



American Recycler

NewsVoice of Salvage, Waste and Recycling

AmericanRecycler.com

FOCUS: Automotive

Automotive recycling market is volatile



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Carton recycling sees communities signing on all across the country



A 2015 waste audit at WhiteWave Foods' corporate headquarters in Broomfield, Colorado helped the company and its employees better understand their current waste streams and identify areas of improvement. PHOTO COURTESY OF WHITEWAVE FOODS

by MAURA KELLER

mkeller@americanrecycler.com

Over the last 7 years there has been a 222 percent increase in the number of households that can recycle their cartons. In 2009, the Carton Council of North America formed to deliver long-term collaborative solutions in order to divert valuable cartons from the landfill. Tetra Pak, Elopak, SIG Combibloc, Evergreen Packaging, as well as associate member Weyerhaeuser, joined forces. At that time, only 18 percent of U.S. households had access to carton recycling through their local community programs.

According to Jason Pelz, vice president of recycling projects for the Carton Council of North America and vice president, environment, for Tetra Pak Cluster Americas, they started by focusing on increasing household "access" to carton recycling: the more consumers who can recycle cartons at home, the more materials flow into the stream and the less that go into landfills.

"Our strategy is all inclusive," Pelz said. "For example, we work to help ensure end market availability for facilities to sell baled cartons for recycling. Recognizing that consumers need to know that cartons are accepted in their local programs, we work with communities to help with education. This includes developing and executing local campaigns, providing communities with grants to help disseminate education to their residents and providing resources to assist in education efforts. Additionally, we work with materials recovery facilities (MRFs) often providing equipment to help them sort cartons."

Evolution of Food & Beverage Carton Recycling

Today, more than 58 percent of U.S. households can recycle cartons through their local recycling programs. Eighty of the top 100 U.S. cities accept cartons and nearly 67.8 million U.S. households can recycle the food and beverage cartons they consume.

"These communities see the value that food and beverage cartons bring to their programs, and every day new communities are signing up to accept them," Pelz said.

Indeed, food and beverage carton recycling offers many benefits – to recycling companies' bottom line, as well as to the environment. Cartons are made mainly from paper, which is a renewable resource, they are lightweight and compact in design, and they have a low carbon footprint.

"Consequently, cartons have global demand and are shipped to paper mills, where the paper fiber is extracted to make new products such as paper towels, tissue and even building materials," said Deanna Bratter, director of corporate sustainability at WhiteWave Foods, a company with a long-standing history of supporting initiatives that positively impact our planet. They partner with the Carton Council, a collaboration of carton manufacturers and recyclers, and support their efforts to expand carton recycling access in the U.S.

Bratter stresses that there is a lot of confusion about carton recycling. For example, consumers assume a carton is not recyclable if it does not have a recycling logo, when in fact that is a myth.

"The material itself is recyclable – the challenge is really whether or not that consumer's community recycling center can or will accept them," Bratter said. Another misconception is that cartons have a wax coating which prevents them from being recycled. In reality, they do not contain any wax. They are made mainly from paper in the form of paperboard and contain a thin layer of polyethylene (plastic) that is actually able to be separated in the recycling process.

"Because the vast majority of the products we make are packaged in cartons, we plan to use this influence to help consumers learn about the availability and importance of carton recycling," Bratter said. "While the Carton Council works to increase access in recycling, WhiteWave uses the scale of our brands to promote participation in markets that are new to carton recycling, as well as those that have had access for some time."

Making Unique Inroads

In new markets, the Carton Council employs a number of strategies to raise awareness about access to carton recycling – starting with where people generally purchase cartons – at grocery stores and retailers. They work closely with companies across a myriad of industries that are recycling food and beverage cartons in new and innovative ways.

ReWall Company, for example, manufactures high quality green building materials using recycled food and beverage cartons.

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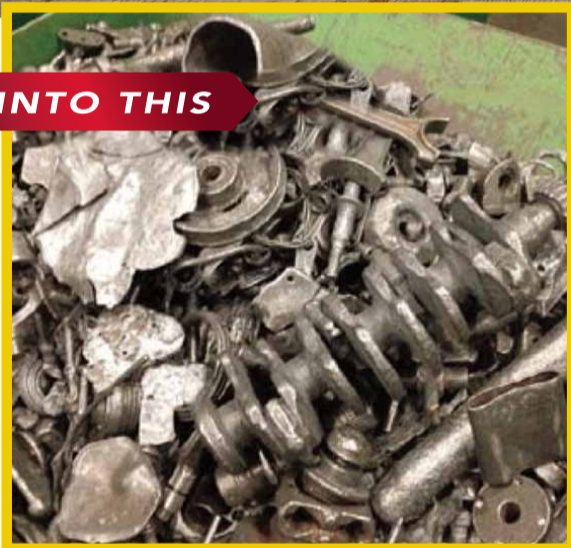
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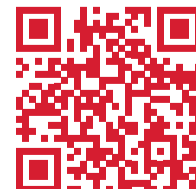
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Miller appointed chairman of the Global Recycling Standards board

The Global Recycling Standards Organization (GRSO), the home of The Recycling Industry Operating Standard (RIOS™) has recently elected a new chairman who will serve a two year term ending in 2018. The position of chairman on the GRSO board of directors, like all directors is an unpaid, volunteer position.

Jeremy Miller, chief financial officer of Wm. Miller Scrap Iron & Metal Co. located in Winona, Minnesota is a fourth generation scrap recycler who has experience overseeing accounting functions, a QEH&S management program, business development, and domestic and global nonferrous and eScrap sales. Miller is also a Senator in the state of Minnesota.

With Miller's vast experience in the industry, RIOS is confident that he will be able to properly assist RIOS in its mission to assist recyclers in more effectively managing their system, which results in stronger health and safety programs, greater environmental responsibility and better operational efficiency.

A lady came home from her doctor's appointment grinning from ear to ear. Her husband asked, "Why are you so happy?" The wife said, "The doctor told me that for a 45 year old woman, I have the breasts of an 18 year old." "Oh, yeah?" quipped her husband, "What did he say about your 45 year old ass?" She replied, "Your name never came up!"

Minnesota Fair redoubles recycling efforts

Greater convenience for visitors will boost recycling, with support of soft drink bottlers and distributors

Keeping beverage containers out of the waste cans just got a lot easier at the "Great Minnesota Get Together," the Minnesota State Fair, where the key is to be responsible and do the right thing by recycling to the maximum extent possible. New recycling bins are sure to help.

The State Fair Committee moved well in advance of the opening to build the capacity to recycle on the fairgrounds, expanding the locations across the 320 acres. The Minnesota Beverage Association and the American Beverage Foundation for a Healthy America joined in providing a substantial grant to fund the purchase of 260 additional recycling bins. These will join with the existing 435 units, and 100 more from the state fair, to cover more than half of the waste containers located over the expansive site, which is expected to see nearly 2 million visitors this year. The Minnesota State Fair Foundation helped coordinate the effort.

"Minnesota's non-alcoholic beverage industry is proud to support efforts that positively impact the environmental health of our great state," said Tim Wilkin, president of the Minnesota Beverage Association. "Our industry has a record of leading the way on environmental stewardship, as evidenced by our 100 percent recyclable containers and our support for recycling whether you're at home or on the go."

Based on past experience, the State Fair has to handle more than



New effort to capture more beverage containers at the Minnesota State Fairgrounds is underway. From left are Jim Briggs, 7UP; sustainability consultant Megan Dobratz; Sondie Yelvington, 7UP; Terry Gilberstadt, Minnesota State Fair Foundation Board; Kay Kady, executive director; Dan Kueppers, chair of the Minnesota Beverage Association and Tim Wilkin, president.

1,000 tons of waste material over the course of the 12 day run, or a little more than 83 tons per day. Past analysis of the contents of waste bins that were not near a recycling bin found that the waste bins actually contained about 80 percent recyclable material. This number drops to between 5 and 10 percent when the waste bin is accompanied by a recycling bin. Dramatically increasing the number of recycling bins near waste containers can be expected to substantially

increase the percentage of material diverted to the recycling stream.

Sustainability consultants for the fair will analyze the outcomes this year to determine the impact of this expansion of convenient recyclables receptacles.

As an added bonus, the recycling bins acquired for use at the State Fair will be made available to organizations and communities around the state for use during their own events, outside of the fair dates.

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Carton recycling

■Continued from Page 1

Jan Rayman, chief executive officer at The ReWall Company says the company utilizes the entire carton to make their products.

Once cartons have been consumed and collected, they are sorted and baled at a materials recovery facility.

"After we receive cartons that have been sorted and separated at a MRF, we shred and press-melt them into high-quality green building materials, such as roof cover board, exterior sheathing, moisture- and mold-resistant composite panels, ceiling panels, and wallboard and backer board," Rayman said. "The inherent properties of the beverage carton – durability, moisture and mold resistance – are also exactly what building owners, architects, and specifiers are looking for in high performance building materials."

Cartons are manufactured from an inherently moisture and mold-resistant composite material that also is extremely durable. These are all the same properties that builders look for when they want to build energy efficient, high performance healthy buildings.

"Our process is environmentally friendly; we do not need to strip away the PE layers or remove the ink from the packaging to manufacture our products, nor do we use added glue, water or chemicals," Rayman said.

ReWall's primary customers at this time are government and institutional projects. For example, their roof cover board has been used in roofing systems on the Veterans Affairs Medical Center in Omaha, Nebraska. Recently, Iowa State University utilized ReWall's materials

when they put new roofs on their Molecular Biology and Durham Center lecture halls.

"The contribution of ReWall to the landfill reduction is easy to demonstrate based on the sheer volume of waste that is converted into ReWall," Rayman said. About 30 cartons make up a single 2' x 2' ReWall ceiling tile and at least 400 cartons are recycled in each and every .5" x 4' x 8' ReWall board. This means that each truckload of ReWall products removes almost 300,000 cartons from the landfill.

Meeting Requirements

The food and beverage industry as a whole has used cartons to deliver products to consumers for many years. And partnering with organizations like the Carton Council gives these manufacturers an avenue to help expand recycling capabilities across the U.S. and ensure product packaging has the most sustainable end-of-life scenario possible – which is being recycled into new materials versus ending up in the landfill.

"Over the past 6 years, carton recycling access for U.S. households has grown more than 200 percent," Bratter said. "That's a lot of change and a lot of work needs to be put in toward raising awareness and, in turn, inspiring participation."

Shelf-stable cartons (or aseptic) contain on average 74 percent paper, 22 percent polyethylene and 4 percent aluminum. Refrigerated (or gable-top) cartons contain about 80 percent paper and 20 percent polyethylene.

As Pelz explained, like any other material, cartons are sorted and baled at sorting facilities and then shipped to recyclers. Cartons are recycled in two possible ways. At paper mills, fiber is extracted and separated in a machine called a hydropulper, which resembles a giant kitchen

blender. The pulp that comes out is used to make paper products. They then go on to make tissues, paper towels, writing and office paper.

Another type of recycler uses whole cartons to make green building materials such as wall board, sheathing, ceiling tiles and backer board.

Carton recycling has been on a steady rise in recent years thanks to the Carton Council and efforts from supporters. Soon 60 percent of residents in the U.S. will have access to carton recycling – that's more than 10,000 communities and 65 million households across 48 states.

Earlier this year, the Carton Council commissioned a study that revealed that 91 percent of consumers say they expect food and beverage brands to actively help increase the recycling of their packages. Sixty-seven percent of consumers report they would assume a package is not recyclable if it did not have a recycling symbol or language on it. The survey also revealed that a majority of consumers (57 percent) look to a product's packaging first for recycling information, before turning to other sources.

"Our hope is that the myths around carton recycling disappear and the general population comes to think of cartons and recyclability as a given, much the way that aluminum cans and glass bottles are viewed today," Bratter said.

The largest challenge facing the future for carton recycling is going to be the required shift from focus on access to a steadfast and determined focus on participation. Now that our communities can recycle, will they?

"How do we inform, incentivize and inspire them to participate in the movement by recycling their cartons and keeping them out of landfills?" Bratter asked. "We believe this is the next big effort required and we are fully committed to helping raise the awareness needed for success."

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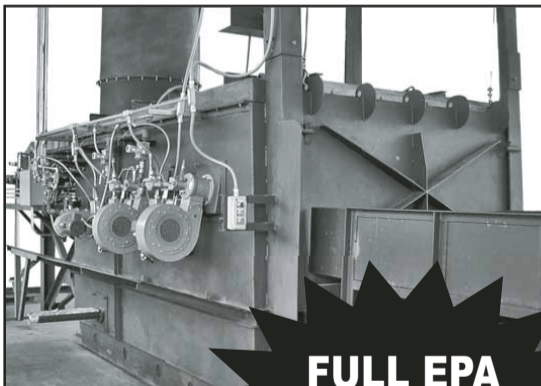
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Events Calendar

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19th Annual Missouri Recycling Association Conference & Tradeshow (MORA). Sheraton Hotel, Westport Plaza, St. Louis, Missouri.
866-667-2777 • www.moraconference.org

September 19th-21st

26th Annual ARC Conference & Trade Show. Best Western Inn of the Ozarks Convention Center, Eureka Springs, Arizona.
866-290-1429 • www.recycleark.org

October 23rd-25th

West Virginia Association of Solid Waste Authorities, Educational Conference. Morgantown Marriott at Waterfront Place, Morgantown, West Virginia.
304-573-5194 • www.awvswa.com

October 26th-29th

ARA 73rd Annual Convention & Expo. Baltimore Convention Center, Baltimore, Maryland.
888-385-1005 • www.araexpo.org

November 1st-2nd

NERC Fall Conference. Sheraton Portsmouth Harborside Hotel, Portsmouth, New Hampshire.
802-254-3636 • www.nerc.org

November 9th-10th

Canadian Waste & Recycling Expo. International Centre, Toronto, Ontario.
770-984-8016 • www.canadian-waste-recycling-expo-us.messefrankfurt.com

DOE director named “Recycling Champion of the Year”

San Francisco Department of Environment director Debbie Raphael received the “Recycling Champion of the Year” award from Californians Against Waste, a statewide non-profit environmental research and advocacy organization.

