conference, the Automotive Recycler's Association (ARA) executive vice president, Michael E. Wilson, discussed with many state legislators the necessity of Americans to have proper functioning airbags in their motor vehicles. Throughout the conference, Wilson pointed to a recent review conducted by the National Highway Traffic Safety Administration (NHTSA) of 1,446 fatal accidents from 2001 and 2006 which found that in an alarming 255 instances – almost 18 percent – airbags that should have been replaced following deployment in a previous crash were missing.

ARA strongly supports the use of recycled original equipment manufacturer (OEM), non-deployed airbags which have met specific industry standards and that those evaluated recycled OEM non-deployed airbag components are a safe, economically-smart repair alternative to restore vehicles to their pre-accident condition.

"The use of these evaluated components is an important component to help address the significant problem of airbag omission – where deployed airbags are not replaced – that the NHTSA study clearly points out exists," said Wilson, "but, more importantly, extensive research and years of experience have proven them as a safe alternative as well."

The NHTSA data points to a significant issue of ensuring that individuals who complete vehicle collision repairs and insurance total-loss vehicle rebuilds restore critical safety components as part of the repair and rebuilding process. Airbag omission is a serious problem with real consequences for the safety of American car owners and their passengers, and this practice must be stopped.

For years, recycled OEM non-deployed airbags have been an essential cost effective and reliable alternative to expensive new airbags. Thousands of totaled vehicles and lives have been saved as a result.

Despite being given multiple opportunities to provide technical data backing up their allegations against recycled OEM non-deployed airbags, the OEMs have conspicuously failed to do so.

Consumers benefit from competition, standards and safety and the only alternative to a new, expensive OEM airbag is a recycled non-deployed OEM airbag, which can save a motor vehicle owner up to 60 percent off the cost of one from a franchised dealer.

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EQUIPMENT SPOTLIGHT

Auto Crushers

by MARK HENRICKS

mhenricks@americanrecycler.com

In the best of times, when demand for recycled automobiles is strong and steady, the auto recycling industry goes through its share of trials and tribulations. Modern automobiles are tougher than ever, specifically designed to resist being crushed in order to protect occupants inside. They are manufactured from an increasing number of exotic materials, from ever-growing quantities of plastic to precious metals in onboard computers and catalytic converters.



OverBuilt, Inc.

In the world of recycling, cars represent one of the oldest, richest and yet most problematic sources of recyclable materials. One of the biggest problems is transporting junk cars to shredders where the vehicles can be reduced to particles so that various materials can be sorted out. Cars are mostly air, which is where auto crushers come in.

Al-jon Manufacturing LLC in Ottumwa, Iowa has been building car crushers since 1963. Curt Spry, scrap sales manager, said the company, recognizing the extreme demands placed on auto crushers, emphasizes strength and durability in its designs and manufacturing processes. "Al-jon is the only car crusher manufacturer with service centers placed around the country giving the customer the very best parts and service available," he added.

The Company operates with an exceptionally simplified product line — it manufactures only one car crusher, the Impact V. "We like to build them



Granutech-Saturn Systems

one way, completely loaded with every available option including hydraulic landing gear, air compressor and remote control," according to Spry.

The Impact V is a portable crusher that allows a single operator to crush and stack five or more cars with manual or remote operation. Al-jon's Quad-Post guide system, with a post on each corner of the crushing deck, provides better crushing power and improves reliability, the Spry said. The Impact V features automatic cycling and an oil recovery system. Al-jon offers a two year warranty on the entire machine.

The completely portable system weighs 57,700 lbs. and is mounted on a trailer equipped with air brakes. One minute set-up makes it suitable for mobile operators who go from yard to yard handling crushing chores. The crusher is powered by a 100 h.p. diesel engine for maximum portability.

After relying on its one-item car crusher product line, the company will introduce a new model in 2010. Spry said the 300HS will be "the fastest car crusher in the industry." The specs on the new model weren't available at press time. The Impact V requires approximately 49 seconds to cycle from full extension to full retract.

