



# American Recycler

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AmericanRecycler.com

## FOCUS: Waste

### Zero waste trend expands



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# Municipalities struggle with contaminated recyclables

by MAURA KELLER

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As the recycling environment continues to change, municipalities across the U.S. are modifying their recycling initiatives – by decreasing, increasing, or changing their processes based on commodity pricing and consumer behavior.

According to Brett Stevens, global vice president, material sales and procurement at Terra Cycle, one of the main instigators causing the change in municipalities' recycling program is commodity pricing on items such as plastic, clear glass and uncoated cardboard. These prices have been low for quite some time – mostly because the reprocessors and/or end-users of those materials have issues with product contamination.

“As packaging construction has gotten more complicated, the contamination levels in recycling streams have gone up,” Stevens said. “This has a ripple effect on the remainder of the supply chain and the end-markets for these materials suffer as a result. At a certain point, it stops making economic sense to sort out and process certain streams that were collected for recycling because the value retrieved on the back end does not cover the costs on the front end.”

Some municipalities, such as those in the state of Michigan, are ramping up their recycling programs. So why the discrepancy? As Stevens explained, some municipalities are using grant money or private funds to act as a subsidy to municipal recycling programs. This allows economic factors described above to have less of an impact on the operation, and allows for these recycling programs to continue as-is or even scale up in some capacity.

“Any changes to recycling programs are implemented to improve quality and consistency of the



A number of cities face challenges with excessive volumes of certain materials while other materials are less abundant, which makes the cost to process hard to justify.

PHOTO BY LINDA WILLIAMS | DREAMSTIME

streams, improve the economics associated with performing sortation and processing work, or increase the possibility of a viable end market,” Stevens said.

#### Evolving Strategies

The City of Sierra Vista, Arizona ceased its mixed recyclables curbside collection on July 1, 2019 and started a staffed drop-off facility, which accepts recyclable materials from anyone, not just city residents. The facility is open six days a week, for six hours. Here, avid recyclers can drop off mixed or presorted glass, plastics #1 and #2, aluminum and steel cans, and corrugated cardboard, where staff and Department of Corrections Workers sort the recyclables into separate bins. The city also moved its glass recycling drop-off bins to the same location, so now they have a “one stop drop” facility for accepted recyclable materials.

“We offer a recycling service because it is the right thing to do from an environmental standpoint,” said Judy Hector, marketing and communications manager with the city of Sierra Vista, Arizona. “The buyer we

work with can provide documentation that materials we provide to them are actually being recycled instead of dumped in a landfill.”

As Hector explained, Sierra Vista provides residential and commercial curbside trash collection, which is taken to a transfer station owned by Cochise County. The city pays a tipping fee to the county. The waste is then transferred to the county owned landfill.

*Better education among consumers about what goes into their bins is needed.*

“Before we started the curbside collection, city trucks picked up trash twice a week. After starting the curbside program, we launched a ‘1 and 1’ program, where the second weekly collection was reserved for picking up recyclables,” Hector said. “After ceasing the curbside collection, we reverted to a twice-weekly trash pickup.”

So what was the biggest instigator of the change for Sierra Vista? According to

Hector, aside from the global collapse of the recycling market, the biggest instigator was contamination in the mixed recycling stream. In Sierra Vista, an aggressive education program early on helped prevent quite a lot of contamination, but the recyclables were mixed with other communities' recyclables, where contamination was about 50 percent, so the overall contamination was significant.

“By hand sorting materials that are dropped off, we are able to achieve nearly zero percent contamination, which increased the value of each load,” Hector said.

Another instigator was the tipping fee. When the city of Sierra Vista started the curbside program, Cochise County was able to sell the recyclables. Once global demand dropped, the county began charging the city \$64 a ton to dump recyclables. As Hector explained, by diverting some of the waste to the drop-off program, the city is able to reduce its overall tipping fee expense while recouping some of the drop-off facility expenses through the sale of clean recyclables.

See STRUGGLE, Page A4



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# ISRI offers overview of the state of recycling before U.S. House Recycling Caucus

The Institute of Scrap Recycling Industries (ISRI) briefed the Recycling Caucus on The State of U.S. Recycling. Hosted by Recycling Caucus Co-Chairs, House Energy and Commerce Chairman Frank Pallone (D-NJ) and Representative John Shimkus (R-IL), the event focused on many of the economic and environmental benefits of recycling while addressing how changes to global environmental and trade policies are changing the industry's landscape.

In addition to ISRI, the event brought together other key stakeholders including the U.S. Environmental Protection Agency, DC Public Works, Southeast Recycling Development Council, The Recycling Partnership, and the Paper Recycling Coalition.

Below are excerpts from ISRI president Robin Wiener's remarks before the Caucus:

"Recycling in the U.S. is an important economic engine and job creator. The recycling industry directly employs more than 164,000 Americans in jobs averaging \$73,000 in wages and benefits annually, while generating \$110 billion in economic activity and \$13 billion in federal, state, and local tax revenue.

These numbers tell the story of a strong U.S. recycling industry, but not one without challenges in key segments of the industry. To understand those challenges, it is important to first understand what makes for successful recycling:

•Successful recycling requires market demand – if there is no end

market to utilize the recyclable materials that are collected, they will not move, regardless of the volume of material collected. And collection without consumption is not recycling.

•Successful recycling requires minimal contamination as recyclables are products sold by grade, with corresponding value and marketability directly related to quality.

•Recycling in the U.S. involves far more than what is placed in the blue bin, or cart, at the end of the driveway. While residential collection programs may be the most visible part of America's recycling infrastructure, it represents less than 30 percent of the volume of material recycled in our country. The other 70 percent comes from the recycling of commercial and industrial materials that tends to be cleaner, and therefore can be processed to higher grades with greater marketability.

The recycling infrastructure in the U.S. touches almost every part of our economy – from retail stores, office complexes, residential neighborhoods, and schools to factories, construction and demolition sites, and even military bases. And the vast majority of the recyclable material that flows through the infrastructure does so without any problems, and is transformed by recyclers into clean, high quality, commodity grade product.

What makes the residential stream so different is that while it is subject to the same demand driven end market, it is saddled with an ever changing and heterogeneous mix of materials on the supply side, and that material flows

into the stream whether there is a market for it or not. This sets the residential recycling infrastructure apart from commercial and industrial recycling in the U.S., and that is why it demands a unique approach.

It is critical that all stakeholders work together to develop a common understanding of the weaknesses affecting the residential stream, and then work together to develop the menu of solutions that need to be put in place. And that is where the work of the EPA over the last year comes into play. EPA's America Recycles Stakeholder Dialogue has worked to bring us all together, and it is the reason why ISRI is so heavily invested in it. Successful recycling requires a focus on education, quality, demand growth, and market access; and we are pleased to be working with EPA on all these issues.

I also want to applaud the Department of Energy for the work they are doing to help support innovation in recycling. ISRI is proud to be a member of the DOE's REMADE Institute, a multi-year, \$50 million effort initiated two years ago to drive advanced manufacturing within the U.S. This effort will provide new opportunities for the use of recyclable materials in manufacturing and also a greater focus on Design for Recycling.

It may surprise people to know that recycling plays such an important role in advanced manufacturing, but the

reason that DOE is doing this is in part because they recognize the value not only of recycling but of recyclables, which goes to the myth I want to break this afternoon, and that is that recyclables are wastes, and that the only reason why they are recycled is to avoid the alternative of throwing them away. The truth is that these materials are not waste.

Whether called "scrap," "recyclable materials" or "secondary materials," they are valuable commodities sold and sought after in the global marketplace by industrial consumers – including steel mills, metal refiners, foundries, paper mills, plastic formulators, and others – for the manufacture of new consumer and industrial products. The Bureau of International Recycling (BIR) estimates that more than 40 percent of manufacturers' raw material needs around the world are met through the recycling of obsolete, off-spec, and end-of-life products and materials.

Worldwide, more than 800 million metric tons of recyclable materials are consumed each year by manufacturers. And just like coffee, crude oil, and other commodities, the movement of recyclables is driven by the demand needs of consumers in the U.S. and around the globe with the U.S. playing a major role in this global market, selling \$20 billion worth of scrap to manufacturers in more than 150 different countries."

## NERC & NEWMOA publish resources to promote recycling

In support of their efforts to promote recycling markets in the region and confidence in the viability of residential recycling programs, two new resources about end-markets in the Northeast have been published jointly by the Northeast Recycling Council (NERC) and the Northeast Waste Management Officials' Association (NEWMOA).

### End-Markets for Used Tires in the Northeast

According to the latest assessment of the U.S. scrap tire markets by the U.S. Tire Manufacturers Association (USTMA), scrap tire stockpiles have steadily declined throughout the past few decades. The Association's "2017 U.S. Scrap Tire Management Summary" concludes that more tires are being recycled and used by various end-markets, and historic stockpiles are declining.

This new resource identifies 33 companies that are engaged in tire derived fuel, volume reduction (shredding/ crumb rubber and other products) and hauling services for scrap tires.

### Recycling Businesses that Process or Use Post-Consumer "Blue Bin" Materials after MRF Processing

The NERC-NEWMOA Regional Recycling Market Development Committee produced a directory of businesses that process or use post-consumer recycled content after processing by MRFs, derived from so-called "blue bin" recyclables: paper, plastic, glass, aseptic cartons, aluminum and steel cans. The list is limited to facilities in the NERC region – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

The directory includes:

•Paper recycling industry – 68 businesses

•Plastic recycling industry – 53 businesses

•Glass recycling industry – 15 businesses

•Aluminum – 6 businesses

Total businesses processing or using post-consumer recycled content in the 11 state region are 142.

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# Struggles

■Continued from Page 1

“Once they understood that we’re not reducing service, homeowners have responded positively to the change overall,” Hector said. “Our most grateful, and largest volume recyclers are from outside of Sierra Vista, where recycling has not been offered in the past. Our challenge in gaining acceptance of the change was educating the public about the global supply of recyclable materials, what is actually being recycled by buyers, and the plummeting demand.”

Although the Sierra Vista has made an innovative attempt to continue recycling, they are still facing challenges. “I think any municipality, particularly ones removed from large markets, will face them as well,” Hector said. “Our greatest challenge with the drop-off facility is the operation cost versus the revenue from the sale of clean recyclables. While we’re able to keep our labor costs low with DOC workers, and there was really no infrastructure to build other than a shade shelter, we are faced with expensive hauling costs to transport recyclables to buyers 80 miles away in Tucson.”

The greatest volume of recyclables that Sierra Vista collects is plastic bottles. “We are overwhelmed with them,” Hector said. “Currently we are hauling two 40-yard roll offs of plastic a month, each of which contains about 32,200 single-use plastic containers. And, unfortunately, the market price for plastic is minimal.”

Another challenge Sierra Vista is facing is the volume of corrugated cardboard. As the home to the U.S. Army’s Fort Huachuca, Sierra Vista has a very transient population, which is resulting in a lot of cardboard waste. As such, the city is looking at setting up a free box service, where they would set aside the better moving boxes for people to pick up.

“Not only will this reduce the volume and weight of boxes, it emphasizes the ‘reuse’ part of the 3Rs,” Hector said. “We’re waiting for Public Works to work out the logistics for this.”