Each year, Californians Against Waste recognizes members of the Legislature and other distinguished leaders for their efforts to advance waste reduction and recycling in California. This year, the group honored Assembly member Richard Bloom of Santa Monica and Department of Environment director Debbie Raphael.

“Under Debbie’s leadership, San Francisco has not only set ambitious waste reduction and climate targets, but has implemented concrete policies to achieve these goals,” said Mark Murray, executive director of Californians Against Waste.

In a letter announcing the award, Californians Against Waste highlighted Raphael’s “thoughtfulness, commitment and tenacity” as well as her “tireless advocacy” on waste reduction, producer responsibility, and recycling during her public service career with the City of San Francisco (1999 to 2011) as well as her time as the director of the California

Department of Toxic Substances Control (2011 to 2014).

Raphael was appointed by Mayor Edwin M. Lee in 2014 as Director of the San Francisco Department of Environment. Under Raphael’s direction, the department has continued to implement innovative policies and programs to help San Francisco reach its goal of Zero Waste. In June, San Francisco approved the most comprehensive ban on polystyrene foam products in the country.

Later this year, the department will oversee the implementation of a producer-funded safe drug disposal program that will make it easier for residents to recycle their unwanted medications.

In addition to Director Raphael, the Department of Environment’s Zero Waste programs and staff continue to be recognized for their achievements. Earlier this month, Zero Waste program staff attended the California Resource Recovery Association’s 40th Annual

Conference in Sacramento where Department of Environment staff member, Mary Williams, received the Outstanding Construction & Demolition (C&D) Award for her work to prevent construction and demolition debris from being sent to landfill. San Francisco’s C&D Ordinance was enacted in 2006 and Mary has managed implementation of the program since its inception. After 10 years at the department, Williams retired at the end of June.

Republic Services earns recycling systems award

The Solid Waste Association of North America (SWANA) has named Republic’s Southern Nevada Recycling Center winner of the Gold Excellence Award in the Recycling Systems category.

“We are honored by this recognition,” said Pete Keller, vice president of recycling and sustainability at Republic Services. “A recycling center of this magnitude is a major undertaking and it could not have happened without the support of many local leaders and community partners. Together, we are enabling customers throughout Southern Nevada to achieve their sustainability goals for generations to come.”

The Southern Nevada Recycling Center is the largest and smartest residential recycling center in North America. It is capable of processing 2 million pounds of recyclable material per day, or 70 tons per hour, and is expected to double recycling capacity in the area. It uses several advanced recycling technologies, including five optical sorters which use 2D and 3D technologies to make material separation decisions in milliseconds.

The facility is also home to a learning center that features sustainability oriented educational displays and community videos, as well as a live video stream of recycling operations.

SWANA’s Excellence Awards Program recognizes outstanding solid waste programs and facilities that advance the practice of environmentally and economically sound solid waste management practices.



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Keep America Beautiful opens application period for 2016 Coca-Cola Public Space Recycling Bin Grant

Keep America Beautiful and The Coca-Cola Foundation opened the application period for the 2016 Coca-Cola Public Space Recycling Bin Grant Program. In its ninth year, the initiative is designed to expand access to recycling in public spaces in communities across America. Grant applications will be available online through October 7, 2016. All interested parties can visit BinGrant.org to apply.

The program is funded through a \$300,000 grant from The Coca-Cola Foundation to Keep America Beautiful, which distributes the funding through a merit-based application process. Since 2007, nearly 900 organizations including schools, local governments and related municipal agencies, colleges and universities, and other community groups have received grants providing more than 45,000 recycling bins. More than 1.5 million people now have daily access to public space recycling bins provided through the program for use at locations such as streetscapes and playgrounds, athletic fields, fairs and festivals, K-12 school grounds, and college and university residence halls.

The 2016 program is expected to award more than 5,300 recycling bins

and result in an estimated 1 million pounds of recyclable materials collected during their first year in use.

Eligible recipients for the 2016 Coca-Cola Public Space Recycling Bin Grant Program include government agencies, colleges and universities, civic organizations, public and private pre-K through 12 schools and local nonprofit groups throughout the U.S. Leveraging the program to further expand recycling in public spaces, preference will be given to applicants that agree to make a matching purchase of additional recycling bins beyond those awarded through the grant. Keep America Beautiful will announce the grant award recipients in November 2016, and make arrangements with suppliers to deliver bins directly to the recipients.

Research conducted by Keep America Beautiful in 2009 showed only 12 percent of surveyed public locations had infrastructure to recover recyclable items. This lack of recycling opportunities is reflected in a separate national survey conducted for Keep America Beautiful in 2013, in which 92 percent of respondents said they recycle at home while only 19 percent indicated that they typically recycle in public parks.

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NRC elects new board

The National Recycling Coalition (NRC) elected six members to the NRC board of directors.

The new and re-elected board members, listed below, will each serve three year terms:

- Susan Attridge, recycling coordinator, City of Buffalo, New York
- Maggie Clarke, zero waste consultant, Zero Waste New York
- Paul England, general manager, Pratt Recycling
- Carey Hamilton, executive director, Indiana Recycling Coalition
- Dave Keeling, director of recycling, Steel Recycling Institute
- Robin Wiener, president, Institute of Scrap Recycling Industries

The recently voted in individuals join the following active members:

- Stephen Bantillo, executive director, Recycling Certification Institute
- Gary Bilbro, consultant, NewGreen Consulting
- Robert J. Bylone, Jr., executive director and president, Pennsylvania Recycling Markets Center
- Jack DeBell, development director, University of Colorado Recycling
- George Dreckmann, strategic initiatives coordinator, City of Madison, Wisconsin, Streets Division, retired
- MaryEllen Etienne, programs manager, Solid Waste Authority of Central Ohio (SWACO)
- John Frederick, executive director, Intermunicipal Relations Committee
- Juri Freeman, Sr. consultant, Resource Recycling Systems (RRS)
- Bob Gedert, department director, Austin Resource Recovery, City of Austin
- Marjorie Griek, principal, Pearl Consulting
- Brent Hildebrand, vice president, operations, Alpine Recycling and Waste
- Doug Hill, president, EcoVision Environmental
- Gary Liss, zero-waste consultant, Gary Liss & Associates
- Maite Quinn, business development and marketing manager, Sims Municipal Recycling
- Antonio Rios, president, Puerto Rico Recycling Coalition
- Will Sagar, executive director, Southeast Recycling Development Center
- Lisa A. Skumatz, principal consultant/research, Skumatz Economic Research Associates, and non-profit Econservation Institute

•Michael Van Brunt, director of sustainability, Covanta

•Melissa Young, assistant director, Syracuse University Center for Sustainable Community Solutions

Ex-officio members include Michele Nestor, Recycling Organizations Council (ROC)-chair, and honorary lifetime members Cliff Case of Carter, Ledyard & Milburn, LLC, Murray Fox with i-ROC, and Mark Lichtenstein chief of staff and executive director of sustainability at the SUNY College of Environmental Science and Forestry. Officers will be elected at the next board meeting.

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ALTERNATIVE ENERGY

Pig farm uses synergies to generate energy

Croatian biogas plant goes live in Croatia

In summer 2016, a biogas plant of the German plant manufacturer Weltec Biopower went live in Varazdin, northern Croatia. The 250 kW plant of the pig farmer Dalibor Vrcek perfectly suits the farm's cycle of food production, liquid manure utilization and energy production in the form of power, heat and fertilizer. The slurry from a newly erected pigsty with 130 sows and 2,800 porkers forms the basis for the energy production.

Even before joining the EU in 2013, Croatia had committed itself to the EU climate protection goals in order to establish the preconditions for obtaining subsidies for decentralized energy projects in rural areas. With these grants and fixed feed-in tariffs for green power, the Croatian government intends to increase the share of renewable energy by about 30 percent by 2030. The framework conditions for this are excellent, as Croatia has a generous supply of biomass. Biomass is one of the country's most important renewable energy sources. Thus, biogas plants can effectively contribute not only to the utilization of agricultural products, but also to the digestion of waste from the food industry.

Pig breeder Dalibor Vrcek's family managed farm also had ideal conditions for establishing a synergy of animal hus-



In view of the liquid manure share, a small 35-m³ input system is sufficient for transferring the solid substances, such as maize silage.

bandry and biogas generation. In addition to the subsidy for the construction, the operator was able to base his investment decision on a fixed feed-in tariff of 0.19 per kilowatt-hour of power fed in over the next 14 years. This income forms a solid basis for diversifying his business. "We expect a feed-in of two million kilowatt hours per year. Thus, we have created a third solid pillar besides agriculture and feed production as well as pig fattening and direct marketing," said Vrcek, commenting on the further economic and ecological development of his farm, which had been founded back in 1990.

The farm's infrastructure is highly suitable for the new business field. Before the pig slurry is pumped into the 1,716-m³ stainless steel digester, it can be stored in an existing upstream slurry store. In view of the liquid manure share, a small 35-m³ input system is sufficient for transferring the solid substances, such as maize silage. The entire digestate is used as fertilizer on the farm's fields, which amount to more than 300 ha. The smart heat utilization of the 250 kW CHP unit serves as an additional source of income, thereby contributing to the efficiency of the plant operation.

Gaz Metro aims to convert forestry biomass

Gaz Métro has been conducting a demonstration project aimed at converting forestry biomass into second generation renewable natural gas. The trials, carried out in collaboration with the British Columbia firm G4 Insights at the Natural Gas Technologies Centre in Boucherville, enabled them to develop a conversion process that marks a milestone in the development of new renewable energy technology in Québec.

Gaz Métro and G4 used a thermochemical process called PyroCatalytic Hydrogenation (PCH) to transform wood chips into renewable natural gas.

"With this small scale project, we proved that PCH is technologically viable. It is now essential that we press ahead with our efforts, so as to determine how we can improve the process even further and increase its production potential. Our goal is to use forestry biomass and produce a "green" energy supply of Québec-sourced and renewable natural gas. This natural gas, over the coming years, could be used locally or injected into our network to supplement the renewable natural gas being generated by the biomethanization projects of Québec municipalities that have opted to transform organic waste into energy," said Martin Imbleau, vice president, development and renewable energies at Gaz Métro.

When my boss asked me who the stupid one is, me or him, I told him, "Everyone knows he doesn't hire stupid people."



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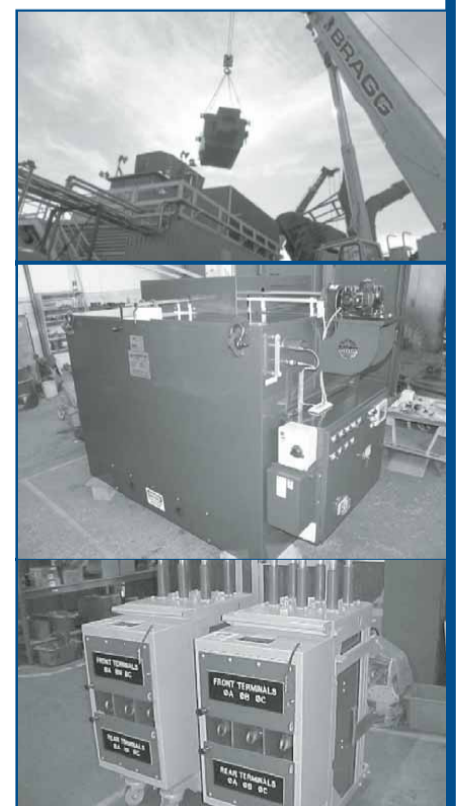
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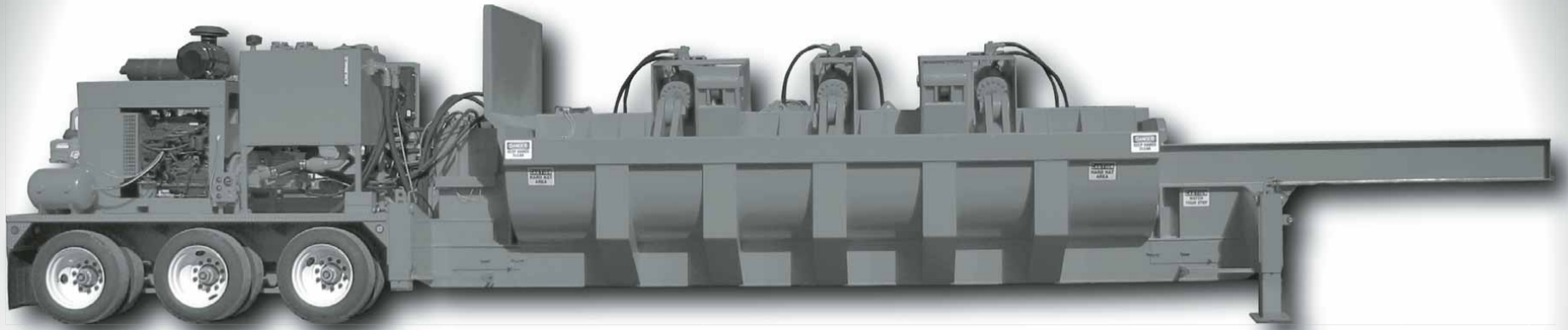
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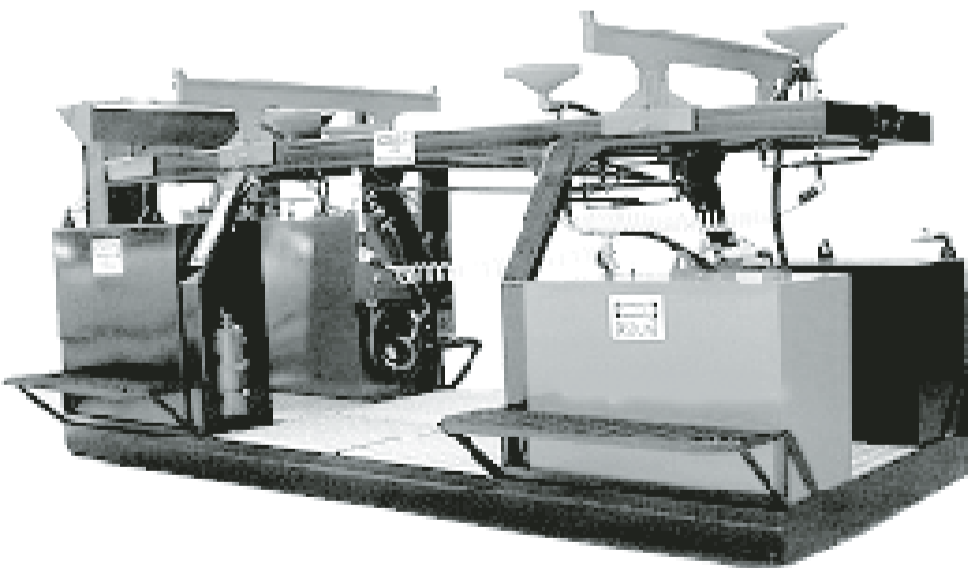
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PAPER

AF&PA releases paper reports for July 2016

The American Forest & Paper Association released its July U.S. paper reports.