Granutech-Saturn Systems of Grand Prairie, Texas, manufactures three models of MAC car crushers. The most popular, according to Granutech-Saturn's Greg Wright, is the Big MAC Flattener. The 56,000 lb. Big MAC is intended for mobile scrap processors and comes on its own trailer. Customers can choose from several 165 h.p. diesel engines, of which Wright said the most popular are from John Deere and Cummins.

A 90" lift provides for easier loading and larger capacities of up to four automobiles at a time. A single Big MAC operator can load and crush cars using the remote operational capability, which comes standard. Remote operation also improves safety by removing people from the processing area, according to the company.

The Stationary MAC Flattener offers many of the same features as the mobile Big MAC. It employs a crushing force of 306,000 lbs., enabling 4 complete automobiles to be compressed. It also handles household appliances, loose automotive scrap and other scrap materials. Power can be supplied by either diesel or electric motors.

The Big MAC QS Flattener employs a quick-setup system. A fully-automated hydraulic system raises the cylinder to its upright working position, then locks the trunnion in place. Tear down is also automated. Setup or tear down can be completed by a single operator in less than a minute, the company said.

Wright said the biggest challenge for the industry in 2009 was the weak economy, coupled with the sharp fall in scrap prices from the 2008 highs. "The industry really did a 180," said Wright. Through it all, Granutech-Saturn's customer base has changed little. "The markets for our car crushers are the auto salvage yards and the mobile crushing busi-



Al-jon Manufacturing LLC

nesses," Wright said. "Our customers range from the small family owned business to the large metals companies."

Regulations have not affected car crushers a great deal in the recent past. "We do have to keep up with the laws regarding engines," Wright said. "Currently engines have to be Tier III and eventually they will be Tier IV."

While regulations may have had little impact on the car crushing industry, the same can't be said for the Cash for Clunkers program initially. This 2009 federal initiative aimed to boost auto sales while improving the nation's overall automobile fuel efficiency. All cars traded in under the program were required to be recycled so they wouldn't return to the streets, and recycling was



The R.M. Johnson Co.

supposed to occur within 180 days of trade in.

The program was heavily oversubscribed, however. Early estimates expected 250,000 trade-ins but funding was doubled and the total number of trade-ins eventually reached 700,000 before the program was ended. Auto recyclers requested more time to process all the extra cars, and received an extra 90 days.

It's unlikely anyone will soon see a flood of autos for recycling like the one prompted by Cash for Clunkers. But auto recycling isn't going to go away. "Short term is anyone's guess," said Wright. "Long term will be good. The need for scrap steel will always be around."

Manufacturer List

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www.aljon.com

Diamond Z Manufacturing
Jens Jensen
800-949-2383
www.diamondz.com

Granutech-Saturn Systems
Greg Wright
877-582-7800
www.granutech.com

OverBuilt, Inc.
Jeff Hebbert
800-548-6469
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GM invests \$336 million in Detroit-Hamtramck plant

General Motors will invest \$336 million in the Detroit-Hamtramck assembly plant to begin production of the Chevrolet Volt electric car, with extended-range capabilities, in 2010.

This brings GM's combined Volt-related investments in Michigan to \$700 million, covering eight facilities. Detroit-Hamtramck will be the final assembly location for the Volt, using tooling from Grand Blanc, lithium-ion batteries from GM's Brownstown Township battery pack manufacturing facility, camshafts and connecting rods from Bay City, and stampings and the Volt's 1.4L engine-generator from Flint.

"We expect the Detroit-Hamtramck plant will be the first facility in the United States owned by a major automaker to produce an electric car. It is the hub for the wheel that we began rolling in 2007 when the Volt debuted at the North American International Auto Show in Detroit," said Jon Lauckner, GM vice president of global product planning. "Since then, the field of challengers and partners has grown significantly. This competition will expedite the development of electric vehicle technology and infrastructure."

After the Volt's debut in January 2007, other automakers announced 6 plug-in hybrid or electric vehicles later that year, followed by 19 introductions in 2008 and 5 more this year.