Jennifer McClintock, public information officer, City of Oklahoma City

Utilities Department, also said Oklahoma City recently modified its recycling program.

“Our current program is one we transitioned to in July 2018, alongside our solid waste contractor Waste Management,” McClintock said. At that time, Oklahoma City converted from a weekly 18-gallon open bin program to a large cart single-stream program that is picked up every other week.

“This not only affords our 195,000 eligible households the opportunity to recycle more, but also adds cardboard and paper board cartons into the mix of items we accept, increasing our overall volume of items recycled,” McClintock said. “It’s also cut down on the potential for contractor employee injuries since carts are picked up using trucks with automated side arms, and has cut down significantly on neighborhood trash since the carts have lids, and the items are no longer susceptible to being blown around in Oklahoma winds.”

For some of Oklahoma City’s rural customers who are not eligible for curbside recycling pick-up, the city has built two new drop-off centers that are conveniently located near easy-to-access intersections.

“Fees for our recycling services are bundled in with our regular weekly trash pick-up and monthly bulky waste, so all customers pay the same flat monthly fee for solid waste services and there is no extra charge for our regular recycling service,” McClintock said.

Later this year, Oklahoma City intends to offer a second cart for its more enthusiastic recyclers upon demand. They will charge a minimal fee for this second cart, but the overall program and pick-up will remain the same.

So why the change on Oklahoma City’s part? Quite simply, they heard the need from their customers for some time that they were ready for a better program, but from a logistics standpoint, the city wanted to take a more pragmatic approach.

“We considered first the impact a larger program would have in extending the life of our landfills, in addition to the significant increase in the amount of cardboard we were collecting due to the popularity of online

shopping,” McClintock said. “Those two factors, combined with the increased demand from our customers for enhanced services, led us to reconsider how to change our service delivery model to one that not only encouraged more people to recycle, but also divert more recyclable materials away from our limited landfill space.”

McClintock said that overall, the changes have been very positive. “We had a lot of eager recyclers and are now seeing people who were hesitant to recycle in the small bin program because of the wind now embrace recycling fully,” McClintock said. “We have about 40 percent participation overall, which we hope to improve upon with continued education and outreach.”

As for what the future holds, Stevens said we need better education among consumers regarding what goes into their collection bins, more infrastructure in the U.S. to improve economics, and an increased level of demand champions who are committed to using recycled materials in their products and packaging.

“This will help to stabilize the costs associated with recycling supply chains and provide a more predictable return on investment,” Stevens said. “This will then re-stabilize municipal programs.”

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# ALLU Group participated as a Gold Sponsor at Dozer Days event in Kansas City

ALLU Group Inc. joined dozens of construction companies, equipment dealers, equipment manufacturers and construction associations as a sponsor of the Dozer Days KC event at the Kansas Speedway in Kansas City, Missouri. The event's presenting partner was KC NUCA (the greater Kansas City area chapter of the National Utility Contractors Association). Along with ALLU's local equipment dealer, Murphy Tractor, ALLU Group became a part of this event as a Gold Sponsor to help educate thousands of Kansas City kids about the value of building sustainable communities and also build awareness of careers in construction. The event also benefited local children's charities.

Dozer Days KC created a fun, yet educational event that emulated a fair-like atmosphere, where the "rides"

were actual heavy construction machines. Kids of all ages were able to climb into the operator's cab — with certified operators at their sides — and actually drive the machines, including bulldozers, wheel loaders, excavators, and other heavy equipment. As a Gold Sponsor, ALLU had its own booth with an ALLU Transformer™ DL attachment on a skid steer.

The DL screening unit is designed specifically for use with compact base machines, such as mini excavators, small wheel loaders, skid steers, and backhoes. It is ideal for screening, mixing, aerating, and loading topsoil, peat, and compost all in one stage. The unit is designed to process wet or dry materials quickly and efficiently, reducing cycle times and resulting in increased production and substantial savings on operating costs.



ALLU Group's Midwest U.S. regional sales manager, Darrin Harn, poses with two young equipment "operators" at Dozer Days KC in Kansas City, Missouri.

## New recycling program finds uses for surplus eyewear production materials

Thema Optical, an Italian manufacturer of custom made eyewear with a U.S. factory, has begun a new recycling program in partnership with international recycling leader TerraCycle®.

Thema manufactures made-to-measure, bespoke eyewear through its patented 3D Acetate Technology, in which every design is "sculpted."

Thema creates unique collections that reflect the consumer's personality without compromising sustainability.

During production, some acetate waste is leftover in the manufacturing process. With the help of TerraCycle, Thema will recycle the excess acetate so that it can be processed into sheets and used to make new acetate products.

TerraCycle specializes in collecting and re-purposing hard-to-recycle waste through a variety of platforms, including large-scale recycling, which helps manufacturing facilities like Thema recycle large volumes of waste.

## Cummins' Saha named SAE/AEM Outstanding Young Engineer

Rohit Saha, machine simulation-senior technical specialist with Cummins Inc., has received the SAE/AEM Outstanding Young Engineer award for 2019.

The Association of Equipment Manufacturers (AEM) and SAE International recognizes outstanding young engineers in the off-highway or power-plant industry.

Saha specializes in industrial powertrains (performance & FE) and 3D

CFD system level simulation like underhood cooling and external aerodynamics for on and off highway machines.

He has published over 12 SAE technical papers and 10 patents at various stages of approval. He has provided engineering design and analytical services to Cummins' OEMs for overall machine level multi-domain optimization since 2011. Saha holds a BS in Civil Engineering.



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# United States Steel to acquire 49.9 percent interest in Big River Steel

United States Steel Corporation announced a joint venture partnership agreement under which it has taken the first step towards acquiring Big River Steel through the purchase of a 49.9 percent ownership interest at a purchase price of approximately \$700 million in cash, with a call option to acquire the remaining 50.1 percent within the next 4 years. U.S. Steel has committed financing to execute the transaction. The implied enterprise value of Big River, including the expected completion of its Phase II-A expansion, which is fully funded and already under construction, is approximately \$2.325 billion.

Big River operates a LEED-certified, Flex Mill™ in northeast Arkansas that is the newest and most advanced flat-rolled mill in North America. Big River's technological leadership allows it to produce a wide product spectrum, including advanced automotive steels and electrical steels, and provide high-quality products and services to discerning customers in the automotive, energy, construction and agricultural industries. Big River's recently announced Phase II-A expansion is expected to double the mill's hot-rolled steel production capacity to 3.3 million tons annually, establishing it as one of the largest EAF-based flat-rolled mills in North America.

"Our new partnership with Big River is designed to accelerate our strategy to offer our customers the 'best

of both' by bringing together the capabilities of integrated and mini mill steel production," said David B. Burritt, president and chief executive officer of U.S. Steel. "Big River operates the most advanced, state-of-the-art and sustainable mill in North America, and our investment would ultimately strengthen our competitive positioning in highly strategic steel-end markets, creating an unmatched value proposition for our stakeholders."

This transaction minimizes the risk of operational and financial execution while maximizing the potential for value creation. This transaction provides numerous strategic and financial benefits to U.S. Steel, some of which will begin to be implemented immediately upon the closing of this transaction, while others would become fully realized upon full ownership of Big River.

- Strengthens U.S. Steel's competitive positioning and establishes an unparalleled product platform in strategic, high-margin end-markets, including energy, infrastructure and automotive.

- Reshapes U.S. Steel's footprint in the flat-rolled segment to create a more nimble, agile and customer-focused organization with new presence to serve growing U.S. and Mexico markets.

- Complements U.S. Steel's existing capabilities, as well as U.S. Steel's previously announced strategic invest-

ments in advanced high-strength steel (AHSS) in Ohio, electrical steel line in Slovakia, Electric Arc Furnace in Alabama, and best of breed Endless Casting and Rolling Technology in Pennsylvania.

- Increases profitability, predictability and cash flow generation through the business cycle due to Big River's low-cost position, highly variable cost structure and low sustaining capex requirements.

- Positions U.S. Steel to achieve as much as \$1 billion in capital and operational cash improvements by 2022 through activities such as rescoping asset revitalization investments, reducing fixed costs and enhancing its ability to pursue opportunities to extract incremental value from excess iron ore pellets.

- Enhances U.S. Steel's talent through the addition of Big River's experienced team with an entrepreneurial culture rooted in technology and leverages over a century of making steel by U.S. Steel, including deep Research & Development resources and understanding of customers in key strategic markets that continue to grow profitably.

## Terms of the Transaction and Path to Full Ownership

Under the terms of the transaction, the companies will form a joint venture where U.S. Steel would purchase a 49.9 percent minority ownership interest with an option to acquire the remaining 50.1 percent. The transaction includes a call option that gives U.S. Steel the right to acquire the remaining equity of Big River within four years at an agreed-upon price formula based on Big River's achievement of certain metrics, including with respect to free cash flow, product development, safety and completion of a proposed expansion of the company's existing manufacturing line.

U.S. Steel has committed financing to execute the transaction. U.S. Steel intends to increase its existing \$1.5 billion asset-backed lending facility to \$2 billion and draw on the upsized asset-backed lending facility to fund the transaction. The upsized asset-backed lending facility has been fully committed by Barclays Capital.

## Timing and Approvals

Closing of the transaction is anticipated on October 31, 2019, subject to satisfaction of customary closing conditions.

## No. 1 Preferred Publication



## EPA offers funds for waterway trash reduction

The U.S. Environmental Protection Agency's (EPA) Gulf of Mexico Division announced the availability of grant funding for innovative projects focused on reducing the amount of trash in our waterways through trash prevention and/or removal. The total estimated funding for this competitive opportunity is approximately \$5 million.

"These funds will incentivize new projects to reduce marine litter and protect the health of the Gulf of Mexico and the many communities that rely upon it," said EPA administrator Andrew Wheeler.

Common trash from consumer goods makes up the majority of what eventually becomes marine debris, polluting our waterways and oceans. Plastics in the aquatic environment are of increasing concern because of their persistence and effect on the environment, wildlife, and human health. About 80% of plastics come from land-based sources carried by both wind and water.

## Possible types of eligible projects include:

- Trash Prevention – Trash prevention projects focus on the reduction or elimination of trash that has the potential of entering waterways. These projects are typically focused on source reduction through innovation, industry engagement and stewardship initiatives.

- Trash Removal – Trash removal projects benefit habitat and waterways through the development and use of tools and resources that support trash assessment and stop trash from entering waterbodies and/or remove trash that has already entered the water.

- Outreach/education – Each project should incorporate education and outreach that would result in positive changes in consumer and/or business behaviors and practices to reduce trash in waterways.

Eligible applicants include state agencies, federally recognized tribes and tribal consortia, any agency or instrumentality of local governments, nonprofit organizations, interstate agencies, and colleges and universities.

EPA anticipates awarding 10 or more grants under this announcement, with awards being no more than \$500,000 subject to the availability of funds, quality of evaluated applications, and other applicable considerations. EPA reserves the right to make additional awards under this announcement, consistent with Agency policy, if additional funding becomes available after the original selections.