Containerboard

Containerboard production was 0.7 percent lower compared to July 2015. The month-over-month average daily production compared to June 2016 was 0.3 percent higher.

The containerboard operating rate for July decreased to 93.9 percent, while the year-to-date operating rate of 94.4 percent was 1.7 percentage points lower compared to year-to-date 2015.

Kraft Paper

Total Kraft paper shipments were 133 thousand short tons, 10.6 percent lower compared to July of last year, which had the second highest shipment volume in 2015. Bleached Kraft paper shipments decreased from 7.7 thousand short tons in June to 6.7 while unbleached Kraft paper decreased from 130.1 to 126.3 thousand short tons.

Overall, shipments in the seven months of 2016 were 3.7 percent lower compared to the same period in 2015. Total month-end inventories increased from 68.6 to 80.2 thousand short tons.

Printing-Writing Paper Report

According to the report, total printing-writing paper shipments decreased 8 percent in July compared to July 2015. Total printing-writing paper inventory increased 4 percent from June levels.

•Uncoated free sheet (UFS) paper shipments decreased 8 percent compared

to July 2015. UFS imports were down 37 percent year-over-year in June with exports down 22 percent.

•June coated free sheet (CFS) paper shipments increased 1 percent compared to July 2015. Imports of CFS papers decreased 11 percent in June with exports increasing 9 percent year-over-year.

•Uncoated mechanical (UM) paper shipments decreased 19 percent in July compared to July 2015, the sixth year-over-year decrease in 2016. Imports of UM papers were down 26 percent in June while exports of UM in June increased 5 percent compared to the previous year.

•Coated mechanical (CM) shipments in July decreased 14 percent when compared to July 2015. Imports of CM increased 9 percent in June compared to June 2015 with exports down 11 percent.

Boxboard Report

Total boxboard production decreased 2.5 percent when compared to July 2015 but increased 2.2 percent from June.

Unbleached Kraft Boxboard production decreased over the same month as last year and decreased compared to June.

Total Solid Bleached Boxboard & Liner production decreased when compared to July 2015 but increased compared to June.

The production of Recycled Boxboard decreased compared to July 2015 but increased when compared to June.

Verso recovered 1.4 million pounds of paper for recycling

Verso Corporation, a producer of printing and specialty papers and pulp in North America, published its 2015 Sustainability Report titled "A Principled Path to Sustainability."

The 2015 report is organized according to Verso's five sustainability principles, which focus on responsible sourcing, environmental and safety improvement, product stewardship, stakeholder partnerships and transparency.

2015 Sustainability Highlights

•Verso's Lost Workday Incident Rate (LWIR) – a measure of serious injuries – improved 10 percent to 0.54.

•Forty-eight percent of the fiber used in Verso's products was third party certified and 32 percent of its total paper sold was chain-of-custody certified.

•Carbon neutral, wood based biomass accounted for 64.4 percent of on-site energy generated.

•Over 58 percent of the manufacturing byproducts generated at Verso's mills was reused for energy generation and 28.1 percent was reclaimed for other beneficial reuse applications. Only 13.7 percent of waste went to landfills.

•Nearly 1.4 million pounds of paper were recovered for recycling through Duluth Mill's magazine program.

•Verso has the capability to offer FSC®, SFI® and PEFC™ chain-of-custody certified products across all paper and pulp grades and products with 10 percent to 30 percent recycled fiber content.

Paper bags should be excluded from tax measures

American Forest & Paper Association (AF&PA) president and chief executive officer Donna Harman issued the following statement after the passage of Resolution 1207 in Suffolk County, New York, which imposes a \$.05 tax on paper bags and single use plastic bags.

"AF&PA believes that paper bags should be excluded from these kinds of measures, which are aimed at limiting the use of plastic carryout bags. Suffolk County is wrongfully penalizing paper bags and implying that a product that is highly recycled, frequently reused and

often composted is part of the environmental problem rather than the solution.

"Government imposed product taxes not only increase costs for consumers, but can substantially distort the free flow of recoverable materials, such as paper. The paper and paper-based packaging industry has achieved a consistently high rate of recovery voluntarily. In 2015, 66.8 percent of all paper consumed in the United States was recovered for recycling, and the recovery rate has met or exceeded 63 percent for the past six years."

Cascades becomes majority shareholder

Cascades Inc., a recovery and manufacturer of green packaging and tissue products, has taken a majority position in Longhorn Paper Converting, a tissue converting plant in Grand Prairie, Texas.

While recent investments have consolidated Cascades' presence on the American west coast, this latest initiative will

expand its coverage of the U.S. even further. Owing to its strategic location, this converting plant will foster synergies and enhance Cascades' integration rate in the region by converting parent rolls manufactured in other Cascades plants.

The terms and conditions of the transaction have not been disclosed.

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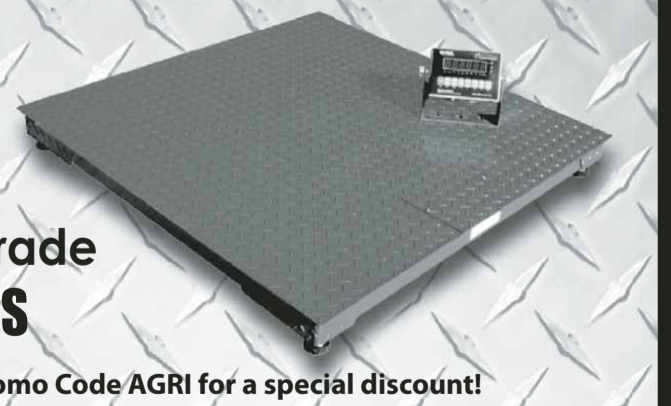
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WASTE

EPA and City of Columbia set agreement

EPA Region 7 has reached a proposed settlement of Clean Water Act violations by the City of Columbia, Missouri involving pollutant discharges from the Columbia Landfill and Yard Waste Composting Facility. As part of the settlement, the city has agreed to pay a civil penalty and perform a Supplemental Environmental Project.

An EPA inspection in April 2014 found the landfill and composting facility, at 5700 Peabody Road in Columbia, discharged pollutants into Hinkson Creek that were in excess of its National Pollutant Discharge Elimination System permit limits.

The facility was also found to have failed to meet its permit limits for biochemical and chemical oxygen demand, total suspended solids and iron; and to have failed to maintain stormwater best management practices and procedures.

Under a proposed administrative settlement with EPA, Columbia has agreed to pay a \$54,396 civil penalty, and build a wetland area that would serve as an additional level of containment and treatment for discharges from the facility. The construction of the wetland area, at a cost of no less than \$475,000, will be designed to further reduce the quantity of pollutants from the landfill's outfall, prior to their discharge into Hinkson Creek.

LDEQ speeds up flood debris removal

The debris staging site at North Sherwood Forest Boulevard has had an immediate impact on the pace of the debris removal in East Baton Rouge Parish. According to officials with DRC (the company contracting to manage the removal), since the staging site was activated, haul efficiency increased by 66 percent, resulting in an increase in volume of debris removed from 17,000 cubic yards per day to 60,000 cubic yards per day.

The site is authorized by LDEQ. An additional staging site on Joor Road is authorized by LDEQ for the city of Central; however, this site has not yet begun operation.

LDEQ Secretary Chuck Carr Brown said the agency is modifying the

debris removal plan to get more debris off the streets faster. There is absolutely no disposal at the North Sherwood Boulevard site, he said. The debris is being separated and compacted there. "The contractors expect the addition of the staging site will cut the total removal time in half from the original estimate of 120 days to something like 60 days," Brown said.

The secretary acknowledged that some concerns were raised about the site's proximity to a school bus transfer site but said that problem has been addressed.

"We at LDEQ and the contractors are in constant contact with school officials. We will suspend operations for the period when the bus transfers are

done, both in the morning and the evening."

The temporary staging sites will be used only during the duration of the declared emergency, Brown said. The debris brought to the site is sorted so that waste material prohibited in landfills, like white goods and electronics, can be removed. The remaining waste is compacted and sent to the appropriate solid waste disposal facility which has the correct LDEQ permit to handle those waste streams. "Compacting and sorting the waste reduces three truckloads to one truckload," Brown said.

The white goods will be staged and sent to a proper facility for processing. The electronics waste will be recycled, Brown said.

Tracking feature helps building managers save money

The U.S. Environmental Protection Agency (EPA) unveiled a waste and materials tracking feature in its Energy Star Portfolio Manager, which is a free benchmarking and tracking tool for commercial building owners and managers. Reducing waste and reusing materials more productively through sustainable materials management over their entire lifecycles conserves resources, helps communities remain economically competitive and supports a healthy environment.

EPA's Energy Star Portfolio Manager is already used to measure energy,

water and greenhouse gas metrics in more than 450,000 U.S. buildings, representing over 40 percent of U.S. commercial space, as well as in more than 10,000 buildings in Canada. Now owners and managers using Portfolio Manager will be able to benchmark 29 types of waste across 4 different management metrics alongside their existing sustainability management indicators. Types of waste include building materials, glass, paper, plastics, and trash.

Currently, U.S. commercial buildings and manufacturing activities are responsible for as much as 45 percent of

the 150 million tons of waste in the U.S. that ends up in incinerators or landfills each year. The transportation, decomposition, and burning of this waste generates greenhouse gas emissions and other air pollutants.

The addition of waste tracking is the culmination of a year-long collaboration between EPA's Energy Star and Sustainable Materials Management programs and members of the industry to identify key performance metrics for waste and materials management.

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In operating condition, can be demonstrated.

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1987 KOMATSU 350-1

Includes forks and bucket.

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METALS

Steel imports increased 12 percent in July

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 3,170,000 net tons (NT) of steel in July 2016, including 2,416,000 net tons (NT) of finished steel (up 12.4 percent and 6.5 percent, respectively, vs. June final data).

Year-to-date (YTD) through seven months of 2016, total and finished steel imports are 18,877,000 and 15,240,000 NT, down 25 percent and 26 percent, respectively vs. the same period in 2015.

Annualized total and finished steel imports in 2016 would be 32.4 and 26.1 million NT, both down 17 percent vs. 2015. Finished steel import market share was an estimated 26 percent in July and is estimated at 25 percent YTD.

Key finished steel products with a significant import increase in July compared to June are hot rolled sheets (up 48 percent), reinforcing bars (up 32 percent), oil country goods (up 26 percent), cut lengths plates (up 25 percent), plates

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)					
	JUL 2016	JUN 2016	2016 Annualized	2015 Full Year	% Change 2016 Annual vs. 2015
SOUTH KOREA	427	354	4,064	4,854	-16.3%
TURKEY	301	198	2,567	2,823	-9.1%
JAPAN	195	158	1,822	2,259	-19.3%
GERMANY	86	127	1,199	1,515	-20.8%
BRAZIL	54	67	940	1,437	-34.6%
CHINA	62	67	880	2,374	-62.9%
TAIWAN	116	96	873	1,205	-27.6%
All Others	1,175	1,202	13,780	15,026	-8.3%
TOTAL	2,416	2,269	25,545	31,493	-17.0%

in coils (up 18 percent) and line pipe (up 10 percent).

In July, the largest volumes of finished steel imports from offshore were from South Korea (427,000 NT, up 21 percent from June final), Turkey (301,000 NT, up 52 percent), Japan (195,000 NT, up 23 percent), Taiwan (116,000 NT, up 21 percent) and Ger-

many (86,000 NT, down 32 percent). For the first 7 months of 2016, the largest offshore suppliers were South Korea (2,370,000 NT, down 30 percent), Turkey (1,497,000 NT, down 20 percent), Japan (1,063,000 NT, down 25 percent), Germany (700,000 NT, down 28 percent) and Brazil (549,000 NT, down 30 percent).

Nucor to build specialty cold mill complex in Arkansas

Nucor Corporation is adding an additional cold mill at its Nucor Steel Arkansas division. The specialty cold mill complex will expand Nucor's capability to produce advanced high-strength, high strength low alloy, and motor lamination steel products. The mill will cost an estimated \$230 million to build and is expected to be operational in approximately 2 years.