In addition to GM's \$700 million in Volt-related facility investments, there are the many suppliers, utility companies and organizations investing in Michigan and the United States to sup-

port Volt production and electric vehicle development. In August, the United States Department of Energy selected 45 companies, universities and organizations in 28 states for more than \$2 billion in awards for electric drive and battery manufacturing, and transportation electrification.

"Electric vehicle development is creating entirely new industries. These include battery developers, builders of home and commercial charging stations, and power control and electric motor suppliers," Lauckner said. "These investments in the electric vehicle ecosystem are creating new jobs and strengthening Michigan's and America's long-term competitiveness."

To reduce cost and maximize flexible manufacturing techniques, some equipment for Volt production is being reused from other GM facilities and installed in the Detroit-Hamtramck plant's body shop. The Volt will be built on the existing assembly line at Detroit-Hamtramck. Assembly of Volt prototype vehicles will begin in the spring, with the start of regular production scheduled for late 2010.

Detroit-Hamtramck opened in 1985, and currently employs about 1,200 workers, including 1,100 hourly workers represented by UAW Local 22.

"This investment is great news for the workforce as it helps pave the way for the future and the electrification of the automobile," said Cal Rapson, vice president and director, UAW International Union.

California to be first to see much-hyped electric cars

It has been announced that California will be the first American state to get the Chevy Volt. General Motors

(GM) has selected, and will be selecting other markets as well. GM vice chairman Bob Lutz said in his keynote address that other lead markets will be decided shortly.

GM is also partnering with three California utilities and EPRI to do a real world Volt demonstration project. They will use a \$30 million Department of Energy grant for the study which will involve providing 100 Chevy Volts for a 2-year study fleet beginning in early 2011. The vehicles will use OnStar to provide performance usage and analytic data in real-time. 500 charging stations will also be installed in business, public, and residential locations.

The three utilities are Pacific Gas and Electric, Southern California Edison and Sacramento Municipal Utility District. The data will be used to improve future drivers' ownership experiences with electric cars.

"It is natural that California is the lead market for Volt. Not only is it the largest automotive market, Californians are known to be leaders in adopting groundbreaking new technologies," said Brent Dewar, GM vice president, Global Chevrolet Brand.

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Hybrids will soon sound safer for pedestrians

Chevrolet, General Motors and the National Federation of the Blind are cooperating to identify a safe level of sound to alert the blind and other pedestrians to the presence of near

silent-running electric and hybrid vehicles.

Members of the National Federation of the Blind (NFB) and engineers from GM began meeting earlier this year

to understand the safety needs of pedestrians with respect to quiet vehicles, and to work on solutions for the benefit of pedestrians, cyclists, runners, children and other members of the public.

Several NFB members recently experienced a demonstration of the pedestrian warning alert on a pre-production Chevrolet Volt electric vehicle driven at various speeds by chief engineer Andrew Farah. While visiting GM's Milford Proving Ground, they also evaluated the alert from the front, sides and rear of the car.

"We have significant background in the area of pedestrian alerts dating to our work on our first electric car, the EV1," Farah said, "The most important thing is to listen to the people who will interact with these vehicles in everyday life."

Deborah Kent Stein, who chairs the NFB's committee on automobile and pedestrian safety, said, "A recent report from the National Highway Traffic Safety Administration (NHTSA) demonstrated that the silent operation of hybrid vehicles is an issue for all pedestrians, not just the blind. In certain situations, electric or hybrid vehicles are twice as likely to be involved in collisions with pedestrians."

Said Dr. Marc Maurer, president of the National Federation of the Blind, "We urge all automobile manufacturers to work with the blind in designing vehicle sounds to alert us to the approach, speed and direction of vehicles so that both drivers and pedestrians can safely use America's roadways."

A Closer Look

by Donna Currie

Gentry & Associates

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Gentry & Associates went into business on January 1, 2001, but it had been in the planning stages for much longer than that. "It was my husband's dream since he was 11 years old," Beth Gentry said.

Oliver Gentry's father owned a car dealership, but young Oliver was much more interested in the junkyards he and his father went to on weekends, looking for used car parts. "He always talked about it," Beth said.