For a direct link to additional information, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

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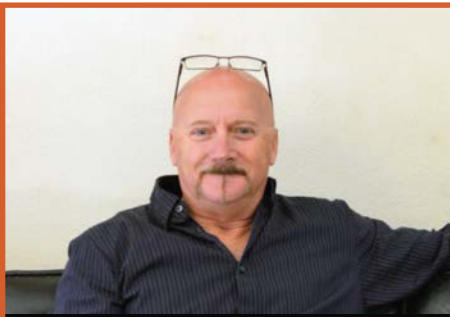
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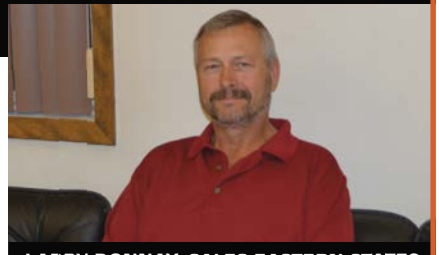
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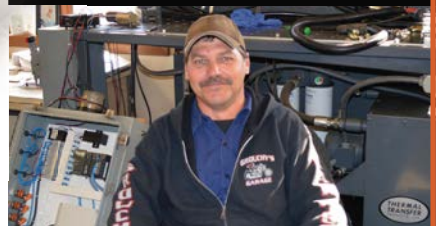
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**PETER VOSSEN, SPECIAL PROJECTS MANAGER**  
30 YEARS OF EXPERIENCE



**JEFF STUCKELBERG, ROBOTICS WELDER**  
15 YEARS OF EXPERIENCE



## EPA recognizes two federal facilities in Pennsylvania with Green Challenge awards

The U.S. Environmental Protection Agency (EPA) is recognizing federal facilities across the country for conserving resources and saving taxpayers' money as part of the Federal Green Challenge (FGC). In EPA's Mid-Atlantic Region, the James E. Van Zandt Veterans Affairs Medical Center in Altoona, Pennsylvania and the Coatesville Veterans Affairs Medical Center in Coatesville, Pennsylvania, will both receive the Region's Federal Green Challenge Award. The challenge is a national effort under the EPA's Sustainable Materials Management Program, which encourages federal agencies to lead by example in reducing its environmental impact.

In fiscal year 2018, FGC participants reduced their environmental impact by:

- Sending more than 235 tons of end-of-life electronics to third-party certified recyclers.
- Reducing transportation costs by more than \$23 million.
- Using approximately 536 million fewer gallons of potable water.
- Decreasing paper purchasing by nearly 2,800 pounds.
- Diverting an estimated 675,000 tons of waste from landfills.

**Innovation Award:** – James E. Van Zandt VA Medical Center, Altoona, Pennsylvania.

The ongoing efforts of Green Teams in the Van Zandt Veterans

Affairs Medical Center has made a difference by identifying and innovatively resolving issues. Teams do assessments in their working areas to recycle paper, turn off lights and motivate and challenge other teams to be greener. The Green Team from the Procedure Clinic named themselves Gang Green, got green T-Shirts with their name on them, and established an email group to exchange ideas in greening the operating room. More than 90 percent of the medical center's employees in the clinic are actively engaged in a Green Team and are promoting the program to all new employees.

**Waste Diversion Award:** Coatesville Veterans Affairs Medical Center, Coatesville, Pennsylvania.

The Coatesville Veterans Affairs Medical Center diverted waste and put it back into productive reuse by recycling 1,450 tons of materials, sending 17.5 tons of wood waste to shred into an absorbent material which is processed at an environmental recovery center; and composting all grass clippings, leaves, and wood from downed limbs and trees.

The Federal Green Challenge is a voluntary, yearlong commitment in which federal participants focus on finding more ways to efficiently manage their resources to reduce the costs of building operations, maintenance, and supplies.

## TerraCycle reports second quarter 2019 results

TerraCycle US Inc., the U.S. subsidiary of international recycling leader TerraCycle, Inc., announced financial results for the second quarter ending June 30, 2019.

### Financial Highlights:

- Revenue rose to \$11.2 million representing a 16 percent year-over-year growth over Q2 2018 revenues of \$9.5 million.

- Net income more than doubled to \$1.8 million, marking a 67 percent year-over-year growth over Q2 2018 net income of \$603,000.

- TerraCycle's Regulation A capital raise is approaching \$10 million.

### Second Quarter Operational Highlights:

- TerraCycle has attracted investment in its Regulation A offering from ITOCHU Corporation, a 100 year old, \$50 billion revenue Japanese trading company. ITOCHU, one of the largest brokers of plastic worldwide, will work with TerraCycle to expand the market for post-consumer plastics, and in particular to develop and sell plastics that come from generally non-recycled waste streams.

- TerraCycle issued the first annual cash dividend paid in the company's history, totaling roughly \$54,000 or \$2.09 per share representing a yield of

2.09 percent, to shareholders that invested in the company's successful Regulation A capital raise.

- During the first two quarters of 2019, TerraCycle surpassed the prior year's total number of new contracts and programs.

- The company continues to invest in its work force, increasing its U.S. based staff by 10 percent over the prior year.

"Our mission at TerraCycle has always been to eliminate waste, recycle the unrecyclable and use our innovative business solutions to minimize human impact on the planet," said TerraCycle chief executive officer Tom Szaky. "During the course of our 18 year history, we've successfully translated our passion for what we do into an established company built on a strong financial foundation with sustained earnings and growth."

Using third party logistics and facilities, TerraCycle converts collected waste into raw materials that are sold to and used by manufacturers to create new products. Examples of waste streams collected and recycled by TerraCycle include chip bags, coffee capsules, cigarette butts, oral care, beauty care, writing utensils and over 100 other waste streams in the U.S.



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# PAPER

## Mid America launches Quality Initiative for paperboard industry to generate increased revenues from waste

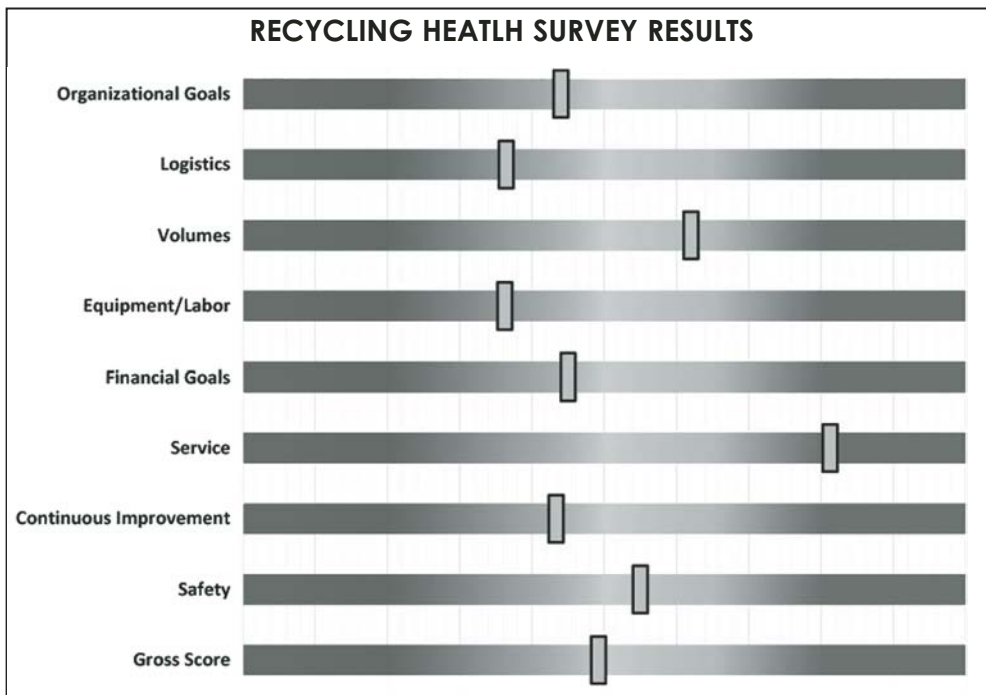
Mid America Paper Recycling (MAPR), one of the largest independent brokers, processors and exporters of recovered paper in the Central U.S., is launching a first-of-its-kind initiative focused on tracking and increasing the value of the recycling waste streams generated by large commercial printers and paperboard converters.

“The folding carton industry, for example, shipped about five million tons of product last year,” explained Paul Pirkle, president of Mid America Paper Recycling. “We work closely with these operators and all companies that recycle waste paper to create a continuous improvement process that helps them identify where waste is generated, establish key collection procedures, and set objectives that will continually improve their waste stream’s revenue contribution to the business.”

According to Mid America executives, the manufacturing operations of a typical paper or containerboard plant can generate thousands of tons of pre-consumer, high-grade recyclable paper, production trim waste and paperboard waste annually, which in turn, can generate significant revenues for the company.

Mid America’s innovative recycling management program helps producers build a scorecard process by benchmarking, monitoring and continuously upgrading their recycling operations to help them reach their sustainability goals and grow the financial worth of their waste. In the transactional, spot market oriented business of paper recycling, MAPR’s continuous improvement initiative is a first of its kind.

“No other company has offered as comprehensive and value-added a solution until now,” adds Pirkle. “We understand the challenges and shortcomings companies face in dealing with recycling vendors, equipment, labor and transportation issues. Recyclable materials can be wasted, which doesn’t meet anyone’s environmental goals or boost revenue. But they can also be a significant value-added contributor to the recycler’s profitability if professionally managed. We perform onsite customer assessments and reviews to help them learn how to effectively manage these



materials and help them exceed their expectations.”

The first step in the continuous improvement process is MAPR’s new, free Waste Audit Survey, which takes only 10 minutes for customers to fill out online but is comprehensive in scope. It’s so easy to use, customers can launch it on their smartphones via a QR code and take the survey immediately.

Serving as an initial “recycling health scorecard,” the survey results help MAPR determine how each customer captures and recycles waste materials, what’s working and what’s not.

“The audit concept was based on an in-depth voice of customer study we conducted to better understand the challenges our customers face,” Pirkle adds. “Continuous Improvement is so important to organizations today in many other areas of their operations, so this audit was designed to bring this same strategic process to their current waste handling practices and build a smart program that continuously improves the worth of their waste.”

Responses to the survey questions are associated with a point scale and averaged into five categories to achieve a scale percentage. This determines an overall waste assessment grade for the customer’s “recycling health,” which the company uses to create an individual recycling plan that maximizes facility

efficiency, safety, and updates employee training procedures.

The audit taxonomy assesses areas including:

- Current operating procedures
- Organizational goals
- Frequency of recycling reports issued, reviewed and updated
- Waste volumes
- How customers train staff to maintain safety, logistics, handling and efficiencies
- Revenues and financial goals
- Level of service received

- Equipment and labor involved
- Improvement objectives
- Safety, preventative maintenance programs in place

The customer “scorecard” is just the beginning of the quality initiative. After taking the survey, MAPR’s hands-on team of experts then develops a custom plan to improve such aspects as the flow of waste through a customer’s facilities, eliminate cost streams, conserve and capture the most value possible. The customer receives a free report, and a plan tailored to upgrade their recycling processes and increase revenue growth.