Ducker Worldwide estimates that 4 million tons of advanced high-strength and ultra advanced high-strength steels will be used for the automotive market by 2025. The specialty cold mill complex will give Nucor the capability to produce products the company currently does not make, adding to Nucor's comprehensive product portfolio and further differentiating Nucor from its competi-

tors as the leader in providing solutions to its customers. Locating the cold mill at Nucor's sheet mill in Arkansas will give the company a transportation advantage over competitors outside the region.

The addition of the specialty cold mill complex is expected to add approximately 100 jobs at an estimated average annual salary of \$80,000.

Great Lakes-Seaway shipping rebounds

Great Lakes-St. Lawrence Seaway shipping rebounded in August due to a surge in U.S. grain exports, iron ore shipment improvements and a steady flow of raw materials for manufacturing and construction.

"We've seen a real rally in August. St. Lawrence Seaway cargo shipments were up 8 percent compared to the same month last year," said Stephen Brooks, president of the Chamber of Marine Commerce. "U.S. grain exports now match last season's strong performance. Iron ore shipments have improved as Canadian and U.S. mines have boosted production and we continue to see steady demand for aluminum, cement and asphalt."

The August acceleration lifted year-to-date Seaway cargo shipments (from March 21 to August 31) to 17.3 million metric tons. While this number is down 7.5 percent compared to the same period in 2015, a busier August narrowed the gap.

Year-to-date domestic general cargo shipments are up 23 percent compared to last season, with aluminum ingots (for car and truck manufacturing) shipped by McKeil Marine from the Aluminerie Alouette plant in Sept-Iles, Quebec to Oswego, New York, Detroit, Michigan and Toledo, Ohio.

Ports and ship owners are now gearing up for the autumn, traditionally the busiest time of the season.

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METALS

New senior executives accept appointments at Novelis

Novelis disclosed a number of senior executive moves to further meet the needs of its customers.

Emilio Braghi has been named senior vice president, Novelis Inc. and president, Novelis Europe; Tom Boney has been named vice president, Operations, North America; and, Ganesh Panneer has been named vice president and general manager, automotive, North America.

Braghi joined Novelis in 1999 as sales manager, Europe, and has held various roles of increasing responsibility during his tenure with the company. Most recently, Braghi served as vice president, operations, Novelis North America, where he oversaw the region's eight manufacturing facilities, which recycle and roll aluminum for the automotive, beverage can and specialties markets.

Braghi moved into his first leadership role with Novelis in 2006, when he was named head of the company's business in Italy. He later held multiple general management leadership positions with Novelis' litho and painted products value streams in Europe, directing both commercial and operational activities. Braghi joined the Asia leadership team in March 2012 as vice president of operations. And in May 2014, his responsibilities were expanded to include all commercial activities in the region. He joined the North America leadership team in May 2015.

Tom Boney has been named vice president, operations, North America, effective September 1, 2016. In this role, Boney will have responsibility for manufacturing operations across the region,

with a focus on safety, quality, cost and delivery performance.

Boney joined Novelis in 2006 as plant manager, Oswego, and in 2007, was named president, Novelis Europe rolling and recycling. In 2009, he was appointed to the position of vice president, manufacturing excellence, where he had global responsibility for leading the company's operational excellence initiatives in EHS and Continuous Improvement. He has also served as vice president and general manager of the North American Can business and as managing director of ALCOM in Malaysia. In 2013, he was appointed to his current position as vice president and general manager of automotive for North America, where he successfully led the supply of Novelis aluminum as a lightweight material of choice.

Ganesh Panneer has been named vice president and general manager, automotive, North America.

In this role, Panneer will lead all aspects of Novelis' North American automotive business, including sales-commercial activities, program development and launch, supply chain and logistics, demand forecasting, service and order fulfillment.

Panneer joined Novelis in 2011 as director, corporate strategy, in Atlanta. Panneer's next role was in the North America Automotive value stream as director, sales. In 2013, he moved to Europe as vice president and general manager, specialty, for the region. Panneer returned to North America in 2015 in his current role as vice president and general manager, light gauge and specialties.

Aqua Metals builds the world's first AquaRefinery

Aqua Metals, Inc., which is commercializing a non-polluting electrochemical lead recycling technology called AquaRefining™, held an open house at its first AquaRefinery at the Tahoe-Reno Industrial Center (TRIC) in McCarran, Nevada. AquaRefining is the world's first environmentally friendly process to recycle lead-acid batteries (LABs).

"The first AquaRefinery at TRIC is an exciting start to a cleaner future for the lead industry," said Stephen Clarke, chief executive officer of Aqua Metals. "Lead-acid batteries are over 99 percent recyclable, but until now, there has been no way to recycle lead in an environmentally friendly fashion. With this AquaRefinery and more expected to come, Aqua Metals is doing its part to create the most sustainable battery technology the world has ever seen, while also providing economic benefits to recyclers, manufacturers and distributors."

The proprietary AquaRefining technology extracts lead from LABs with a room temperature, closed-loop, water-based process that results in vast reductions of hazardous waste and direct human contact with the lead itself. The process produces lead that is as pure as –

or purer than – mined lead, requiring no secondary processing. Battery Systems Inc. has a 200,000 sq.ft. battery distribution and collection facility adjacent to Aqua Metals' TRIC facility. Interstate Batteries, which made a \$10 million investment into Aqua Metals, has already committed to provide used LABs to recycle at the facility. Interstate Batteries controls 20 percent of the lead-acid battery recycling market in the United States.

The AquaRefinery will create more than 50 permanent jobs at TRIC, and has the potential to expand recycling capacity to 160 tons of lead per day by 2018. Aqua Metals owns 12 acres of land in McCarran around the facility. The AquaRefinery was partially financed by a \$10 million loan from Green Bank, which was 90 percent guaranteed by the U.S. Department of Agriculture. The facility was also financed by a \$36.2 million Nasdaq-listed initial public offering in July 2015.

Aqua Metals will operate the first AquaRefinery and plans to sell licenses to partners for AquaRefining technology and equipment, which can be co-located with battery manufacturers and distributors, as well as existing battery recycling facilities globally.

When adults ask little kids what they want to be when they grow up, they're really just looking for ideas.



Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$180.00	\$200.00	\$220.00	\$225.00	\$240.00
#1 Bundles	per gross ton	185.00	200.00	220.00	240.00	220.00
Plate and Structural	per gross ton	201.00	205.00	180.00	225.00	230.00
#1 & 2 Mixed Steel	per gross ton	184.00	180.00	180.00	195.00	200.00
Shredder Bundles (tin)	per gross ton	150.00	160.00	111.00	140.00	195.00
Crushed Auto Bodies	per gross ton	130.00	134.00	110.00	141.00	195.00
Steel Turnings	per gross ton	91.00	92.00	98.00	125.00	140.00
#1 Copper	per pound	1.90	1.92	2.00	2.05	2.02
#2 Copper	per pound	1.75	1.79	1.96	1.96	1.85
Aluminum Cans	per pound	.56	.55	.54	.55	.52
Auto Radiators	per pound	1.32	1.35	1.39	1.45	1.50
Aluminum Core Radiators	per pound	.53	.50	.50	.51	.52
Heater Cores	per pound	1.00	1.05	1.06	1.02	1.24
Stainless Steel	per pound	.45	.44	.49	.50	.48

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

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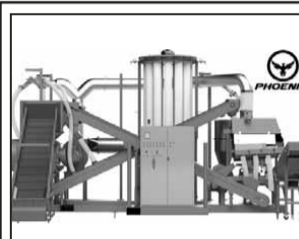
NEW GENERATION OF BUCKET CRUSHERS BY ATLAS COPCO

Atlas Copco Construction Equipment introduces its new generation of bucket crusher attachments that offer higher output and greater reliability than previous models. The new bucket crushers process about 80 percent more material due to their hydraulic drive system.

The powerful drive systems and reliability make them an ideal alternative to mobile jaw crushers for cramped worksites. Plus, they can process a wide range of materials, including aggregate, asphalt and concrete.

The attachments feature powerful components that allow carrier operators to crush as much as 110 tons of material per hour.

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www.atlascopco.us



COPPER RECOVERY'S PHOENIX CABLE RECYCLING MINI-PLANT

Just unveiled by Copper Recovery, Inc. is Phoenix, a turnkey mini-plant that can process 1,200 to 2,500 lbs. per hour of mixed cable. Phoenix can process approximately 120,000 lbs. per month of insulated copper or aluminum wire scrap with a one-shift operation.

The equipment includes a GS94 Gravity Separator producing four output fractions with the ability to process aluminum and copper wires simultaneously. Its CM50 cutting mill and strong magnetic separator conveyor ensures product purity.

Phoenix is shipped in a 20' container with representatives providing installation assistance and training.

Copper Recovery, Inc.
18072 Gothard Street
Huntington Beach, CA 92648
714-842-1146
www.copperrecovery.com



LOADMAN OFFERS CARTEL SCALES FOR ORGANICS COLLECTIONS

Creative Microsystems, Inc., an on-board truck scales developer of LoadMan® weighing systems, is now shipping its newly-designed CARTel™ Weigh-in-Motion on-board scales for five popular organics totes and trailers automating the weighing of bulk organics.

The new system for organics totes and trailers are all equipped with Weigh-in-Motion technology and available with sophisticated data management software tools. CARTel scales are customized for five popular makes and models of organics totes and trailers including: Brown Industrial, Martel, Walinga, Summit and Travis Body and Trailers.

Creative Microsystems
15224 SE Renton Issaquah
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888-562-3626
www.loadman.com



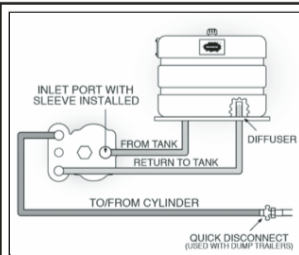
FAIRBANKS' GENERATION FB6000 WITH INTUITIVE WEB INTERFACE

Fairbanks Scales offers the FB6000 weighing instrument, featuring a web interface that enables rapid calibration and custom ticket formatting.

This weighing instrument is the most functional and affordable instrument in its class, and is compatible with both analog and digital weighing technology. The FB6000 is ideal for all mid-range single truck scale applications.

In this recent update, the time consuming front panel programming of the past has been replaced by an intuitive web interface, reducing time spent on calibration and custom ticket formatting to mere minutes.

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MUNCIE POWER PREVENTS DUMP PUMP FAILURE

Muncie Power Products, Inc.'s line of dump pumps is available in a three-line system option to help prevent the most common dump pump failure of high temperatures resulting from the pump being operated too long in neutral.

A three-line system includes a separate line to return hydraulic oil from the cylinder directly to the reservoir instead of forcing its way back through the inlet line. This allows faster down cycles and ultimately runs cooler.

Available dump pumps include the E Series and S Series. Both are available in the three-line option and two-line systems are also available.

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ELECTRONICS

Battery collection and recycling program reports 20 percent increase

A record 7.3 million pounds of single use and rechargeable batteries recycled at the mid-year mark, an increase of 20 percent compared to the same time period last year, was reported by Call2Recycle, Inc., the first and largest consumer battery stewardship organization serving the U.S. and Canada. This achievement contributes to the more than 115 million pounds of batteries diverted from U.S. and Canadian landfills and responsibly recycled by the organization over the past 20 years.

In the U.S., retailers and municipalities contributed to the strong growth in battery collections, up 17 percent and 147 percent respectively this year, resulting in almost 2.4 million pounds accumulated. This success can be partially attributed to Vermont becoming the first state in the U.S. requiring producers to finance a collection and recycling program for single-use (primary) batteries. As the appointed stewardship organiza-

tion, Call2Recycle provides convenient drop-off locations for residents to responsibly recycle their batteries. As a result, more than 54,000 pounds of batteries have been collected in Vermont since the program launched in January, more than what was collected in the state in all of 2015.

In Canada, collections rose 24 percent compared to last year, resulting in 3.2 million pounds recycled year to date. Quebec leads the charge on recycling, collecting more than 1.3 million pounds. Battery collections in Manitoba also saw a significant increase in collections, up 52 percent from last year, as did all other provinces (including British Columbia and Ontario) which recorded double-digit growth. As the result of dedicated consumer-focused campaigns, publicly accessible channels - municipalities (up 40 percent) and retailers (up 16 percent) across Canada - also contributed to the growth.

ATR acquires ERS in Salt Lake City

Advanced Technology Recycling (ATR) has acquired Electronic Recycling Solutions (ERS), based in Tooele, Utah, a suburb of Salt Lake City.

The Utah based company was formed in 2008 by Scott Campbell as a Disabled Veteran Owned Small Business and has achieved an impressive portfolio of credentials including, R2:2013, ISO: 9001, ISO: 14001, OHSAS: 18001 and Microsoft Registered Refurbisher.

The company has fostered professional relationships with partners to create personalized solutions that meet their asset management and electronic recycling needs. ERS has also developed an innovative and profitable approach for sorting and processing residential material streams.

*My girlfriend and I often laugh about how competitive we are.
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AUTOMOTIVE

Navistar aligns with Volkswagen Truck & Bus

Navistar International Corporation has formed a wide-ranging strategic alliance with Volkswagen Truck & Bus, which includes an equity investment in Navistar by Volkswagen Truck & Bus and framework agreements for strategic technology and supply collaboration and a procurement joint venture.

The agreements will enable Navistar to offer customers expanded access to leading-edge products and services through collaboration on technology and the licensing and supply of Volkswagen Truck & Bus's products and components, while better optimizing its product development spend. The alliance will also strengthen Navistar's liquidity position. In addition, the procurement joint venture is expected to leverage the purchasing power of Volkswagen Truck & Bus's three major truck brands, Scania, MAN and Volkswagen Caminhões e Ônibus, in addition to Navistar's own International® and IC Bus brands, providing Navistar with enhanced global scale.