Oliver's father recognized his son's interest, and bought a piece of property and got a business license for a junkyard when Oliver was just 11 years old. He even kept a few old cars on the property, "so no one could say it wasn't operating," Beth said, "I think deep down, it was something that his dad wanted to do as well."

Before they started the business, Beth had been in the travel business and Oliver had an automotive business that sold new tires and repaired cars. But cars weren't completely foreign to Beth. "My family was in the trucking industry and raced cars, so I was around that." While the junkyard was her husband's dream, she said that she was also intrigued by the idea. "It is definitely a challenge," she said. "This is a fast-paced business."

Since the property was ready and the business license was in place, it was just a matter of getting all the other paperwork set up for the new business. Oliver "just walked out of one place and into another," Beth said.

When the business opened, the Gentrys bought 50 used cars. "We hauled them here one at a time, on trailers," Beth said. "We were just doing auto parts." It wasn't long before they bought a car crusher, because it was becoming complicated arranging for outside service on the schedule they needed.

Then, Beth explained, "My husband said, 'we need to buy scales,' and then we thought, 'we might as well take scrap in.'" The Gentrys started buying scrap from the public just before the boom hit, and they were amazed at how much was coming in. "You couldn't even get in the drive. We had to hire a bunch of people."

While the boom didn't last, Beth said that the parts business has stayed strong all along. Besides selling used car parts, they also sell new parts and used tires, and install parts for customers. Working along with her husband is "pretty cool," Beth said. "We make a pretty good team. We really enjoy it."

The challenge, she said, is to "keep everything moving – when to move it and when not to." They need to keep enough inventory on hand to have parts to sell, but even with 17 acres, they need to move cars out to make room for what is coming in. "That's why we bought the crusher – to keep it moving."

Beth gave a lot of credit to Oliver's father for buying the property and getting the business license so long ago. "It's so hard to get a salvage license now," she said. "He laid the groundwork, and we appreciate it. We jumped in and hit the ground running." The Gentrys have since purchased the property from Oliver's father.

"We took a big chance, and it worked out," Beth said. "We've been at the right place at the right time more than once. The bottom fell out [of the travel industry] six months after I sold out."

Beth said that the company's location on the south side of Atlanta seems to be ideal for customers bringing in cars and other scrap. Wreckers also bring in cars, and "we buy some from auction, but we don't have to buy a lot."

Meanwhile, the goal is to "maximize the use of what comes in." With eight employees, cars are dismantled when a part is needed, but "when they take one piece out, they take it all apart. We pick a car apart piece by piece; we try to sell every piece of it."

As far as the future, Beth said, "Eventually, we would like to have a shredder." Since there are other shredders in the area, it's not a critical improvement, but one that Oliver would like to implement. "That's what he has in the back of his head, and he's hard to stop sometimes."



—Beth and Oliver Gentry

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Organic cars

■Continued from Page 1

ties at Waterloo, Guelph, Toronto and Windsor. The universities receive funding from Ontario's provincial government, which wants to promote the use of more plant-based materials in the automotive industries. The wheat straw-reinforced resin is the BioCar Initiative's first production-ready application. It also demonstrates better dimensional integrity than a non-reinforced plastic and weighs up to 10 percent less than a plastic reinforced with talc or glass.

The success in developing the new material was based on a collaboration that brought together private industry, government and university research departments.

The wheat straw injected plastic is manufactured by Akron, Ohio-based A. Schulman, a plastics supplier, who was working the University of Waterloo to develop injection molding compounds that contain renewable materials that not only meet auto industry standards for thermal expansion and degradation, rigidity, moisture absorption and fogging, but are also odorless.

Dr. Debbie Mielewski, a chemical engineer and leader of the Plastics Research Group at Ford, said the cooperation between all of the different stakeholders was essential for success in developing an approved sustainable material in less than 18 months.