Next, MAPR proceeds with follow-up conversations, onsite visits, mill assessments to match the best one to each paper grade, quarterly reviews on flow reports, rates, payments, recycling values, logistics coordination and more.

Progress in terms of revenues and environmental impacts are also tracked every step of the way, and the data is fed throughout the customer’s operation through regular management reports.

“We find every angle available to minimize waste and maximize returns, support customers by optimizing services and improve training, safety and value, with the visibility and transparency the operation needs,” Pirkle concludes. “Our vision is to become a significant value-added contributor to the paper converter’s waste generation profitability.”

## President Trump visits Pratt’s new 100 percent recycled paper mill

Recognizing the important role paper recycling plays in U.S. manufacturing, president Donald Trump toured Pratt Industries’ containerboard mill in Wapakoneta, Ohio.

Accompanying the President during the tour and press conference were Australian Prime Minister Scott Morrison and company owner Anthony Pratt. The President explicitly stated that not one tree is used in the manufacture of

Pratt’s paper at the company’s 100 percent recycled paper mills.

The Ohio facility, Pratt Industries’ fifth 100 percent recycled paper mill in the U.S., opened in October, will consume 425,000 tons of mixed paper and old corrugated containers as feedstock. It represents the largest factory pledged and built during President Trump’s first term.

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## PAPER

# ND Paper invests in upgrades for U.S. mills

ND Paper announced that it will invest capital to improve its mills in Maine and Wisconsin next year.

A strategic modernization of mill assets will ensure these two facilities can operate efficiently for decades.

"We have four mills, three of which were built more than 100 years ago," said group deputy chairman and chief executive officer Ken Liu. "By focusing on high return strategic investments, we are building world class, first-quartile mills that deliver innovative, high quality products for our customers."

### Rumford Division

At their Rumford, Maine facility, their pulp dryer and all three paper machines will undergo upgrades.

•R9, the pulp dryer at Rumford, will take downtime in the first quarter of 2020 for a rebuild to increase pulp production.

•R10 machine will pause operation in late March to install a new headbox and shoe press, as well upgrade the forming section. Upon restart, these improvements will enhance product quality for our printing and C1S paper customers, as well as increase capacity and productivity.

•R12 machine will convert out of printing and writing grades to focus on specialty packaging products.

•R15 machine will take an extended outage in the summer months for the installation of a new shoe press. This addition, combined with calender enhancements completed earlier this year, will transform the machine into a top quartile producer of C1S and printing grades.

•The upgrades on R10 and R15 will increase production output to effectively absorb R12's exit; Rumford's printing and writing papers capacity will be the same post-conversion with two machines as it is today with three.

This investment will not only enhance the quality of their printing and writing and C1S grades, but also ensure the long-term viability of the Rumford Division.

### Biron Division

As previously announced in October 2018, ND will complete the conversion of the B25 machine from lightweight coated mechanical papers to recycled linerboard and corrugating medium in the first quarter of 2020. This project will serve as ND Paper's entry into new markets, as well as stabilize the Biron Division and solidify the job security of dedicated employees.

## CONSTRUCTION & DEMOLITION

# Construction employment increases in 39 states and D.C.

Thirty-nine states and the District of Columbia added construction jobs between September 2018 and September 2019, while construction employment increased in 28 states from August to September, according to an analysis by the Associated General Contractors of America of Labor Department data. Association officials said that it is likely additional states would have added new construction jobs if firms could find more qualified workers to hire.

"Although evidence is mounting that the overall economy is slowing, contractors in most states are still eager to hire," said Ken Simonson, the association's chief economist. "But they are unable to find qualified workers in some cases, and job openings in construction have soared as unemployment rates are at historic lows in many states."

Texas added the most construction jobs over the year (52,000 jobs, 7.0 percent), followed by California (30,400 jobs, 3.5 percent), Arizona (16,500 jobs, 10.2 percent), Florida (16,200 jobs, 2.9 percent), and Nevada (11,100 jobs, 12.3 percent). Nevada added the highest percentage of construction jobs over 12 months, followed by Arizona, New Mexico (8.7 percent, 4,100 jobs), New Hampshire (7.8 percent, 2,100 jobs), Texas and Indiana (7.0 percent, 9,800 jobs). Construction employment reached a record high in Nebraska, Texas and Washington.

Eleven states shed construction jobs over the latest 12 months. Louisiana lost the largest number and percentage of construction jobs (-10,600 jobs, -7.0 percent). Other states with large job losses include Ohio (-7,600 jobs, -3.4 percent), Connecticut (-1,800 jobs, -3.1 percent), Tennessee (-1,300 jobs, -1.0 percent), Massachusetts (-1,200 jobs, -0.8 percent) and North Carolina (-1,200 jobs, -0.5 percent). Other states with a substantial percentage decline include Vermont

(-6.0 percent, -900 jobs), Ohio, Montana (-3.4 percent, -1,000 jobs) and Connecticut.

Texas added the most construction jobs between August and September (7,200 jobs, 0.9 percent), followed by Arizona (2,200 jobs, 1.3 percent), Indiana (1,700 jobs, 1.1 percent), Wisconsin (1,700 jobs, 1.4 percent), Nevada (1,600 jobs, 1.6 percent) and Florida (1,500 jobs, 0.3 percent). Hawaii added the highest percentage of construction jobs for the month (2.7 percent, 1,000 jobs), followed by Idaho (2.2 percent, 1,100 jobs), Nevada, Arkansas (1.5 percent, 800 jobs), New Hampshire (1.4 percent, 400 jobs), and Wisconsin.

Construction employment is down from August to September in 22 states and was flat in D.C. Virginia lost the largest number of construction jobs for the month (-3,200 jobs, -1.6 percent), followed by Ohio (-1,700 jobs, -0.8 percent), Pennsylvania (-1,500 jobs, -0.6 percent) and Missouri (-1,100 jobs, -0.9 percent). North Dakota had the largest percentage decline for the month (-3.2 percent, -900 jobs), followed by Virginia, Wyoming (-1.4 percent, -300 jobs) and Rhode Island (-1.0 percent, -200 jobs).

Association officials said that 80 percent of construction firms that responded to the association's recent workforce survey reported having a hard time finding qualified workers to hire. They urged federal leaders to increase funding for career and technical education and allow more immigrants to legally enter the country.

"Investing in more career and technical education programs, especially in high schools, would encourage and prepare even more young adults to pursue high paying construction careers," said Stephen E. Sandherr, the association's chief executive officer. "Without new measures to develop the construction workforce, our economy will continue to suffer from missed opportunities."

## Brokk relocates Stanhope Facility

Brokk, a manufacturer of remote-controlled demolition machines, recently opened the doors to their relocated Stanhope, New Jersey, distribution and service facility. The new building is in the same industrial complex as the original location but offers the company 33 percent more space for increased inventory. Additionally, the added room allows the Stanhope team to offer Brokk demonstrations onsite.

The 9,600 sq.ft. facility has allowed the Brokk team to increase their inventory by 50 percent. The facility stocks nearly every Brokk model, including multiple 110, 170 and 200 units – popular in urban demolition where minimizing floor load is a high priority. The new Stanhope facility also

stocks a range of Brokk attachments, including buckets, crushers, grapples and breakers. The additional space offers the Brokk specialists better maneuverability for loading and unloading equipment, pre-delivery equipment inspections and maintenance, allowing them to optimize productivity and address customer needs more efficiently.

For contractors on the East Coast, the addition of an onsite demonstration area increases access to a first-hand Brokk experience. Now, visitors can easily see the benefits of remote-controlled demolition in common applications, including concrete crushing, breaking and drilling.

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# METALS

## Liberty plans investment in steel production at Georgetown location

Liberty Steel USA will make a major capital investment in its liquid steel production facilities at Georgetown, South Carolina, to boost output substantially and secure the long term future of the mill, which it re-opened just over a year ago.

The company, part of Sanjeev Gupta's global GFG Alliance, plans to invest up to \$25 million to install a modern electric arc furnace at the Georgetown mill and extensively improve the infrastructure of the mill's melt shop.

Liberty has already invested significant sums to increase the versatility of its rolling mill at Georgetown, in order to serve key markets for wire rod in the south eastern United States.

The company aims to increase wire rod output from the site to over 400,000 tons a year to serve customers across the region in sectors such as automotive and construction product manufacture, but in order to do so it needs to upgrade the melt shop to supply competitive high-quality billets.

Global metals industry engineering specialists Danieli have undertaken extensive surveys at the site over recent weeks in preparation for the project

which is expected to include Danieli's new energy efficient Q-ONE technology.

Work to install the new arc furnace and upgrade melting and casting facilities is expected to take between six and nine months once permits are obtained, during which time Georgetown will roll billets sourced externally, including billets from its sister plant in Peoria, Illinois.

In addition to the installation of a new electric arc furnace, the investment project will include new electrical systems, improvements to water and natural gas supply and ancillary equipment to support improved melt shop operations, along with environmental permits for modifications to regulated processes. In addition, substantial structural upgrades, including strengthened foundations, will be required.

Liberty has forged a constructive relationship with the Georgetown government and the union, who share a vision of continued success and development for the mill and Georgetown.

Liberty acquired the Georgetown mill in a shuttered state from Arcelor-Mittal in December 2017 and reopened the site seven months later.

## BlueScope proceeds with expansion

Australian steel producer, BlueScope Steel Ltd., is expanding their North Star business in Delta, Ohio.

BlueScope plans to add 600,000 to 900,000 metric tons per year of steel-making capacity with this expansion.

North Star will also add a third electric arc furnace and a second caster.

North Star supplies steel to automotive manufacturers and the construction industry.

The project is expected take two to three years to complete.

### Silly Thanksgiving Jokes

Q: Which side of the turkey has the most feathers?

A: The outside, of course.

Q: Why did the turkey get in trouble

at school?

A: He was cornu-copying.

Q: What smells the best during Thanksgiving dinner?

A: Your nose.



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## Novelis receives approval for proposed acquisition of Aleris

Novelis Inc., a leader in aluminum rolling and recycling, announced that the European Commission approved its proposed acquisition of Aleris Corporation.

The approval is conditioned upon the sale of Aleris' plant in Duffel, Belgium, which produces aluminum for the automotive and specialties markets. Novelis is working expeditiously to market the plant to potential buyers, with the chosen counterparty and the definitive agreement for divestiture subject to European Commission approval.

"Today's announcement is another step forward in bringing Novelis and Aleris together, which will benefit our

customers, employees and the aluminum industry as a whole," said Steve Fisher, president and chief executive officer, Novelis Inc. "Overall, this transaction will strengthen our ability to compete against steel in the automotive market, meet growing customer demand for aluminum, achieve our recycling goals, and bolster our sustainability platform worldwide. In addition, it will further enhance our strategic position in Asia and diversify our overall product portfolio."

The company expects to close the transaction by January 21, 2020, the outside date under the merger agreement.