Navistar expects significant synergies from both the strategic technology collaboration and the procurement joint venture. The company expects the alliance to be accretive beginning in the first year, and for cumulative synergies for Navistar to ramp up to at least \$500 million over the first 5 years. By year 5, it expects the alliance will generate annual synergies of

at least \$200 million for Navistar. This annual run rate is expected to grow materially thereafter as the companies continue to introduce technologies from the collaboration.

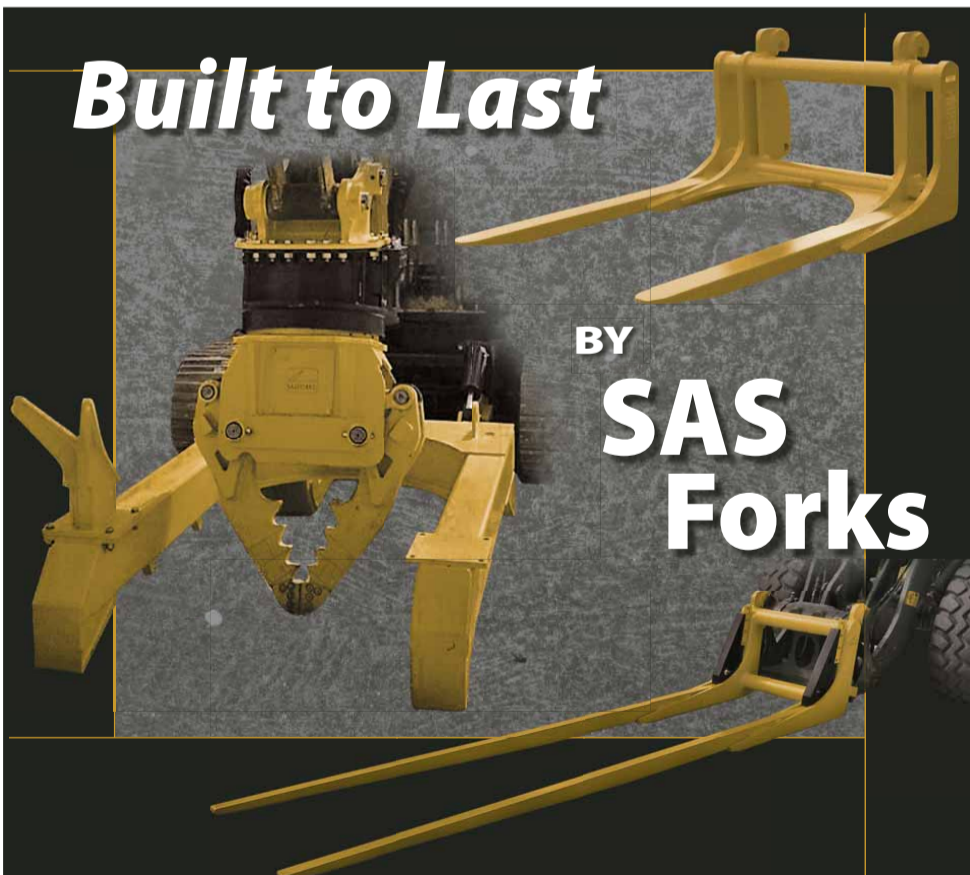
As part of the alliance, Volkswagen Truck & Bus will acquire 16.2 million newly issued shares in Navistar, representing 16.6 percent of post-transaction undiluted common stock (or 19.9 percent of pre-transaction outstanding common stock). Navistar will receive \$256 million from the equity investment to be used for general corporate purposes.

To underscore the long term nature of the alliance, Volkswagen Truck & Bus has agreed to hold these shares for a minimum of three years.

The procurement joint venture will help source parts for both companies, providing Navistar and Volkswagen Truck & Bus with greater scale and competitiveness. It will also provide additional opportunities for Navistar suppliers to gain access to potential global sourcing opportunities, and create improved pricing for end-customers.

The strategic alliance will receive oversight from an alliance board, comprising top-level executives from both parties, which will align the product development and procurement processes between the companies.

■ For more AUTOMOTIVE NEWS, See Page B1



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PLASTIC

APR releases polypropylene PCR Demand Survey results

Demand for recycled polypropylene (PP) resin by major consumer brand companies is approaching 300 million pounds annually, according to a study by The Association of Plastic Recyclers, the international trade organization representing the plastics recycling industry.

The 21 major consumer brand companies who responded also provided quality and quantity information for potential PP postconsumer resin (PCR) use in non-food contact applications. These companies alone identified demand of more than 280 million pounds of the recycled resin annually.

The study was an effort to identify market demand for PP PCR in the current market climate. "We recognize the combination of factors impacting the current market for recyclables, however consumer brand companies specifically outlined potential demand for this material. The challenge remains providing recyclers the feedstock to meet that demand," commented Liz Bedard, APR's Rigid Plastics Recycling Program director.

All respondents' demand is current or within the next three years. The survey also provides information on qualitative PCR components such as melt flow index, odor, color and demand time frame.

"APR's two main goals are to increase supply and enhance the quality of the plastics recycling stream," commented J. Scott Saunders, general manager of KW Plastics and chairman of APR. "Through work to achieve those goals, The APR Rigid Plastics Recycling Program and the Polypropylene Market Development Subcommittee have become one of the primary drivers to move the marketplace forward through stimulating growth and increasing availability and use of polypropylene PCR."

Applications for polypropylene PCR include tubes, rigid packaging, closures, containers, pails, crates, disposable cutlery, pallets, hangers and tubs. Full survey results are available on the APR website.

EPS foam finds new life as art

Utah sculptor Stephen Kesler began his career as a graphic artist at a marketing company. After 19 years of designing corporate logos and branding materials, websites and print pieces, Kesler discovered the work of Ron Mueck, whose artwork intrigued him. Within a few short years he was creating life-like pieces of his own.

While Kesler's work is mesmerizing, few would guess his primary material. Lightweight, able to be precisely shaped, and large enough to accomplish the life-like scale of mega animals cost effectively, Kesler uses expanded polystyrene (EPS) foam manufactured by ACH Foam Technologies.

Kesler begins with a small-scale maquette shaped from modeling clay and then develops a 3D model of the

sculpture's internal structure, which is fabricated from steel. The foam is cut to the rough sizes required and attached to the frame using a liquid adhesive. A hot wire cutter is used to remove the initial layer of excess foam, followed by various tools. When it's complete the sculpture is covered with one of several special hard-coat applications depending on where the piece will be displayed.

While ACH's EPS foam comes in a variety of densities, Kesler works with one to two pound densities for large pieces because it carves faster. He uses EPS foam in the two to three pound densities for smaller, more detailed sculptures. Kesler returns the foam he shaves off each block to ACH to be recycled and reintroduced into the manufacturing process.

BUSINESS BRIEFS

Sims Metal sells Detroit and Toledo, Ohio facilities

■ Sims Metal Management Limited sold two metals recycling facilities in the Central Region of North America Metals. The sale is related to facilities located in Detroit, Michigan and Toledo, Ohio. The sale terms have not been disclosed and are not considered material to the company.

"The sale of our metals recycling operations in Detroit and Toledo is consistent with our strategy to divest non-core assets outside of our key markets," said Galdino Claro, group chief executive officer of Sims Metal Management. "The sale substantially completes the divestment of facilities identified for resetting."

Q2Power adds Wayne King to board of advisors

■ Wayne King Sr., a leader in the composting and sustainable soils industry, has agreed to join the Q2Power Technologies, Inc.'s board of advisors.

King is founder of EARTH Products, one of the largest compost manufacturing facilities in the southeastern U.S.

He currently serves as vice president of the United States Composting Council (USCC) and co-chair of the USCC's Strategic Alliance Committee. Over the past 15 years he has served the USCC in many capacities including as its president. King was the founding president of the Georgia Composting Association and served as chairman of the Georgia Green Industry Association (GGIA). He also serves on the board of the University of Georgia's Odum School of Ecology, and the Georgia Recycling Coalition.

Over the years King has chaired and participated in numerous state technical advisory committees, including the Governors' Stormwater Advisory Committee and Georgia's Statewide Advisory Committee charged with developing the state's first comprehensive water management plan. King and his company have won numerous awards and accolades over the years for their work in the composting industry. Prior to his work in this field, King served his country for 20 years as an Army Intelligence officer.

King's position as a board of advisor member is a non-director, non-executive role.

ISRI elects new director-at-large to board of directors

■ During its summer 2016 Board and Governance Meetings, the Institute of Scrap Recycling Industries (ISRI), elected David Borsuk of Sadoff Iron & Metal Company as a new director-at-large to its board. Borsuk will serve a two year term, ending in 2018.

Borsuk is currently the manager of industrial marketing and environmental affairs at Sadoff Iron & Metal Company, located in Fond du Lac, Wisconsin.

In addition to having been with Sadoff Iron & Metal Co. for 46 years, Borsuk has also served as the chair of the ISRI audit committee and airbag working group. He also serves as a member of ISRI's Circle of Safety Excellence™ Steering Committee.

Borsuk is a member of both the City of Oshkosh, Wisconsin Planning Commission as well as the Greater Oshkosh EDC Industrial Development Committee.

Advanced Disposal hires Salmons as a new director

■ Advanced Disposal, an integrated environmental services company, has hired Wesley A. Salmons, certified director of safety (CDS) as the new corporate director of safety and compliance.

Salmons has more than 15 years of experience in a variety of transportation companies and in the solid waste sector. Salmons joins Advanced Disposal from Team Drive-Away as their director of safety and recruiting. From 2007 to 2013, Salmons worked for Veolia Environmental Services. Salmons was also a route supervisor with Allied Waste in Kansas City, Kansas for over two years, before joining the U.S. Air Force.

Two gas company employees were out checking meters. They parked their truck at one end of the alley and worked their way to the other. At the last house, the older man challenged the younger one to a race back to the truck. As they came up to the truck, they realized the lady of the last house was huffing and puffing right behind them. They stopped immediately and asked her what was wrong.

"When I saw two gasmen running as hard as you were," gasped the woman, "I figured I'd better run, too!"



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BUSINESS BRIEFS

Thoesen Tractor named Fuchs distributor

■ Fuchs expanded its North American distribution network with the appointment of Thoesen Tractor & Equipment Co., Inc. as an authorized distributor of Fuchs material handlers in northern Illinois, including the greater Chicago market area.

Headquartered in the Chicago suburb of Lynwood, the service-focused Thoesen Tractor has sales and service team members blanketing this territory to offer unsurpassed sales, rental, parts and service support for the full Fuchs equipment line, purpose-built to increase operating efficiencies for the scrap, recycling, waste, portside and logging markets.

Thoesen Tractor's headquarters is located at on E. Lincoln Highway in Lynwood, Illinois.

Blue Sphere adds new board member

■ Blue Sphere Corporation, a clean-tech independent power producer, welcomed Lyron Bentovim as a new member of the Blue Sphere board of directors.

Bentovim currently serves as president and chief executive officer of the Glimpse Group and as a managing partner at Darklight Partners in New York, New York. Darklight Partners is a strategic advisor to small and mid-size public and private companies. From August 2009 until July 2012, Bentovim served as the chief operating officer and the chief financial officer of Sunrise Telecom, Inc., a leader in test and measurement solutions for telecom, wireless and cable networks. Prior to joining Sunrise Telecom Inc., Bentovim was a portfolio manager for Skiritai Capital LLC, an investment advisor based in San Francisco.

Bentovim has over 20 years of management experience, including his experience as a member of the board of directors at Manhattan Bridge Capital, RTW Inc., Ault, Inc., Top Image Systems, Three-Five Systems Inc., Sunrise Telecom, Inc., and Argonaut Technologies Inc. Prior to his position in Skiritai Capital LLC, Bentovim served as the president and co-founder of WebBrix, Inc.

SSI Shredding's YouTube channel recognized

■ The YouTube channel BigShredder run by industrial shredder and compactor manufacturer SSI Shredding Systems, Inc. has recently reached over 100,000 subscribers. YouTube has recognized this accomplishment and awarded the channel with their Silver Play Button plaque.

BigShredder originally launched on September 25, 2006 with their Shred of the Month series. From that series they had several viral successes including their most popular video, The Hippie Bug Shredding, which currently has over 5,000,000 views.

The channel has seen a recent explosion of growth due to changes in branding and aesthetic.

Concentrating on user-based suggestions and popular trends the channel grew from around 24,000 subscribers in 2014 to over 107,000 subscribers and counting today. At the same time they also nearly doubled their total channel views to over 48,000,000.

Vecoplan names Luke James as sales manager

■ Vecoplan LLC welcomed Luke James as their newest sales manager. The primary responsibility of his new position is sales and business development of shred trucks for the document destruction and paper recycling industries.

James will also act as a liaison between customers and Vecoplan's research and development engineering team, in their ongoing shred truck innovations and improvements program. James will collaborate with Vecoplan's marketing department to introduce these advances to the marketplace.

Prior to joining Vecoplan, James was a senior technical recruiter with Synerfac Technical Staffing in North Carolina. While earning his Bachelor of Science degree in Business Administration from East Carolina University Luke worked two summer internships at Vecoplan in both manufacturing and marketing.