"The University of Waterloo did a lot of the up front fundamental research, and A. Schulman did the formulation and scale up of processing. The Ford team was involved in the collaboration early enough to advise the team on appropriate targets and applications," she said. "Together, we've developed a material that we think we can migrate to other platforms and applications – then, the environmental benefits really begin to add up."

The Flex crossover is built at Ford's Oakville (Ontario) Assembly Complex.

Research, thus far, has found the 20 percent replacement level is the perfect mix.

"We would not want to go higher because as you increase the filler loading," said Lee, "the impact properties

start to degrade. We see a great deal of potential for other applications since wheat straw has good mechanical properties, can meet our performance and durability specifications, and can further reduce our carbon footprint – all without compromise to the customer."

In terms of other products that can be made with wheat straw filler, Ford is looking at center console bins and trays, interior air register and door trim panel components, and armrest liners.

"There are also a lot of applications under the body," said Lee. "Many underbody shields are large enough that if replaced with wheat straw composite, would offer significant weight savings."

In terms of recycling the bins, tests conducted by Ford have found that the bins can be recycled similarly to other plastic composite materials.

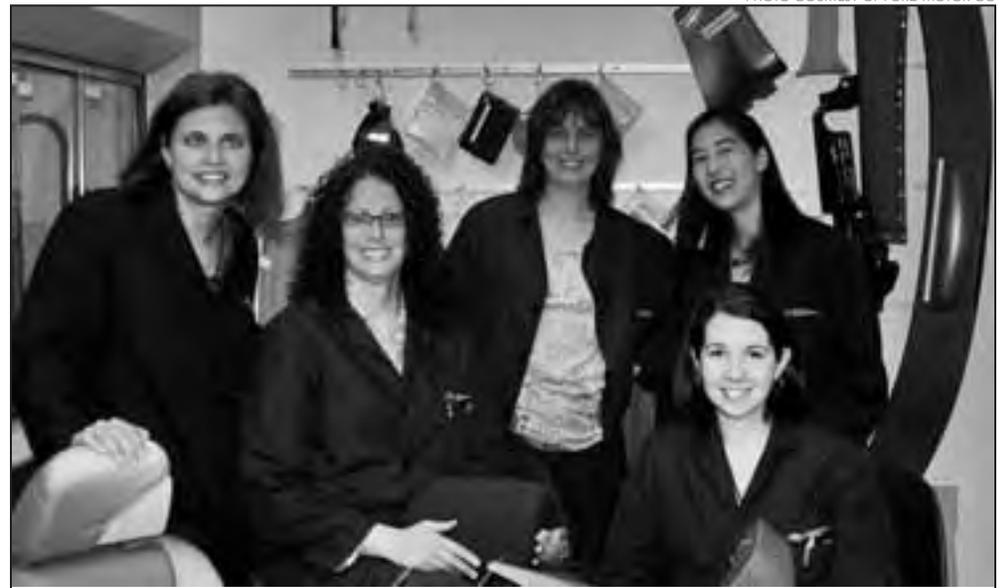
Mielewski is eager to see wheat straw used to reinforce plastics in higher-volume, higher-content applications in products across the board. Wheat straw can be supplied on a long-term basis. In Ontario alone, at least 28,000 farmers grow wheat, as well as soybeans and corn. Should the wheat straw and other agricultural waste byproducts, which could be used to reduce petroleum-based plastics, be harvested from the corn and wheat belts in the United States and Canada, where millions of acres are farmed, the material could play a major role in reducing oil consumption.

"Wheat is grown everywhere and the straw is in excess," said Lee. "More importantly, it doesn't jeopardize an essential food source."

Studies in Ontario have found that there is 30 million metric tons of available wheat straw waste at any given time. Thus far, 4 southern Ontario farmers are supplying wheat straw to Ford and its suppliers.

Ford also began using soy-based foam in the Mustang's seats since 2007. The automaker has migrated the product to additional vehicle lines, now manufacturing more than 1 million vehicles a year with soy seat cushions and backs.