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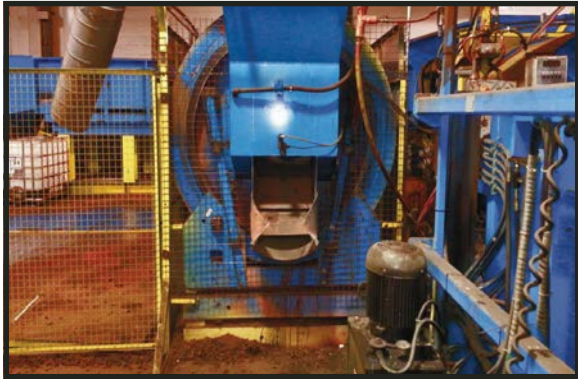
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# METALS

## Steel imports down 14 percent year-to-date

**U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)**

	AUG 2019	JUL 2019	2019 Annualized	2018 Full Year	% Change 2019 Annual vs. 2018
SOUTH KOREA	263	180	2,838	2,764	2.7%
JAPAN	134	87	1,416	1,383	2.4%
GERMANY	75	75	1,151	1,339	-14.1%
TAIWAN	61	84	1,002	1,069	-6.3%
VIETNAM	47	68	814	1,110	-26.6%
CHINA	51	43	662	696	-4.9%
BRAZIL	17	80	620	479	29.3%
SPAIN	56	38	523	321	62.9%
All Others	1,079	1,190	13,957	16,533	-15.6%
<b>TOTAL</b>	<b>1,783</b>	<b>1,845</b>	<b>22,982</b>	<b>25,694</b>	<b>-10.6%</b>

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,000,000 net tons (NT) of steel in August 2019, including 1,783,000 net tons (NT) of finished steel (down 34.0 percent and 3.4 percent, respectively, vs. July final data). Through the first 8 months of 2019, total and finished steel imports are 20,668,000 and 15,321,000 NT, down 13.6 percent and 15.9 percent, respectively, vs. the same period in 2018. Annualized total and finished steel imports in 2019 would be 31.0 and 23.0 million NT, down 8.1 percent and 10.6 percent, respectively, vs. 2018. Finished steel import market share was an estimated 19 percent in

August and is estimated at 20 percent over the first eight months of 2019.

In August the largest volumes of finished steel imports from offshore were from South Korea (263,000 NT, up 46 percent from July final), Japan (134,000 NT, up 54 percent), Germany (75,000 NT, down 1 percent), Taiwan (61,000 NT, down 28 percent) and Spain (56,000 NT, up 47 percent). For the first 8 months of 2019, the largest offshore suppliers were South Korea (1,892,000 NT, down 10 percent vs. the same period in 2018), Japan (944,000 NT, down 3 percent), Germany (767,000 NT, down 12 percent), Taiwan (668,000 NT, down 10 percent) and Vietnam (543,000 NT, down 22 percent).

## Don B. Daily Memorial Fund selects 2019-2020 recipient

The Association for Iron & Steel Technology (AIST) Foundation and the Steel Manufacturers Association (SMA) announced Dr. Sathy Rajendran of Central Washington University (CWU) as the 2019-2020 recipient of the \$10,000 Don B. Daily Safety Grant to promote steel industry safety and health.

The fund was created to commemorate the life and industry service of the late Don B. Daily, a compassionate man who truly cared about the safety of all employees working in the steel industry. His career as president of Gallatin Steel and chairman of the Steel Manufacturer's Association (SMA) left an enduring mark on the steel industry of North America, and has been the establishment of numerous safety and health initiatives that have significantly improved the workplace.

Dr. Sathy Rajendran's proposal is titled "Safety Management: Development of Steel Manufacturing Plant Specific Safety Plan Case Study." The proposal advocates that one of the most effective methods of increasing worker safety is the intuition of practical worker training based on real-world scenarios. With the award, a team of

students and faculty from Central Washington University plan to develop a training program that is based on real-world case studies in order to prepare trainees to evaluate complex steel manufacturing and fabrication activities and develop control methods through a facility specific safety plan.

"Worker safety and health continues to be one of the largest concerns for the steel manufacturing industry, therefore devising new ways to improve safety is vital," said Prof. Jennifer Serne, a grant team member and assistant professor at CWU. "We thank the AIST Foundation for this opportunity. This kind of collaboration and support is exactly what we need to improve safety and health performance in the steel manufacturing industry."

The Don B. Daily Safety Grant challenges North American university teams (students and professors) to submit proposals for grant funding in the theme area of safety and health awareness within the steel manufacturing industry. The dual objective of the fund is to promote a safe workplace for the steel manufacturing industry and to increase the number of students studying health and safety awareness relative to the manufacturing environment.

## Steel import permit applications for September show decrease

Based on the Commerce Department's most recent Steel Import Monitoring and Analysis (SIMA) data, the American Iron and Steel Institute (AISI) reported that steel import permit applications for the month of September totaled 1,967,000 net tons (NT). This was a 9.4 percent decrease from the 2,172,000 permit tons recorded in August and a 2.7 percent decrease from the August final imports total of 2,022,000.

Import permit tonnage for finished steel in September was 1,510,000, down 15.9 percent from the final imports total of 1,794,000 in August. For the first nine months of 2019 (including September SIMA permits and August final imports), total and finished steel imports were 22,658,000 NT and 16,842,000 NT, down 13.4 percent and 16.2 percent, respectively, from the same period in 2018. The estimated finished steel import market

share in September was 17 percent and is 20 percent year-to-date (YTD).

Products with significant year-to-date (YTD) increases vs. the same period in 2018 include black plate (up 95 percent), steel piling (up 50 percent) and tin free steel (up 25 percent).

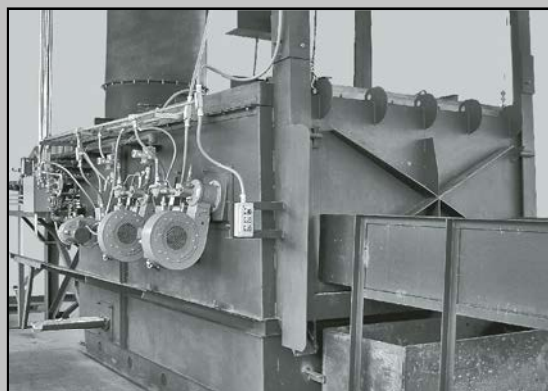
In September, the largest finished steel import permit applications for offshore countries were for South Korea (150,000 NT, down 43 percent from August final), Japan (75,000 NT, down 44 percent), Germany (69,000 NT, down 8 percent), Taiwan (60,000 NT, down 1 percent) and Vietnam (52,000 NT, up 9 percent). Through the first nine months of 2019, the largest offshore suppliers were South Korea (2,042,000 NT, down 11 percent from the same period last year), Japan (1,019,000 NT, down 4 percent) and Germany (836,000 NT, down 15 percent).

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—**Jeannie Bolt, Marketing Director SEBRIGHT PRODUCTS, INC.**



# METALS

## Crude steel production up

World crude steel production for the 64 countries reporting to the World Steel Association was 156.0 million tonnes (Mt) in August 2019, a 3.4 percent increase compared to August 2018.

China's crude steel production for August 2019 was 87.3 Mt, an increase of 9.3 percent compared to August 2018. Japan produced 8.1 Mt of crude steel in August 2019, down 7.8 percent from August 2018. South Korea's crude steel production was 5.9 Mt in August 2019, a decrease of 2.6 percent from August 2018.

In the EU, Germany produced 3.3 Mt of crude steel in August 2019, up by 0.8 percent from August 2018. Italy produced 0.9 Mt of crude steel in August 2019, down by 26.7 percent from August 2018. France produced 1.1 Mt of crude steel in August 2019, an increase of 11.2 percent compared to August 2018. Spain produced 1.1 Mt of crude steel in August 2019, down by 4.6 percent on August 2018.

The U.S. produced 7.5 Mt of crude steel in August 2019, an increase of 0.3 percent compared to August 2018.

Brazil's crude steel production for August 2019 was 2.5 Mt, down by 13.4 percent from August 2018.

Turkey's crude steel production for August 2019 was 2.6 Mt, down by 12.4 percent from August 2018.

Crude steel production in Ukraine was 1.9 Mt this month, up 8.5 percent from August 2018.

## China issues Q4 import quotas for scrap

The Chinese government issued a new scrap metal import quota that approved about 70,000 metric tons of copper, aluminum and ferrous scrap arrivals for the remainder of 2019. According to a report from Argus Media, the additional quotas issued by China Solid Waste and Chemicals Management are for a combined 66,368 metric tons of copper, aluminum and ferrous scrap for delivery to ports in south and southeast China.

The extra quota for copper scrap, under harmonized tariff code 7404000090, is 31,658t. The quota for

aluminum scrap, tariff code 7602000090, is 32,940t, and the quota for ferrous scrap is 1,770t.

The copper scrap quota is for delivery to the ports of Ningbo, Shanghai, Xiamen, Nanhai, Nansha and Xinhui, while the aluminium scrap quota is for Ningbo, Nanhai and Nansha.

The total of all copper scrap import quotas approved to date is 484,217t, with aluminum at 405,416t and ferrous at 22,688t.

The import quota for copper scrap is below the volume imported in the third quarter of last year, whereas the

aluminum scrap quota is above the third-quarter figure, Argus said.

China imported 624,276t of copper scrap and 349,510t of aluminium scrap in July-September 2018, customs data show.

Under the new policy, all scrap metal importers in China will need import licenses issued under approved quarterly quotas before they can receive any material.

China imported 5.32mn t of scrap last year, of which copper accounted for 45pc, or 2.41mn t, aluminium 1.57mn t and ferrous 1.34mn t.

## Northern Metal reaches settlement agreement and shuts down shredder

The Minnesota Pollution Control Agency (MPCA) has reached a settlement agreement with Northern Metal Recycling regarding its errors in reporting emission records. Northern Metal Recycling is a metal recycler with offices in Minneapolis, Minnesota. Under the settlement, Northern Metal Recycling admitted it submitted inaccurate emissions records to the MPCA and permanently shut down its Minneapolis shredder operations in September.

MPCA Commissioner Laura Bishop released the following statement:

*Did you hear about the mathematician who's afraid of negative numbers?  
He'll stop at nothing to avoid them.*

"Minnesota expects its corporate citizens to do the right thing and follow its permit requirements. Northern Metal Recycling broke the public's trust and showed a willful disregard toward its neighbors. These serious violations required a swift and proportional action."

In addition, the MPCA is able to reopen Northern Metal Recycling's permit for the new Becker, Minnesota, facility to incorporate additional monitors and reports for its pollution control equipment. The company is also required to pay a \$200,000 civil penalty.

## Rivore Metals files bankruptcy

Troy, Michigan recycler Rivore Metals has filed for voluntary Chapter 11 bankruptcy protection, according to a filing with the U.S. Bankruptcy Court in the eastern district of Michigan.

Rivore Metals is a ferrous and non-ferrous metals broker and processor. Rivore requested first-day relief so it can maintain ongoing business operations, according to the September filing.

According to the bankruptcy filing, the company estimated it has assets of up to \$50,000 and liabilities \$1mn-10mn, according the filing.

Rivore owes more than \$7.2 million and operated two recycling facilities in Detroit and one in Pontiac, Michigan.





Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$258.00	259.00	268.00	279.00	265.00
#1 Bundles	per gross ton	251.00	242.00	265.00	255.00	249.00
Plate and Structural	per gross ton	245.00	231.00	243.00	249.00	242.00
#1 & 2 Mixed Steel	per gross ton	189.00	215.00	211.00	231.00	245.00
Shredder Bundles (tin)	per gross ton	124.00	132.00	140.00	142.00	145.00
Crushed Auto Bodies	per gross ton	124.00	132.00	140.00	142.00	145.00
Steel Turnings	per gross ton	81.00	82.00	92.00	135.00	125.00
#1 Copper	per pound	2.30	2.29	2.35	2.28	2.27
#2 Copper	per pound	2.12	2.10	2.20	2.19	2.10
Aluminum Cans	per pound	0.57	0.56	0.51	0.52	0.49
Auto Radiators	per pound	1.39	1.25	1.35	1.49	1.48
Aluminum Core Radiators	per pound	0.58	0.48	0.41	0.39	0.35
Heater Cores	per pound	1.03	1.07	1.03	1.07	1.15
Stainless Steel	per pound	0.53	0.51	0.47	0.47	0.51

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

**DISCLAIMER:** American Recycler (AR) collects pricing and other information from experienced buyers, sellers and facilitators of scrap metal transactions throughout the industry. All figures are believed to be reliable and represent approximate pricing based on information obtained by AR (if applicable) prior to publication. Factors such as grades, quality, volumes and other considerations will invariably affect actual transaction prices. Figures shown may not be consistent with pricing for commodities associated with a futures market. While the objective is to provide credible information, there is always a chance for human error or unforeseen circumstances leading to error or omission. As such, AR is not responsible for the accuracy or completeness of the information provided, or for outcomes arising from use of this information. American Recycler disclaims any liability to any person or entity for loss or damage resulting from errors or omissions, including those resulting from negligence of AR, its employees, agents or other representatives.

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# SALVAGING Millions

by Ron Sturgeon  
Autosalvageconsultant.com

## Never forget that the customer is king

Carl Sewell says, "Customers are for life!"

The first article in this series listed more than 25 tactics to increase your business success. I have used all of these tactics in my business career. I started with nothing and didn't attend college, so I know you can achieve maximum success, regardless of your level of education or circumstances.

Never forget the value of a customer. Certainly, a time comes in every business when you need to fire a customer. Here are some reasons I have had for doing so: They would not pay me; they were threatening an employee; or they were unprofessional.

Whenever you have to fire a customer, you always want to consider how parting company might affect you. Will you ever encounter them again? How will they take being fired? Are they so vindictive that they may try to harm your reputation online or with other clients? When you have to fire a customer, do it after having thought it out carefully.

One of my favorite books about the positive side of keeping customers is Carl Sewell's *Customers for Life*. Every business owner should read it and make sure every sales and service employee they have reads it.

My girlfriend Linda understands that business is about customer relationships. She has been with State Farm Insurance for more than 20 years and has been a State Farm Agent in Fort Worth for 6 years. Two times a week, a current client comes to her office and tells her that they intend to move their business to another carrier because of price. She is never defensive, always kind, empathetic and professional.

Linda listens carefully and is often able to keep those customers because she treats them with kindness and courtesy. By listening and empathizing, Linda is often able to get a client to sit down with her to compare the coverages and learn about the differences that produce the savings. Many appreciate that kind of service and decide to stay.

When she does lose a customer, Linda always asks for the opportunity to quote when they are up for renewal and some come back to her because she demonstrates that her interest in clients goes far beyond a transaction. Rate is just one of many factors when people choose to do business with her. It's also about the quality of service they get.

Good service is rarer than it should be. I recently had a disagreement with a service company. The service rep responded to my complaint by telling me that no one else ever complained about their service. The implication was that I was being unreasonable.

Even if I were being unreasonable, what is the upside of responding to a complaint in a way that implies the fault is with the client? They told me that I was 100 percent wrong (there's always a second side to every story), and even said I was "spoiled." Even if I were, what did they gain by making the point, except my anger?

Then, they told me that I couldn't find anyone with their credentials and quality to do that job at the price I wanted. Ironically, they are a new business in a crowded niche. New or established, never be so pompous or naïve as to think you are the only one who can do the job. Then they wanted to discuss all that they did right on the job, rather than discussing the mistake or problem. Again, that isn't going to repair the relationship or keep the customer. Imagine your son telling you how he made almost all Bs as a defense when you confront him about a D on his report card.

I fired them very graciously. I promptly hired someone else to do the work. My new vendor is doing a better job for less money. Even though I liked the old vendor, they did not value the relationship with me or did not understand the basics of customer service, and acted on emotion when challenged. Worse still, they did not learn anything that might improve their service from losing my business.

I teach the client service employees at my companies to deal with customers by listening, empathizing, and acting to correct the issue. We spell out the steps that we will take to fix the issue and ensure that it does not happen again. We apologize and we fix it. We're about solutions that are win-win and strengthen the relationship with that customer.

Don't get caught up in thinking about one transaction. Keep your eye on the lifetime value of the customer whose issue you need to solve. What is all of his or her future business worth? What are the referrals that he or she could send you worth? Think lifetime value, not single transaction, and you will find it gets easier to keep customers for life.

## AUTOMOTIVE

# Auto recyclers save lives

Contributed by Katie Stark and Paul D'Adamo

pdadamo@coresupply.com

Congratulations to the auto recycling community in the U.S. and Canada. We have reached a milestone in the recovery of Defective Takata Airbags – the successful recovery and destruction of 500K airbags. We don't know how many of that amount could have resulted in death or serious injury. More importantly, it recognizes the efforts our industry has put forth to ensure the driving public that auto recyclers are aggressively identifying and removing these dangerous airbags from circulation.

As the primary contractor for automakers, Rebuilders Automotive Supply (RAS) takes its responsibilities very seriously. RAS has committed massive resources in people, facilities, technology, marketing, logistics, support and leadership to lead this project. Providing the tools and systems to allow recyclers to effectively and safely remove these airbags from inventory has been paramount. We have enhanced our original desktop software with a new mobile platform for the processing of physical airbags, as well as our recently introduced Mobile App (nicknamed the YAPP - Yard Airbag App), allowing Recyclers to capture bounty for "deployed" airbags without ever removing them from a vehicle.

A more significant number you might be interested in is 250K. That is the number of defective Takata airbags projected to be processed in 2019. That represents half of our total recovered

bags to date, which means our path to 1,000,000 airbags will be that much quicker.

We are grateful for the following partners that have led the way with integrations in their software that make identifying and recovering Takata airbags more efficient. Hollander, Buddy Innovations, and URG deserve praise for their willingness to invest precious dollars in development to provide data and tools to their customers; the Auto Recyclers. Car-Part and eBay have blocked the posting of airbags that fall into the general make, model, and year ranges on their on-line platforms providing protection for Recyclers.

What's next? ARA and other industry leaders are looking to the major industry yard management systems to step up to the next level of "recalls" by developing new technology for identifying and tracking recalled parts as part of their inventory process. Not all recalls will have a bounty attached to it, but Federal law provides stiff penalties for selling recalled auto parts and our yard management systems are our first line of defense.

For more information on how you can help us reach 1,000,000 recalled airbags or how to capture bounty for "deployed" airbags, call Paul the Recall Guy at 401-458-9080 or e-mail pdadamo@coresupply.com for more information.

## U.S. EPA assesses fines, seizes vehicles and engines at ports

The U.S. Environmental Protection Agency (EPA) and U.S. Customs and Border Protection (CBP) announced \$11,775 in EPA fines to companies that illegally imported more than 500 vehicles and engines from China, including fork lifts, bicycle engine kits, loose engines and chainsaws, most of which were seized, exported and prevented from being sold in the U.S.

These are the latest results of joint operations between EPA and U.S. Customs and Border Protection (CBP) at the ports of Los Angeles and Long Beach to identify foreign-made engines, ATVs, motorcycles, and construction equipment without proper emission controls.

"EPA is looking closely at the emission controls on foreign-made engines being imported through the Southern California ports," said Mike Stoker, EPA's Regional Administrator for the Pacific Southwest Region. "We will continue to work with CBP to ensure items coming into the U.S. meet all federal requirements to protect our air quality."

Under the joint program, seven companies were found to have imported

vehicles and engines without certification or proper emissions controls.

The companies include:

- Birstengel Investments, Inc.
- Lawrence Group (April 2019)
- Lawrence Group (May 2019)
- Chongwei He, dba Sonic Technology Co., Ltd.
- Dynasty Shipping Inc.
- Luck Yong
- Long Time Trading Co
- Yae First Trading

EPA has been conducting regular inspections with CBP at California ports of entry since 2014. With more than 40 percent of containerized goods coming into the U.S. through Los Angeles and Long Beach, the focus has been on engines, vehicles and pesticides. Mobile sources, such as on-road and off-road vehicles, are one the largest sources of air pollution in California and account for approximately 20 percent of PM2.5 (fine particulate matter up to 2.5 microns in diameter) and 83 percent of nitrogen oxide emissions. The seizures of these goods prevented the release of 600,000 lbs. of air pollutants.

**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.*



## ALTERNATIVE ENERGY

# ENGIE celebrates the Solomon Forks and East Fork wind projects in Kansas



Wind turbines provide the power to run electric generators.

PHOTO BY MARY DARLOW

Residents, business leaders and government officials joined ENGIE North America to mark the grand opening of the Solomon Forks Wind Project, as well as to celebrate the East Fork Wind Project scheduled to become operational in the spring of 2020. Both projects are located in Thomas County, Kansas and together represent \$650 million of investment. ENGIE is proud to serve T-Mobile US, Inc., Target Corp., Brown-Forman, and Allianz Global Corporate & Specialty through these projects.

With 105 wind turbines capable of producing 276 MW of clean energy, Solomon Forks is currently the largest wind farm in ENGIE North America's portfolio. Now in commercial operation, the project will generate significant benefits to the local area for years to come, with lease payments to landowners under land easements, local jobs to operate and maintain the facility, purchases of local goods and services, donations to Colby Unified School District No. 315, and a scholarship fund established by Solomon Forks with Colby Community College.

The East Fork wind project, meanwhile, also has substantial generation capacity at 196 MW from 72 turbines. Similar to Solomon Forks, the East Fork project is enabling new economic and educational opportunities to the local area, with lease payments to landowners under land easements, local job creation during construction and commercial operation, purchases of local goods and services, donations to local schools, a scholarship fund established by East Fork with Colby Community College, and annual PILOT (payments in lieu of taxes) payments to Thomas County.

Both the Solomon Forks and East Fork projects reinforce ENGIE's strategy to lead the zero-carbon transition for companies and local authorities. They contribute to ENGIE's rapid expansion in renewables, with an ambition to build approximately 9,000 MW of new renewable energy projects from 2019-2021 globally, including 2,500 MW of new renewable capacity in North America. The company has an additional 10,000 MW of wind and solar projects in its broader development pipeline in the U.S. and Canada.

# Republic Services expands natural gas powered fleet

Republic Services, Inc. has continued their expansion of its natural gas-powered fleet as it makes progress toward its greenhouse gas reduction goals. The company will operate an additional 156 compressed natural gas (CNG)-powered solid waste collection trucks serving customers throughout the country by the end of 2019, bringing the total number of vehicles running on alternative fuels to more than 3,100.