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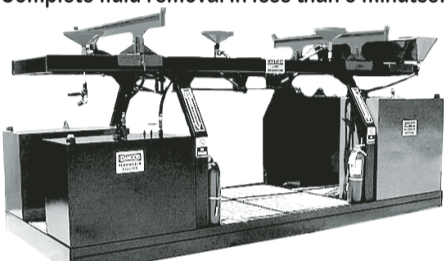
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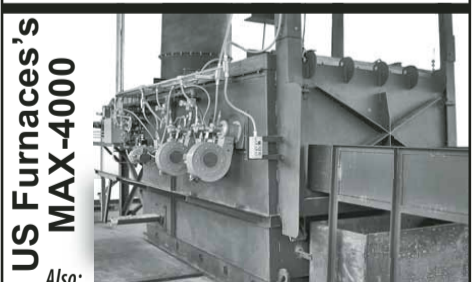
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INDUSTRY PROFILE

A Closer Look

by Donna Currie

Blue Star Recyclers

Andy O'Riley • 855-302-2583

Blue Star Recyclers in Colorado has an unusual pedigree compared to most other recycling companies. Rather than being founded as a way to make money or to be green, the company was founded in 2009 as a "social enterprise with job creation in mind," according to Andy O'Riley, the company's third employee, and the current director of environmental health and safety.

The company's founder and chief executive officer, Bill Morris, knew nothing about the recycling industry or sustainability before he founded the company, and neither did O'Riley. "We had to find our way in the dark," O'Riley said. "It succeeded despite us."

Prior to working for Blue Star, O'Riley had been working at a disability service agency which made him a perfect fit for his new company, since the goal at Blue Star was to hire employees with autism.

O'Riley said that disassembling and sorting e-waste materials fit the "natural skillset of people with autism." He said that 80 to 90 percent of adults with autism are unemployed, but it's not because they don't want to work – it's that "they had no opportunity to show their skillset."

"When there is a predictability, they're the best employees you can find," O'Riley said. He explained that the autistic employees tend to be hyper-focused, they don't take shortcuts, and because of that they are less likely to have on the job accidents. In fact, there have been no lost-time accidents at Blue Star since the company started.

He said that the employees "gravitate towards the black and white activities" where there are a set of steps to be accomplished, and they are "very systematic," which is exactly what's needed when dismantling computers and other electronics. "The job itself is dirty, and not the most fun," O'Riley said. "They are at peace with that type of activity."

"Up to 80 percent of the material has no value or negative value because of the work involved in recycling it, but things like circuit boards have "back end value" because of the precious metals that can be recovered. "Most of what we do is end-of-life," O'Riley said. The computers and other electronics move on to smelters or other processors rather than being refurbished for sale.

Even though some of the materials have no value, it doesn't mean they can't be recycled. "It's just a matter of how much cost you put into it," O'Riley said that 98 percent of the material gets recycled, while a few things, like the particle board on the back of old televisions, can't be recycled.

Approximately 70 percent of the material that comes in is from commercial accounts, while the rest comes in from walk in and residential customers who bring in their unwanted electronics. A small fee is charged to cover recycling the difficult materials based on the weight, while there is no fee for "anything with a motherboard" since those items have enough value to cover the cost of recycling.

O'Riley said the company is volume based, because "the more material we bring in, the more people we can employ." He pointed out that while the company is a nonprofit, it's not a charity.

The employees are paid for their work, and become more independent, which saves taxpayers money. The company gets no government funding and it earns profits to support its operation.

O'Riley said that "everyone is accountable to goals and expectations." In fact, he said the employees "out-perform the traditional workforce" for this type of work. "We are not just a nonprofit," he said. "We are a business."

While similar businesses in the recycling industry tend to have a high turnover rate, partially because the work is unappealing in the long-term, Blue Star has very little turnover. For employees that need more challenges, there are positions for them to move into, beyond disassembly and sorting.

"This is a fun place to work," O'Riley said. "It's a culture where everyone wants to be there. Our model is fascinating to me."

The model seems to be working. From its start in Colorado Springs, it opened another facility in Denver in 2015 and they're looking towards having a partnership with Eco-Cycle in Boulder soon. They are also hoping to open more facilities and perhaps help other recyclers to use the same model.

There are, of course, challenges, including the responsibility to the community and the complexity of the recycling business and the need to cover operating costs in an industry where prices fluctuate regularly.

Another challenge is getting people to know that the company exists. It's important for them to understand that "that computer that's sitting in their basement can be a job for somebody." And that, really, is the whole point of the company: To create those jobs.



BUSINESS BRIEFS

Keller named president of Cascade's business team

■ Cascade Engineering (CE) announced Christina Keller has been named president of the Cascade Business Team (CBT).

The CBT represents four business units as part of the Cascade Family of Companies which is comprised of nine diversified businesses. Keller will oversee all business operations for: Cascade Cart Solutions, Automotive Americas, Innovative Plastics Technologies and Noble Polymers. All of the CBT business units are located on the Cascade Engineering campus in Grand Rapids. Keller will report to Mark Miller, president and chief executive officer of the Cascade Family of Companies.

Keller joined Cascade Engineering in 2009 as the business unit leader for Triple Quest, a 50/50 joint venture with The Windquest Group.

Keller also has considerable experience with hands-on international development work. In addition to her involvement with Triple Quest, she served in Uganda with Solar Light for Africa, installing solar panels on schools and hospitals with Uganda's first lady; in Peru, she has developed micro-enterprises in rural communities and taught micro-business classes in a number of high poverty areas.

In 2013, Keller was named president of CK Technologies (CKT). CKT is headquartered in Montpelier, Ohio with additional facilities in Mount Airy, North Carolina and Brownsville and Fort Worth, Texas. Employing 738 people, CKT is the largest business unit in the Cascade Engineering Family of Companies and has posted record earnings under her leadership.

Covanta's Meg Morris honored by the NRC

■ The National Recycling Coalition (NRC) recently honored Covanta's Margretta (Meg) Morris, vice president of materials management and community affairs, with the 2016 Lifetime Achievement Award for her efforts and leadership in recycling. The NRC is a non-profit organization focused on promoting and enhancing recycling in the U.S.

With over 25 years of experience in sustainable materials management, Morris has worked with communities around the U.S. to implement sustainable waste management and recycling systems. At Covanta, Morris leads the company's Community Outreach Initiatives such as Fishing for Energy, Prescription for Safety (Rx4Safety) and mercury collections.

In addition to her work at Covanta, Morris has had long-standing roles on the boards of directors for the Pennsylvania Recycling Markets Center, the Go Green Initiative, the Federation of New York Solid Waste Associations, America Recycles Day, Inc. and MassRecycle.

Atlas Copco Construction names new president

■ Atlas Copco Construction recently appointed Scott Carnell as president of its U.S. division. Carnell replaces Erik Sparby who has accepted the role of general manager, customer center Greater China. Carnell will lead the company in growing each of its product lines, including construction tools, portable energy and road construction equipment, within the contractor, dealer and rental industries across North America.

Carnell brings more than 32 years of industry experience to his role, the last 10 of which have been with Atlas Copco. Carnell served as the business line manager for the Atlas Copco portable energy business area, where he led the market expansion of the air compressor and generator lines. Just prior to his new role, Carnell was the president of Atlas Copco Rental in North America, based in LaPorte, Texas.

Carnell will be based in Rock Hill, South Carolina, where Atlas Copco's new manufacturing facility will open the spring of 2017.

Vortex partners with Duncan Recycling

■ Vortex De-Pollution and Recycling Equipment has partnered with Duncan Recycling and Refining, DR2, to become their equipment supply partner. Following the rollout of their catalytic converter decanning and assaying trailer for DR2's MARC project, Vortex has designed an autocat de-canning and dust collection system for on-site use in yards to decan their converters.

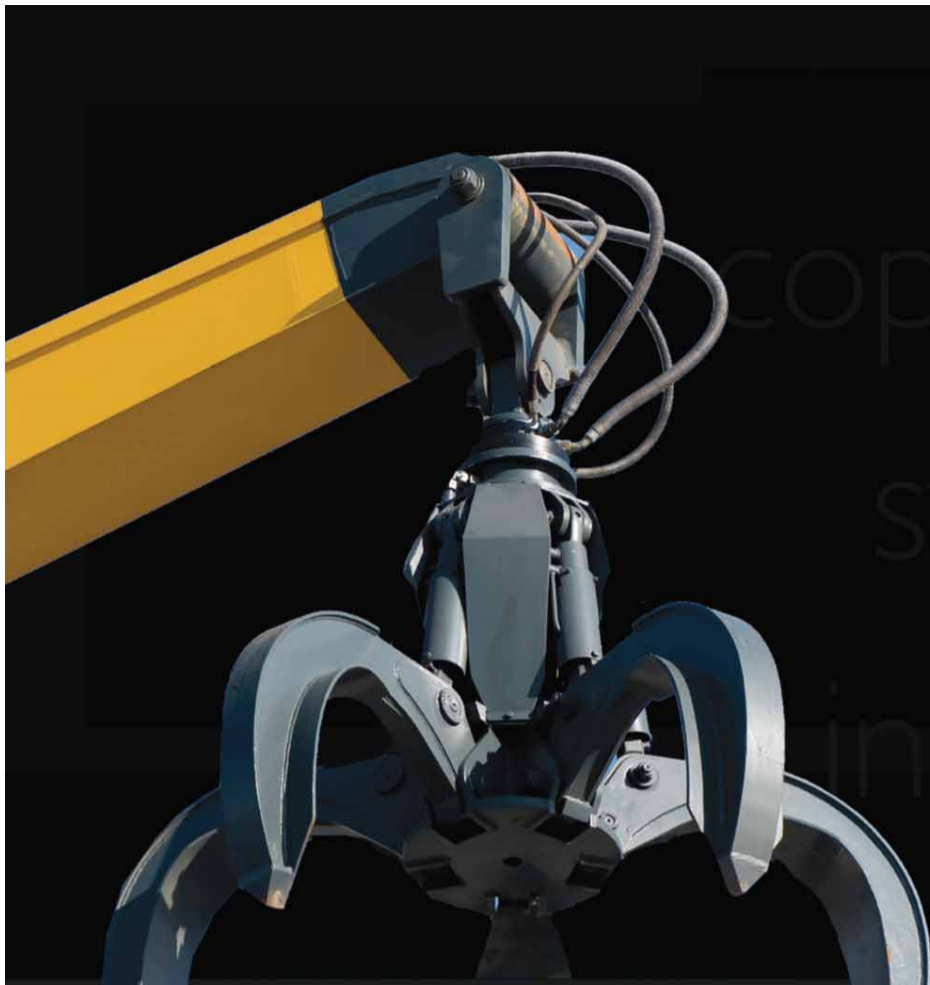
The majority of the cost for the new decanning machine will be funded by DR2 and yards producing between 45 and 500 catalytic converters per day will be eligible for the DR2 program.

The Witte Co. names 4th generation president

■ Process equipment manufacturer The Witte Co., Washington, New Jersey, has named Tyson Witte president.

Promoted after 10 years of service in engineering and in other roles, Tyson represents the fourth generation of leadership for the family-owned manufacturer of vibrating fluid bed dryers, coolers, pellet classifiers, dewaterers and other vibrating processing equipment. In his new role, Tyson is responsible for the strategic direction, growth and overall business results for the company founded by his great grandfather in 1938. Tyson plans to continue the company's success as a global supplier while looking for ways to expand the current product line and scouting new markets.

Tyson Witte succeeds Richard Witte, now chairman, who, as president, successfully guided the company for 30 years during a tenure marked by consistent, steady growth and a reputation for delivering the highest quality equipment on the market.



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Automotive recycling market volatile

by MAURA KELLER

mkeller@americanrecycler.com

The automotive recycling industry has experienced one of the worse economic periods in decades. Recycling companies are worried, investors are cautious and scrap processors are downright jittery. Industry experts say 2017 will probably be better, but business is still unlikely to be robust.

According to Sean Kelly, a research assistant in the Center for Resource Recovery and Recycling at Worcester Polytechnic Institute in Worcester, Massachusetts, the industry is certainly down and this has a great deal to do with the foreign tariff battle regarding specific commodities, among other things, such as dumping (selling below cost).

"Exports of scrap are down and have been down since early 2015," Kelly said. "Primary commodity prices have dropped and with that typically goes scrap and secondary. With that said, at least the scrap prices have been consistently down."

The U.S. Department of Commerce (DOC) recently imposed preliminary duties on imports of cold-rolled steel, used to make auto parts, appliances and shipping containers. Seven countries, including China, are targeted because of their dumping that has significantly hampered the U.S. steel industry and deflated steel prices around the world.

The tariffs against China have affected the U.S. auto recycling industry immensely. Up until early this year, China was overproducing and flooding the globe and steel prices were in a free fall.

"This was put to an end when the U.S. imposed a 500 percent tariff on China steel," said Mike Bassirpour of GLR Advanced Recycling in Roseville, Michigan. "It was a domino effect that hit our industry hard. Scrap car bodies were worth \$60-\$70/GT which made it near impossible to make money. Whether your operation was just dismantling the vehicles for scrap or selling parts, it put a squeeze on the industry."

In a similar turn of events, China has started imposing anti-dumping tariffs on certain steel imports from the European Union, Japan and South Korea, all of which has a ripple effect on the U.S. recycling industry.

As the industry continues to struggle, more and more companies are working hard to ensure all metal bearing items end up being refined and recirculated back into the economy.

In fact, the Aluminum Association's Aluminum Transportation Group (ATG) recently released a



study on automotive aluminum that found the recycling rate for end-of-life vehicles to be in excess of 90 percent. The study was intended to obtain a more quantitative understanding of the fate of automotive aluminum at the end of its service life.

"Aluminum rims, for example, are being melted down to make ingots that ultimately are being used to make some sort of new production part," Bassirpour said. "Harness wiring is being stripped, chopped and melted to make product such as copper piping which can then be used for new construction. Each and every item from the automobile has an end of life purpose and we try to find the best 'home' for these scrap parts."