Ford calculates that they are currently using about 1 million pounds of soy oil and reducing CO2 emissions by 5.3 million pounds annually. Moreover, the company is looking at using soy fillers in plastics and rubber to further



The Ford Biomaterials Group. From left to right: Dr. Cynthia Flanigan, Laura Beyer, Dr. Deborah Mielewski, Dr. Ellen Lee, Angela Harris (seated).

reduce the carbon footprint of its vehicles.

The alternative foam, developed at the Ford Research and Innovation Center is now being used in its F150, Navigator, Escape, Expedition, Focus, Mercury Mariner and Lincoln MKS.

"This year, we added soy-based foam to the headliner in the Escape," said Dr. Cynthia Flanigan, a materials scientist with Ford's Plastics Research Group. "We are expanding the applications beyond seating and are starting to make a significant impact, not only at Ford, but throughout the whole industry as other OEMs start to pick up the soy foam technology."

The percentage of soy foam used in the seats is currently around 12 percent, "But we can formulate headrests, armrests and other parts that can go up to 40 percent soy content," said Mielewski.

To create the soy foam, producers use the oil from soybeans which is heated while exposed to the air and oxygen, which hydroxylates it to create a soy-based polyol. The soy polyol is mixed with petroleum-based polyols and several other components to form the polyurethane foam.

Soy oil is used by the fast food industry to cook items such as french fries, as well as being a standard cooking oil. The United Soybean Board (USB) approached Ford with the concept of using soybeans as a feedstock for alternative automotive materials.

"The soy oil molecule is flexible chemistry-wise and the soy polyol is similar in structure to that produced from petroleum," said Mielewski. "The United States has an excess of soybeans and the USB's New Uses Committee is always looking for new applications for soy. The committee awarded us with grants to scale up our research from the laboratory to production equipment and prove it out so that industry could see that it was possible."

Initial efforts in 2001 at making soy foam were not impressive, and creating a successful formula took years.

"Everybody was saying 'you can make a soy foam easily,'" said Mielewski. "We gave it a try and we got absolutely miserable foams that nobody would use for anything. It took us another 3 years, but we eventually did it. We showed our first foam that met Ford specifications in 2005, and we launched

in 2007. It's a long-term commitment to develop these brand new, sustainable materials from research to production."

According to Lee, "What we are saving today by using these biomaterials is equivalent to over 58,000 tree seedlings in the ground growing for 10 years. Every little bit helps, like reducing weight with the wheat straw reinforced plastics.

"In the longer-term, we are looking at completely compostable resins – PLA – made from corn, sugar beets or sugarcane and even switchgrass," she added. "Our challenge for these materials is to improve the durability for automotive use, yet maintain its compostability at the end of life."

"Other biomaterials we are currently developing are making use of the other half of the soybean, the protein half, as a soy meal or soy flour, in various plastics and rubber materials," said Flanigan.

Ford has three United States patents pending on soy foam, including formulation, synthesis and odor reduction.

Eliminating the odor was a major technical challenge that had to be tackled; otherwise it would not have been considered a viable replacement to oil.

Lee notes that the desire to replace petroleum-based car parts with sustainable materials is based on the high price of oil and improved technologies and equipment to carry out research.

"The customer has to want it as well," she said. "We don't put things on vehicles that have no interest. The price of oil spiked, people became more interested in conserving the environment and our materials were in the final stages of development, which was kind of lucky."

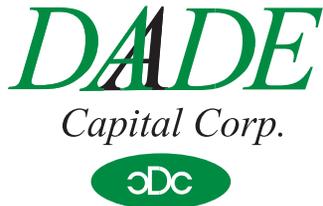
"It's not just about meeting current specifications for petroleum-based products, but surpassing them," Mielewski added. "We have found that some of the biomaterials we have been developing show improved function or qualities that do not occur with the petroleum-based materials."

Ford's soy foam innovations have been recognized, with the company receiving the Society of Plastics Engineers Environmental Award (2007), the Global Plastics Environmental Conference Environmental Stewardship Award (2008) and within Ford, the 2008 Henry Ford Technology Award.



Debbie Mielewski examines soy-based polyol samples. The soy polyol is similar in structure to that produced from petroleum.

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