With one of the largest vocational fleets in the country, Republic's CNG fleet saves roughly 26 million gallons of diesel fuel annually. The new CNG-

powered trucks replace older, diesel-powered vehicles and help decrease air emissions and reduce unwanted noise. According to the U.S. Environmental Protection Agency, each new CNG truck deployed is equivalent to planting 600 mature trees each year.

In July, Republic unveiled ambitious, long term sustainability goals, which include a climate change target designed to reduce absolute Scope 1 and 2 greenhouse gas emissions by 35 percent by 2030. This emissions reduction target is approved by the Science Based Targets initiative (SBTi).



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## ELECTRONICS

# NYC Department of Sanitation expands curbside e-waste collection

The New York City Department of Sanitation is expanding curbside electronics collection to the Bronx and eastern Queens. Residents can make an appointment for curbside collection of unwanted electronics items covered under the New York State electronics disposal ban. This is an expansion of the Department's curbside electronics collection program, which is now available in all neighborhoods in the Bronx, Brooklyn, Queens, and Staten Island and is just one of many options available to city residents.

The latest communities to be added to the expansion include all community boards in the Bronx, and Queens Community Boards 7, 8, 10, 11, 12, 13 and 14. The curbside electronics collection program is available to residents of one to nine unit buildings within the designated boroughs.

Residents living in buildings with 10 or more units can enroll in e-cycleNYC, a free, in-building e-waste collection program for large buildings.

Not all items with a plug are considered covered e-waste. Covered items include:

- Televisions (including cathode ray tubes)
- Computer peripherals, including any permanently attached cable or wiring
- Monitors, laptops
- Electronic keyboards
- Electronic mice and other pointing devices
- Fax machines, document scanners, and printers that are meant for use with a computer and weigh less than 100 lbs.
- TV peripherals, including any attached cable or wiring

- VCRs
- Digital video recorders
- DVD players
- Digital converter boxes
- Cable or satellite receivers
- Electronic or video game consoles
- Small-scale servers
- Portable devices, including any attached cable or wiring
- Portable digital music players

Other mostly plastic and metal items such as fans, toasters or vacuums can be placed with regular recycling.

Before making an appointment for curbside collection, residents should consider selling or giving away unwanted, but working, electronic items.

For information about donation options, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

# Call2Recycle joins e-Stewards initiative

## National battery program reinforces commitment to quality recycling

Call2Recycle®, the country's first and largest consumer battery recycling program announced their renewed commitment to responsible hazardous waste disposal by joining the e-Stewards® Enterprise program. e-Stewards Enterprise partners commit to making best efforts to use e-Stewards Certified

Recyclers and Refurbishers, who operate to the highest industry standard for the management of end-of-life electronic assets and materials under their control.

The e-Stewards initiative defines and promotes ethical and responsible electronics reuse and recycling best

practices worldwide, including for batteries. e-Stewards Certified Recyclers abide by the trade rules set by the United Nations Basel Convention, which restricts the trade of hazardous waste between more developed countries and less developed countries. The program also requires the highest levels of environmental protection, safety, and health, as well as data security.

"This designation underscores our continued commitment to operating the highest quality battery collection and recycling program in the world," said Carl Smith, chief executive officer and president of Call2Recycle, Inc. "Environmental excellence remains the foundation of our organization and our program, and we are proud to be part of the elite stakeholders who meet the gold standard required by the e-Stewards Certification."

As the leading consumer battery stewardship program, Call2Recycle supports some of the most distinguished battery and electronics producers, retailers, and municipalities to assist in the safe, proper management of their batteries at the end of their lives. Through its partnerships and public education and awareness efforts, Call2Recycle has collected and recycled over 115 million pounds of consumer batteries over the past 25 years.

*A cop thought he had the perfect spot to watch for speeders, but wasn't seeing any.*

*He soon discovered the problem: A 10 year old boy was standing up the road with a hand painted sign which read, "SPEED TRAP AHEAD."*

*The officer then found an accomplice further down the road with a sign that said, "TIPS" and a bucket for cash.*

# Wisetek expands into the Middle East

Wisetek, a global leader in advanced IT asset disposal, data destruction, technology reuse and manufacturing services, announced a new, multi-year strategic alliance with Enviroserve – naming the Dubai, UAE based recycling company as its exclusive service partner for the Middle East Region.

This joint partnership operation is located at the new 280,000 sq. ft. electronic waste processing plant, The Recycling Hub, located in Dubai Industrial City in the UAE. The Recycling Hub is the world's largest integrated electronic and specialized waste recycling facility and is in its final stages of commissioning.

Wisetek's expansion into Dubai, which will be the company's primary hub for the Middle East and Africa region, is a new milestone in development of its international footprint.

Sean Sheehan, chief executive officer, Wisetek said, "We are delighted to partner with Enviroserve and to work with their new integrated recycling facility in Dubai and furthermore to collaborate with the company for the Middle East and Africa region. Through this exclusive partnership we are able to offer value recovery, secure data destruction and responsible recycling services of retired IT equipment across the entire region."

The Recycling Hub is a key piece of infrastructure in the Middle East and Africa's e-waste recycling industry and supports the UAE Vision 2021 and the Abu Dhabi Economic Vision 2030.

# Early adopters of new standards offered discounts

E-Stewards®, the ethical electronics recycling certification program, announced a one-time new Early Bird Special opportunity for recyclers not yet certified to e-Stewards to become certified to the latest e-Stewards Version 4.0. New recyclers must take advantage of this offer by November 20, 2019, and commit to having their first facility certified to Version 4.0 within six months of the Standard release date slated for February 25, 2020.

**Some of the early bird special benefits include:**

- 30 percent off first annual license
- Access to take part in V4.0 e-Stewards only special standard comment period (October 21 to November 20)

- Access to the EarthEye GPS Tracking Program at e-Stewards preferred rates

- Access to apply for an ADVANCE+ Program Scholarship

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2020*



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## PLASTICS

### Plastics recycling campaign sees over 300 percent growth

A program designed to expand market demand for recycled plastics has generated almost 26 million pounds of new demand for postconsumer resin (PCR), more than tripling the amount generated in the first year. The APR Recycling Demand Champions Campaign, created by the Association of Plastic Recyclers (APR) in 2017 to stimulate new markets for recycled plastics, announced the results at the APR annual meeting in Scottsdale, Arizona. APR also announced new participants who have committed to increase their use of postconsumer resin (PCR) in the upcoming year, as well as those who have recommitted.

“We are thrilled with the exponential growth with this campaign, especially during this time when the need for expanded demand for recycled plastics has reached a critical point,” commented Liz Bedard, director of the APR Olefins/Rigid Plastic Recycling Program. “The APR Recycling Demand Champions Campaign is all about ongoing and continued growth in demand, which is key to the success of plastics recycling. APR applauds the efforts of the companies and encourages others to commit.”

The group of companies who increased their use of PCR in the past year include Annie’s, Avangard Innovative, Berry Global, Champion Polymer Recycling, Clean Tech, Dart Container Corp., Denton Plastics, DOW Chemical, ECO Products, Envision Plastics, Fabri-Kal, Keurig Dr. Pepper, Nestle Waters, PAC Worldwide, PakTech, Procter & Gamble, QRS, Target, Unilever, and UPM Raflatac. Collectively, these companies increased their PCR purchasing by 25.9 million pounds.

The APR Recycling Demand Champions Campaign plays a prominent role in expanding the market for recycled plastics, driving investment, increasing supply, and producing more high quality postconsumer resin (PCR). Champion companies commit to purchase new volume PCR in 3 possible ways:

- Purchase “work in process” durable goods for use in manufacturing facilities.
- Develop a new application for PCR.
- Increase PCR usage in a current application.

### States remove barriers to advanced recycling facilities

Illinois and Ohio governors signed new legislation enabling greater adoption of advanced recycling and recovery. The American Chemistry Council’s Plastics Division welcomed the legislation and issued the following statement, which may be attributed to Craig Cookson, senior director of recycling and recovery:

“America’s plastic makers welcome the passage of HB 2491 in Illinois and HB166 in Ohio, the two most recent states to pave the way for greater adoption of advanced recycling and recovery technologies, known as chemical recycling. Expanding access to chemical recycling facilities could help these states keep post-use plastics out of landfills, turn them into new materials, attract new businesses, and support job creation.

“Illinois and Ohio are the seventh and eighth states to pass such legislation since 2017, and the fourth and fifth states to do so in 2019. They join Florida, Wisconsin, Georgia, Iowa, Tennessee and Texas in recognizing that post-use plastics are not waste but a valuable resource.

“These bills passed as demand for recycled plastics is growing. According

to a report released earlier this year by the Closed Loop Partners, if chemical recycling technology companies meet growing demand, they have potential revenue opportunities of \$120 billion in the U.S. and Canada.

“In Illinois, it’s estimated that converting the state’s post-use plastics into transportation fuel could power 440,000 cars each year. Experts also determined that converting just 25 percent of the state’s post-use plastics into manufacturing feedstocks and transportation fuels could support 16 advanced recycling and recovery facilities and generate \$310 million in economic output annually.

“In Ohio, it’s estimated that converting the state’s post-use plastics into transportation fuel could power 330,800 cars each year. Experts also determined that converting just 25 percent of the post-use plastics in Ohio and neighboring states (post-use, recoverable plastics sourced from a 100 mile radius from the state) into manufacturing feedstocks and transportation fuels could support 25 advanced recycling and recovery facilities and generate \$820 million in economic output annually.”

### SOCRRA expands foam recycling capabilities

The Southeastern Oakland County Resource Recovery Authority (SOCRRA), Michigan has received a \$50,000 grant from the Foam Recycling Coalition to add a foam densifier to its current materials recovery processing system.

Consisting of 12 municipalities serving a population of approximately 283,000, SOCRRA operates a material recovery facility, waste transfer station and recycling drop-off center that collects multiple materials, including foam polystyrene. SOCRRA is one of only three foam polystyrene drop-off locations in the greater Detroit area. Since accepting foam polystyrene, it has seen the amount of foam recycled increase by nearly 25 percent per year at the drop-off center.

The funding allows SOCRRA to purchase and install a high capacity foam densifier to better manage its drop-off foam collection. The densifier compacts collected materials, such as egg cartons and take-out containers, into condensed polystyrene bricks, which can then be recycled into new products.

SOCRRA will also add a bin on the material recovery facility’s pre-sort line to recover additional foam that would otherwise go to residue. “We are focused on recovering more material, including foam polystyrene packaging,”

said Jeff McKeen, general manager of SOCRRA. “A new densifier will reduce the amount of space required to store foam in our facility, creating more efficient and environmentally-friendly operations within our recycling process.”

Except for packing peanuts, SOCRRA accepts all clean and dry types of foam polystyrene. Currently foam is only accepted at the drop-off location, not in the curbside bin program. “Waste authorities like SOCRRA provide the processing and education we need to increase foam recycling across North America,” said Lynn Dyer, president of the Foodservice Packaging Institute, which houses the Foam Recycling Coalition. “We congratulate SOCRRA in creating more efficient recycling operations, which will result in valuable materials being diverted from landfills.”