GLR operates 11 locations and joint ventures in Michigan and New York, ranging from 3 to 20 acres, employing approximately 150 people, recycling over 100 million pounds of metal, paper and plastic and over 15,000 cars per year, with annual revenues of over \$75 million.

What GLR has done is very unique to the industry. They've created their own tech/lead generation solution, TheScrapPost.com, which connects other recyclers and scrappers around the globe. This comes at a

time that the industry's downfall is hurting many within the automotive recycling industry.

TheScrapPost.com is essentially a "Craigslist for scrappers" and it's become the company's number one lead source for buying and selling scrap metal, cars, and electronics. GLR's competition uses this website (membership is at over 5,000 members) and revenues are on pace to hit \$5 million in 2016 (over 5 times the \$984,000 revenue for 2015).

Plastic Recycling

One area of automotive recycling that is gaining more attention, especially in light of the downturn in the industry is plastic recycling from automobiles. As Kelly explained, the majority of plastics from shredding operations of automobiles are sent to the landfill or used as landfill covers. Some plastic mixtures may be incinerated to collect the energy from the organic chains.

"Tires, on the other hand, are sometimes reused if the tread allows but typically either incinerated, shredded and sent to landfill, or reused for very specific applications, such as rubber for courts, turf field pellets or asphalt production.

So why should automotive recycling companies pay attention to the recycling of the plastics of automobiles in addition to the metal components?

One reason is because there are sorting systems that have been developed or are being developed to separate plastic that can be used to increase the commodities value and give them a second life beyond the shredded landfill cover. Secondly, if nothing else, there is a great deal of intrinsic energy that can be harnessed as long as all EPA regulations are met at specific incineration and gasification waste-to-energy sites.

"Since we salvage all parts of the car, the resale of plastic doesn't influence us one way or another," Bassirpour said. "But business owners are working outside the box and are doing everything they can to maximize profits. Meaning, if the plastics once cleaned from contaminants yield a higher return than the price of scrap metal, it may be advantageous to do so. Due to the low price of scrap iron over the past few years, plastic, if packaged properly, can be worth more in value. As owners, we need to maximize revenue wherever we can."

What the Future Holds

Recyclers will continue to face a volatile market. As Bassirpour explained, there has been no stability in this industry for quite some time and he believes that is the new norm.

"There will always be cars to recycle but due to the low scrap prices, the competitive landscape to purchase the inventory and finding the right help to efficiently process these vehicles will pinch profits," Bassirpour said. "Trying to stay diversified is the name of the game in today's market."

The demand for aluminum in the automotive sector in North America is projected to grow through 2025. Ducker Worldwide reports a 39 percent increase of aluminum weight per North American light vehicle over the next decade.

The study by the Aluminum Association's Aluminum Transportation Group indicates that the growth of aluminum is partly driven by the benefit of vehicle light-weighting to meet the Corporate Average Fuel Economy (CAFE) standards. Aluminum is a lighter automotive material compared to conventional materials with the same or greater strength. Lighter material allows for building lighter vehicles with the same or improved safety performance while increasing fuel economy.

EPA and DOT finalize greenhouse gas and fuel standards for heavy duty trucks

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) jointly finalized standards for medium and heavy duty vehicles that will improve fuel efficiency and cut carbon pollution, while bolstering energy security and spurring manufacturing innovation.

The final phase two program promotes a new generation of cleaner, more fuel efficient trucks by encouraging the wider application of currently available technologies and the development of new and advanced cost effective technologies through model year 2027. The final standards are expected to lower CO2 emissions by approximately 1.1 billion metric tons, save vehicle owners fuel costs of about \$170 billion, and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program.

Heavy duty trucks are the second largest segment and collectively make up the biggest increase in the U.S. transportation sector in terms of emissions and energy use. These vehicles currently account for about 20 percent of GHG emissions and oil use in the U.S. transportation sector. Globally, GHG emissions from heavy duty vehicles are growing rapidly and are expected to surpass emissions from passenger vehicles by 2030.

The product of four years of extensive testing and research and outreach to industry, environmental organizations, labor unions and other stakeholders, the vehicle and engine performance standards would cover model years 2021 to 2027, and apply to semi-trucks, large pickup trucks and vans, and all types and sizes of buses and work trucks.

The agencies are also finalizing fuel efficiency and GHG standards for trailers for the first time. The EPA trailer standards, which exclude certain categories such as mobile homes, will begin to take effect in model year 2018 for certain trailers, while NHTSA's standards will take effect as of 2021, with credits available for voluntary participation before then. Cost effective technologies for trailers – including aerodynamic devices, light weight construction and self-inflating tires – can significantly reduce total fuel consumption by tractor trailers, while paying back the owners in less than two years due to the fuel saved. Recognizing that many trailer manufacturers are small businesses, the program includes provisions that reduce burden, such as a one year delay in initial standards for small businesses and simplified certification requirements.

Compared to the proposal, the final program:

- Achieves 10 percent more GHG and fuel consumption reductions;

- Has more robust compliance provisions, including improved test procedures, enhanced enforcement audits and protection against defeat devices;

- Includes more stringent diesel engine standards

- Improves the vocational vehicle program with a regulatory structure better tailored to match the right technology for the job;

- Maintains the structure and incremental phase-in of the proposed standards, allowing manufacturers to choose their own technology mix and giving them the lead time needed to ensure those technologies are reliable and durable.

NHTSA and EPA have worked closely with the State of California's Air Resources Board in developing and finalizing the standards. All three agencies are committed to the goal of setting harmonized national standards.

The final rulemaking builds on the fuel efficiency and GHG emissions standards already in place for model years 2014-2018, which alone will result in CO2 emissions reductions of 270 million metric tons and save vehicle owners more than \$50 billion in fuel costs. Truck sales were up in model years 2014 and 2015, the years covered under the first round of truck standards.

For additional information, view this article on www.AmericanRecycler.com.

Copart opens second Denver facility

Copart, Inc., a global online vehicle auction company, opened its third location in Colorado. This is Copart's second location in the Denver metropolitan area.

"In May, we announced the opening of our first auction at our new Colorado Springs location, then we expanded our original Denver area location and now we are pleased to announce the opening and online auctions at our second location that will serve the Denver area," said Jay Adair, Copart chief executive officer.

Copart's Colorado facilities are located in Brighton, Colorado Springs. Online auctions for the Denver, Brighton and Colorado Springs facilities will be at noon central, on Tuesdays, Wednesdays and Thursdays. Copart's online auctions take place at www.copart.com and not only offer automobiles, they also offer a variety of boats, RVs, ATVs, motorcycles, exotics and more.

Copart's catastrophe response team is made up of an elite group of personnel who are ready to respond to weather-related catastrophes on short notice to help communities rebuild.

Within the first 48 hours after severe hail storms hit Colorado Springs, Copart's catastrophe response team began helping impacted communities recover by removing damaged vehicles. The hail storms produced enough damage that insurance companies declared it a catastrophic weather event.

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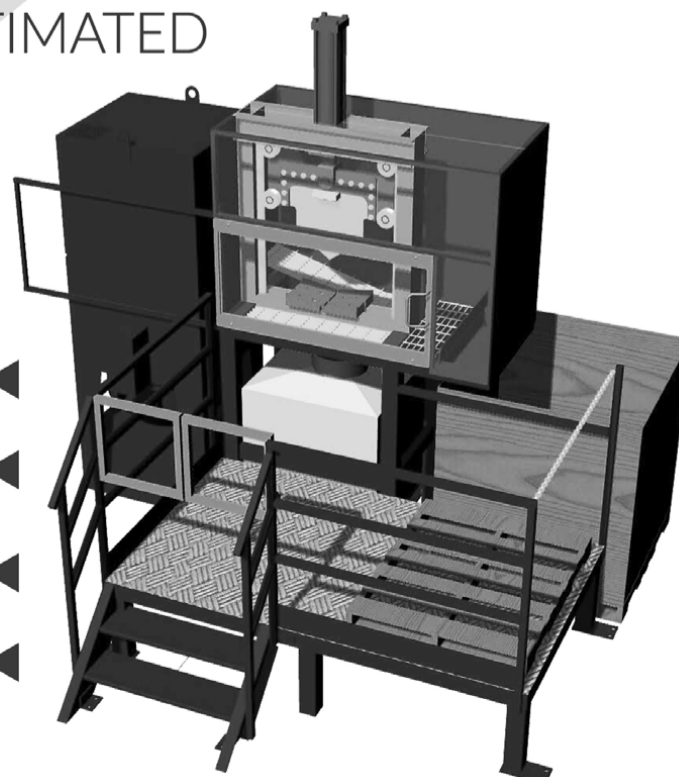


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Ford targets fully autonomous vehicle by 2021

Ford disclosed its intent to have a high volume, fully autonomous SAE level 4 capable vehicle in commercial operation in 2021 in a ride hailing or ride sharing service.

To get there, the company is investing in or collaborating with four startups to enhance its autonomous vehicle development, doubling its Silicon Valley team and more than doubling its Palo Alto campus.

“The next decade will be defined by automation of the automobile, and we see autonomous vehicles as having as significant an impact on society as Ford’s moving assembly line did 100 years ago,” said Mark Fields, Ford president and chief executive officer.

Autonomous vehicles in 2021 are part of Ford Smart Mobility, the company’s plan to be a leader in autonomous vehicles, as well as in connectivity, mobility, the customer experience, and data and analytics.

Building on more than a decade of autonomous vehicle research and development, Ford’s first fully autonomous vehicle will be a Society of Automotive Engineers-defined level 4-capable vehicle. Plans are to design it to operate without a steering wheel, gas or brake pedal, for use in commercial mobility services such as ride sharing and ride hailing within geo-fenced areas and be available in high volumes.

“Ford has been developing and testing autonomous vehicles for more than 10 years,” said Raj Nair, Ford executive vice president, global product development, and chief technical officer. “We have a strategic advantage because of our ability to combine the software and sensing technology with the sophisticated engineering necessary to manufacture high-quality vehicles. That is what it takes to make autonomous vehicles a reality for millions of people around the world.”

This year, Ford will triple its autonomous vehicle test fleet to be the largest test fleet of any automaker – bringing the number to about 30 self-driving Fusion Hybrid sedans on the roads in California, Arizona and Michigan, with plans to triple it again next year.



PHOTO COURTESY OF FORD MOTOR COMPANY

Ford was the first automaker to begin testing its vehicles at Mcity, University of Michigan’s simulated urban environment, the first automaker to publicly demonstrate autonomous vehicle operation in the snow and the first automaker to test its autonomous research vehicles at night, in complete darkness, as part of LiDAR sensor development.

To deliver an autonomous vehicle in 2021, Ford is announcing four key investments and collaborations that are expanding its strong research in advanced algorithms, 3D mapping, LiDAR, and radar and camera sensors:

•**Velodyne:** Ford has invested in Velodyne, the Silicon Valley based leader in light detection and ranging (LiDAR) sensors. The aim is to quickly mass produce a more affordable automotive LiDAR sensor. Ford has a longstanding relationship with Velodyne, and was among the first to use LiDAR for both high resolution mapping and autonomous driving beginning more than 10 years ago

•**SAIPS:** Ford has acquired the Israel based computer vision and machine learning company to further strengthen its expertise in artificial intelligence and enhance computer vision. SAIPS has developed algorithmic solutions in image and video processing, deep

learning, signal processing and classification. This expertise will help Ford autonomous vehicles learn and adapt to the surroundings of their environment

•**Nirenberg Neuroscience LLC:** Ford has an exclusive licensing agreement with Nirenberg Neuroscience, a machine vision company founded by neuroscientist Dr. Sheila Nirenberg, who cracked the neural code the eye uses to transmit visual information to the brain. This has led to a powerful machine vision platform for performing navigation, object recognition, facial recognition and other functions, with many potential applications. For example, it is already being applied by Dr. Nirenberg to develop a device for restoring sight to patients with degenerative diseases of the retina. Ford’s partnership with Nirenberg Neuroscience will help bring humanlike intelligence to the machine learning modules of its autonomous vehicle virtual driver system.

•**Civil Maps:** Ford has invested in Berkeley, California based Civil Maps to further develop high-resolution 3D mapping capabilities. Civil Maps has pioneered an innovative 3D mapping technique that is scalable and more efficient than existing processes. This provides Ford another way to develop high-resolution 3D maps of autonomous vehicle environments

Ford also is expanding its Silicon Valley operations, creating a dedicated campus in Palo Alto, California.

Adding two new buildings and 150,000 square feet of work and lab space adjacent to the current Research and Innovation Center, the expanded campus grows the company’s local footprint and supports plans to double the size of the Palo Alto team by the end of 2017.

Since the new Ford Research and Innovation Center Palo Alto opened in January 2015, the facility has rapidly grown to be one of the largest automotive manufacturer research centers in the region. Today, it is home to more than 130 researchers, engineers and scientists, who are increasing Ford’s collaboration with the Silicon Valley ecosystem.

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EQUIPMENT SPOTLIGHT

Catalytic Converter Shears

by MARY M. COX

maryc@americanrecycler.com

When catalytic converters were first installed in cars, they weren't a valuable commodity when pulled from the auto at end of life. At the salvage yard, the catalytic converter was typically removed with a torch, or Sawzall®.

As EPA standards intensified and the converter became more complex to meet those standards, the converter platinum, palladium and rhodium content made the item more valuable. Now, a converter may be worth \$100 in some markets. The tools available for removing and processing a catalytic converter have improved over



Crow Environmental

time with regard to safety and efficiency.

Crow Environmental offers two styles of CAT Shears to the automotive recycling industry. One is powered by compressed air and the other involves a traditional electrical set up. "What sets our shears apart from others is that they are ATEX Compliant. This means the shears meet the ATEX Safety standard for operation in an explosion zone. The area under a vehicle is considered an explosion zone because of the vapors," stated Mason Smith, vice president, U.S. sales.



Holmatro

The Crow air driven unit uses the compressed air that is already accessible in most operator environments. The product has no electrical connections, so eliminates the dangerous possibility that a spark may occur. The electrical unit is specifically designed so the control for the shear is less than a volt and cannot generate a spark. Both units use a guillotine technique in cutting through the pipe.

"The guillotine cutting method, driven by a piston, does not use gears to move the blades. Therefore, rust and other debris do not fall into the gears, which prevents frequent clean outs and wear and tear on the gears, which may have otherwise resulted in machine downtime. Each unit is constructed to meet the rough conditions found in dismantling operations and blades required are inexpensive, compared to other units on the market," Smith said.

The lightweight Holmatro CAT Cutter® is specifically designed for removing a majority of catalytic converters, including stainless steel, from recycled vehicles. The specially designed blades pull the material towards the strongest point of the cutter. "The special U-shaped scissor blades provide easier access for reaching a converter than guillotine-style cutters. Our cutter is user-friendly. It offers an ergonomic, two-hand operation and it is the safest cutter on the market.

The 'dead-man's' control makes accidental actuation virtually impossible. All moving parts are guarded. The dead man's function, unlike other popular tools used to perform this function, prevents the cutter blades from being accidentally activated.

The Cutter is faster than all other traditional removal methods, making it the most effi-

cient production method. It is also durable and cost effective compared to other traditional methods," explained Andy Dant, sales manager.

Along with other Holmatro mobile tools, the CAT Cutter is made in the U.S. Dant continued, "The Holmatro CAT Cutter is the most productive and cost effective tool option for auto recycling in the long run.

"Compared to other tools, such as reciprocating saws, consumable and replacement costs are dramatically reduced by thousands of dollars per year – total cost, depending on how many cars are processed. With proper care and maintenance our cutter will last many, many years with only periodic blade replacements."

Other types of mobile cutters are manufactured by Holmatro for demolition involving: steel frames, construction materials, rod material, tube profiles, wood, roots (trees), fuel pipes, heating pipes, large and small cables. The cutters can also be used in foundries for cutting risers and feeders from castings, such as aluminum, copper, brass, etc.

Supershear brand catalytic converter shears are "safe, economical to use, efficient and we offer the best customer service available. This is all we do. We will guide a customer through a problem until it is fixed or we will resolve the problem directly, if needed. Aside from the blade and mainframe, our product is warranted for one year. Our shear blade should last 20,000 cuts with appropriate maintenance. You may need only one or two replacement blades every couple of years," explained Larry DeMik, company owner and president. The Supershear has only one moving part – the blade. "That isn't the case with some other products and so maintenance can sometimes be expensive, compared to the replacement cost of our blade," he said. Also, Supershear service personnel can refurbish products for half the cost of a new replacement.



Supershear, Inc.

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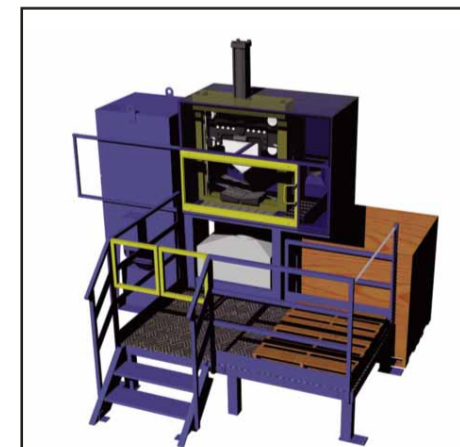
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All Supershear models are "specifically designed for use by an auto recycler and the machines are especially convenient when used in conjunction with an auto rack. Our plug-in unit is stationary and our most popular model. The 12 volt Super-

See CATALYTIC CONVERTER SHEARS, Page B6



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Volatile market ■Continued from Page B1

In addition to more aluminum being used within the construction of vehicles, Kelly stressed that the future holds many improvements regarding further metallic and polymeric sorting capabilities. X-ray fluorescence can be used at the commercial level to pull copper shred from lead/brass and laser induced breakdown spectroscopy will allow for alloy sortation and then chemical sorts into predetermined chemical bins.

“This enhancement in sorting will broaden the spectrum of secondary alloys that can be formed from shredded mixtures,” Kelly said. “The added aluminum and light material added in the auto sector enables such technologies to develop and challenges auto-recyclers and policy makers to work hard to close the recycling loop for all materials, beyond simply steel.”

SALVAGING Millions

by Ron Sturgeon
Autosalvageconsultant.com

Tools for success: Systems run dependably; People let you down

The first article in this series listed more than 25 tactics that worked for me and that you can use to increase your business success.

As your business grows, you should focus on installing scalable systems. The reason to devote time to putting the right processes in place is simple. Systems tend to run reliably and can rescue you when people occasionally let you down.

The systems that you put in place have to include the capacity to monitor and gather key performance indicators. For instance, one of the simple sales systems that I used as I was growing my yard was requiring my salespersons to write their results for the day on a whiteboard at the end of every business day.

The data that they had to put on the board included the answers to these questions: How many calls did they take, how many outbound calls did they make, how many quotes did they give and how many invoices did they write.

If you are using software that tracks these items for you, that's even better. But you still should have a board so that all of your salespeople know how they are performing relative to one another and relative to your sales goals. You should run a daily report and give it to each of your salespeople.

You should think about all of the systems that you need to make your business run smoothly. You need systems for making the phone ring, for production or order fulfillment, for lead generation, etc. The crucial part of good systems is that they will let you know sooner when things are not working the way they should.

In some cases, you might not know what the right number should be, but you certainly can spot a number that is not right. For example, if you know that most of your new salespeople write ten invoices on their first day,

and your new hire writes only two, you know that you have a problem and can see whether you need to do some extra training to get him or her on track.

Systems do not have to be complicated. Simplicity is a real virtue for some systems. I remember when we had a requirement that salespersons mail at least three thank you notes to customer per day. We knew that salespeople would not remember to do it, so we built an envelope rack with a slot for each salesperson. It became easy to walk by at the end of the day and see if each salesperson's slot had at least three envelopes in it. Suddenly, we knew who was doing them and who was not.

We had a problem keeping the dismantling area clean. Why were there always broken parts, junk, tires and whatever laying around? Because people let us down. The answer was to create a system. We gave every dismantler a chrome wire rack in their workspace. We told them that they could put whatever they wanted on their rack but nothing else was allowed in their workspace.

After every car, we made it a rule that they had to sweep and pick up their space, leaving only their tool box and the rack. The system kept the area clean and gave the dismantlers control of the space. With the control came accountability. We got a super neat area that stayed clean because we had a good system in place.

This worked even though we used cradle to grave dismantling. Our dismantlers pulled everything, cleaned everything, stocked everything and then did the paperwork and turned it in. Then they cleaned their area and started on the next car. It worked beautifully and allowed us to get nearly twice the production per employee as compared to a typical dismantling arrangement that divided the tasks among several employees.

Remember, only you can make BUSINESS GREAT!

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

Catalytic converter shears

■Continued from Page B4

shear, for smaller yards, is lightweight, mobile and runs with a rechargeable battery. It can make 100 cuts before recharging is needed. Our gas engine-powered machine is completely self-contained. No electricity or battery is involved and that is often helpful in yards with a larger recycling operation. All products include the same hydraulic hose length, power capacity and blade type. Our decanner machine processes the converter. The decanner cuts the converter in half, enabling the user to easily remove the catalyst parts contained inside,” stated DeMik.

“Auto dismantling is hard work. It is often a challenge to do a tough job like that but with care – for the safety of the user, the facility or relative to other components that may be involved that are also salvageable. I believe the products we've offered for over 20 years are extremely helpful in that overall process,” he added.

The Vortex Cat Guillotine is manufactured in the U.S. and decans catalytic converters safely, incorporating powerful dust extraction at 200 cfm per sq.ft., throughout the process. The product will decan around 60 converters an hour and the operator is separated from the cutting process by a sliding door which locks during operation. The catalyst is collected in a bulk bag under the cutting head for easy shipping. Vortex owner Nigel Dove noted, “The machine is aimed at high volume vehicle processors, who can earn an estimated \$7.24 extra per can against selling them by the piece, as

part of our DR2/Vortex program. In partnering with DR2 we offer clients an agreement based program, locating decanners in any vehicle processing yard or cat reseller that processes more than 45 cats per day, with no capital outlay required from the yards.”

Vortex provides value based equipment solutions for processing end of life vehicles and this is the latest in their range of products. “For high throughput operators, we also offer systems to decan 300 cats per hour. Our largest machine can process 540 cats per hour. The catalytic converter market is a maze of companies offering a variety of services with the seller often left wondering if he has achieved maximum value for these valuable items. Ultimately, there are only five companies in North America that have the capability to smelt the catalyst and recover the platinum group metals inside. Many companies ship converters around the world for processing at other facilities. We are sure in our analysis that the maximum value is achieved by removing the catalyst from the can and sending the material for assay. The next question is: What happens next with that material, if it is not smelted directly? It will probably land in the trading arena where every time it moves or changes hands, more processing cost is added, further eroding the original seller's profit. Give us or DR2 a call, as we'd be happy to discuss the detailed ROI info we've prepared for your review,” Dove said.

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Kobelco to build aluminum extrusion plant

Kobe Steel, Ltd. announces that it will manufacture and sell aluminum extrusions for the automotive sector in the United States. The new business will operate through a company called Kobelco Aluminum Products & Extrusions Inc. (KPEX) in Bowling Green, Kentucky.

KPEX will make bumper materials for cars and car frame materials. The new company will have an integrated production facility, with operations ranging from melting to fabrication. Fabrication will start in the latter half of 2017 and the melting to extrusion processes will begin in the latter half of 2018. Total investment is expected to reach \$46.7 million, and KPEX is anticipated to create 110 jobs.

Kobe Steel has been supplying aluminum bumper materials to Japanese automakers since the 1990s. The company has over 20 years of experience in the Japanese market and has established a strong track record. Kobe Steel's original weight-saving proposals covering both product development, such as for high strength 7000 series aluminum alloys, and cross section design technology have received high acclaim from customers.

ClipperCreek offers new vehicle charging stations

ClipperCreek, Inc. unveiled the Share2™ enabled HCS-40. Share2 allows two electric vehicle charging stations to share power from one branch circuit.

The Share2 is an inexpensive solution for any location looking for an easy way to double the number of charge points without running additional 240V circuits. The stations automatically splits the power if a second vehicle requests a charge at the same time. When one completes charging, the other station reverts to full power.

General Motors recycles two million Flint water bottles into fleece

Material becomes coats for the homeless, car parts and air filters

General Motors is adding 2 million water bottles from Flint, Michigan residents into its Do Your Part water bottle recycling initiative. The company partnered with Schupan Recycling to collect the bottles. The plastic is washed, flaked and turned into fleece to make three products: Chevrolet Equinox V-6 engine covers, insulation for The Empowerment Plan coats for the homeless, and air filters for 10 GM plants.

The program engages a supply web of 11 organizations and reduces landfill waste. The resulting social impact contributes to the initiative's progress and expansion.

GM supplier Filtration Services Group involved the N.E.W. Life Center in Flint to make air filter panels from the 9,000 sq.ft. of fleece created since Do Your Part launched in April. After at-risk individuals participate in programs dedi-

cated to employment preparation or life change, this nonprofit training center employs them to develop their skills.

GM is donating enough insulation for The Empowerment Plan's seamstresses – formerly homeless women – to make 6,500 coats that transform into sleeping bags that are given to those in need at no cost. The nonprofit trains their employees in lean manufacturing and teaches them soft and hard skills to propel them to bigger and better opportunities.

"We're committed to proving to employers that formerly homeless people can be a skilled talent pool," said Veronika Scott, founder and chief executive officer of The Empowerment Plan. "The end product is more than a coat: It empowers women to take control of their lives and provides the path to long-term, sustainable jobs."

Scott says GM's insulation provides the warmth needed for the homeless to withstand cold nights. Each coat contains 31 water bottles. The GM Foundation also supports The Empowerment Plan, providing it with \$220,000 since 2013.

An estimated 1.2 million bottles from 5 GM facilities throughout metro Detroit and Flint supplemented the significant volumes coming from the Flint community.

The company recently added its Romulus Powertrain plant to the program. While many employees bring reusable water bottles to work, all of GM's facilities provide water bottle recycling. Employees at these Michigan sites know exactly what the bottles will become when they throw the bottles in the recycling bins.

Chevrolet fuel cell vehicle developed

General Motors and the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) will reveal a Chevrolet Colorado based fuel cell electric vehicle in October at the fall meeting of the Association of the United States Army in Washington, D.C.

The vehicle is being developed under an agreement between TARDEC and GM signed in 2015. The collaboration enables TARDEC to access consumer driven automotive technology for use in military applications while providing GM with feedback on non-standard fuel cell technology applications.

Consistent with the Department of Defense's desire to leverage commercial innovation in its next-generation technologies, the Army will use the vehicle to demonstrate the capabilities fuel cell electric propulsion and power generation systems can bring to the

military, including quieter mobility, exportable power generation, low-end torque and water generation. The Army intends to conduct user assessments and demonstrations in 2017.

"Hydrogen fuel cells as a power source have the potential to bring to the force incredibly valuable capabilities," said TARDEC Director Paul Rogers. "We expect the vehicle to be quiet in operation and ready to provide electric-

ity generation for needs away from the vehicle. With fuel cell technology advancing, it's an ideal time to investigate its viability in extreme military-use conditions.

Neither GM nor TARDEC released vehicle specifics, but Rogers said the Army is focusing on the technology and its capabilities, regardless of the platform.

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