The grant is made possible through contributions to the FRC, which focuses exclusively on increased recycling of post-consumer foam polystyrene. Its members include Americas Styrenics; Cascades Canada ULC; CKF Inc.; Chick-fil-A; Dart Container Corp.; Dyne-A-Pak; Genpak; Hawaii’s Finest Products; INEOS Styrolution America LLC; NOVA Chemicals Corp.; Pactiv Foodservice/Food Packaging; Republic Plastics; and TOTAL Petrochemicals & Refining USA.

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## PLASTICS

# Collaboration focuses on production of bio-based plastic from renewables

LyondellBasell, a plastics, chemicals and refining company, and Neste, a producer of renewable diesel from waste and residues, announced the first commercial scale parallel production of bio-based polypropylene and bio-based low-density polyethylene.

The joint project used Neste's renewable hydrocarbons derived from sustainable bio-based raw materials, such as waste and residue oils. The project successfully produced several thousand tons of bio-based plastics which are approved for the production of food packaging and being marketed under Circulen and Circulen Plus, the new family of LyondellBasell circular economy product brands.

"LyondellBasell has an innovative spirit that spans decades, and an achievement like this showcases concrete actions we are taking in support of a circular economy," said Richard Roudeix, LyondellBasell senior vice president of Olefins and Polyolefins for Europe, Asia and International.

This achievement is extraordinary in that it combined Neste's unique renewable feedstock and LyondellBasell's technical capabilities. LyondellBasell's cracker flexibility allowed it to introduce a new renewable feedstock at its Wesseling, Germany site, which was converted directly into bio-based polyethylene and bio-based polypropylene. An independent third party tested the polymer products using carbon tracers and confirmed they contained over 30 percent renewable content.

LyondellBasell sold some of the renewable products produced in the trial to multiple customers, one of which is Cofresco, a company of the Melitta Group and with brands like Toppits® and Albal®, Europe's leading supplier of branded products in the field of household film. Cofresco plans to use the Circulen Plus bio-based polyethylene to create sustainable food packaging materials.

# Carreras joins Commercial Plastics Recycling as VP

Commercial Plastics Recycling (CPR), Inc. based in Tampa Florida, announced the appointment of Steve Carreras to vice president of sales and production.

In this role, Carreras will be responsible for overall growth and development. He brings more than 33 years of recycling experience to CPR with an extensive background in the recycling industry. His experience,

serving previously in many management positions within the industry, including plant management, sales, QC management, along with business and marketing development give him a unique perspective which CPR is looking forward to fully utilizing.

His knowledge and experience will provide CPR with the goals set forth for growth moving forward.

*Monday: Eleven snoozes on the alarm clock and you lay there wondering how long \$38 left in your account will last if you quit.*

## BRIEFS

### KAR Auction Services rebrands as KAR Global

■ KAR Auction Services Inc. has rebranded and will begin doing business as "KAR Global." The move comes after several years of rapid geographic expansion across North America and Europe and the company's acquisition and development of new technology and data-driven products, services and capabilities. Headquartered in the heart of the Midwest's innovation and technology corridor, KAR Global has more than 200 operating locations in ten countries and customers in over 75 countries. KAR Global will continue to trade on the New York Stock Exchange under the ticker symbol "KAR."

Over the past several years, KAR Global has made a number of high-profile, strategic acquisitions that accelerated the company's digital transformation. These include STRATIM's digital fleet management platform, TradeRev's real-time digital auction marketplace and the data analytics engine at DRIVIN that powers KAR Global's pricing insights, vehicle recommendations and portfolio management solutions. Additionally, the 2019 acquisition of CarsOnTheWeb, recently rebranded ADESA Europe, gave KAR Global a strong foundation across the major European automotive markets and a platform to deploy the company's other capabilities, such as financing and logistics.

### Metal Exchange Corp. names new CEO

■ Metal Exchange Corporation (MEC) announced that Rick Merluzzi has been promoted to chief executive officer of MEC.

Mike Lefton, current MEC chairman and chief executive officer, will assume the title of executive chairman. Merluzzi oversees all Metal Exchange Corporation businesses, including Metal Exchange Trading, Pennex Aluminum Company, Continental Aluminum and Electro Cycle, Inc. Merluzzi joined Metal Exchange Corporation 15 years ago as president of MEC subsidiary Pennex Aluminum Company, and for the past five years has served as president and chief operating officer of MEC.

Metal Exchange Corporation is a private, family-owned company with global headquarters in St. Louis, Missouri.

### Bunting welcomes lean manufacturing coordinator

■ Bunting has hired Robert Clausung as the company's new lean manufacturing coordinator. Clausung will be responsible for focusing on utilizing a lean manufacturing mindset in order to reduce and eliminate waste.

He joins the Bunting team from TECT Power, Inc., where he served as general operations manager. Clausung has also worked for Carlson Products LLC as a supply chain manager and at The Coleman Company, Inc. as a global quality manager.

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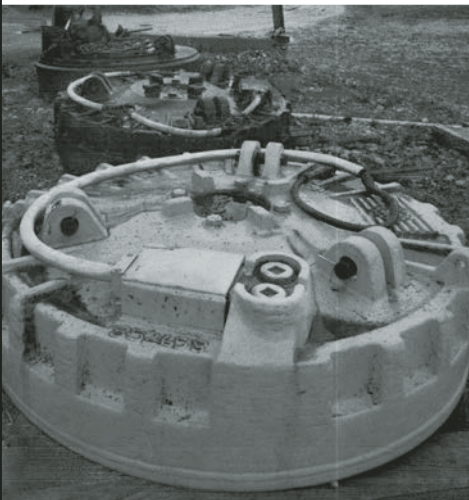
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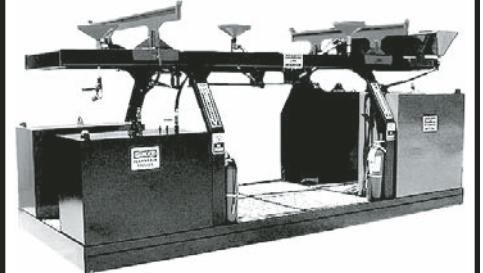
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## BUSINESS BRIEFS

### Neste to lead polymers business from Germany

■ Neste, a leading provider of renewable diesel and renewable aviation fuel and an expert in delivering drop-in renewable and circular polymers and chemicals solutions, opened a new office in Düsseldorf, Germany, to serve as the global hub for its renewable polymers and chemicals business unit. The business unit provides the plastics and chemicals industries globally with solutions derived from biomass and chemically recycled plastic waste, enabling sustainability-oriented companies to reduce their dependence on crude oil and reach their own sustainability targets.

The business unit and Neste's operations in Germany will be headed by Mercedes Alonso, who joined Neste on September 1, 2019, as executive vice president and a member of Neste executive committee.

By concentrating commercial operations of its renewable polymers and chemicals business into one location, Neste strives to further accelerate business growth and support its strategic aim of becoming the preferred partner as a provider of sustainable renewable and circular solutions to forerunner brands.

Germany marks the 14th country of operation for Neste. While planning to employ new talent both locally and internationally, Neste's office in Düsseldorf already hosts an international multidisciplinary team responsible for the commercial development of Neste's renewable polymers and chemicals business.

### TimkenSteel names Terry Dunlap interim CEO

■ TimkenSteel, a leader in customized alloy steel products and services, has named Terry Dunlap as interim chief executive, replacing Tim Timken, who is stepping down as chief executive officer and president. John Reilly, who is currently lead director of the board, will assume the role of chairman, with immediate effect.

Dunlap has been a director of TimkenSteel since August 2015 and has served on the audit committee and compensation committee of the board of directors. He spent 31 years with Allegheny Technologies Inc., a leader in specialty metals, serving in various positions, most recently as executive vice president of ATI's flat-rolled products group. He has experience in areas critical to improving TimkenSteel's business, including sales, marketing, manufacturing and operations, supply chain, procurement and information technology. Dunlap also serves on the boards of Matthews International and Ampco-Pittsburgh.

Reilly is a founding member of TimkenSteel's board of directors since the company's spinoff in 2014, and also serves on the nominating and corporate governance committee and audit committee of the board of directors. Reilly has served as chief executive officer of several companies and has served on the board of numerous public companies.

### NWRA promotes three to top leadership posts

■ Darrell Smith, president and chief executive officer of the National Waste & Recycling Association (NWRA), has announced the promotion of three individuals to chiefs within the organization. Anne Germain has been promoted to chief operating officer, Jim Riley has been promoted to chief counsel and Kirk Sander has been promoted to chief of staff.

Germain will serve as chief operating officer & senior vice president, regulatory affairs. Germain arrived at NWRA in 2013 and is currently serving as the vice president of technical & regulatory affairs. She will be given additional responsibilities in operations and financial administration.

Riley assumes the position of chief counsel & senior vice president, government affairs. Riley has been vice president, federal affairs & deputy general counsel for NWRA since January 2018. In his new role, he will be the top in-house attorney for the association and oversee both federal and state government affairs.

Sander has been elevated to the role of chief of staff & vice president, safety and standards. Sander served from August of 2018 to present as the vice president of safety and standards. As chief of staff he will work closely with chief executive officer Darrell Smith to improve efficiency and expand the reach and engagement of the Association.

Germain is a board-certified environmental engineer and a Delaware registered professional engineer. She graduated from Virginia Tech with a bachelor's degree in civil engineering and obtained her master's from University of Delaware. Germain is a veteran of the waste and recycling industry with nearly 30 years' experience. She came to NWRA after 19 years with the Delaware Solid Waste Authority.

In addition to being a registered lobbyist, Riley is an attorney admitted to practice law in the District of Columbia, New York, and Massachusetts as well as before the United States Supreme Court. He is a graduate of the College of the Holy Cross in Worcester, Massachusetts and received his law degree from the Catholic University of America's Columbus School of Law in Washington, DC. Riley came to NWRA from the National Sand, Stone, & Gravel Association where he spent 16 years in their government affairs division.

Sander previously served as chief of staff for OSHA and has worked in the White House, the Department of Interior, Bureau of Safety & Environmental Enforcement, and NASA. He possesses a bachelor's degree in environmental geoscience from Slippery Rock University, and a masters' degree in environmental science and policy from the University of South Florida.

*Me: I'm not saying a word without my lawyer present.*

*Cop: You ARE the lawyer.*

*Lawyer: So where's my present?*

### United States Steel makes management changes

■ United States Steel Corporation announced that Kevin Bradley has informed the company of his intention to resign from his position as chief financial officer of U. S. Steel effective November 4. Bradley will remain with the company as executive vice president and adviser to the chief executive officer through year-end to focus on financing activities, including the Big River Steel investment announced on October 1, and supporting the transition to his internal successor, Christine Breves, currently senior vice president, manufacturing support and chief supply chain officer.

Breves will lead all aspects of the company's financial responsibilities, including internal and external reporting, credit, tax, treasury services, investor relations, pension responsibilities, internal controls and internal audit administrative oversight.

Breves joined U. S. Steel in 2013 to oversee the enhancement and execution of the company's global procurement and sourcing strategy. Since then, Breves has assumed responsibility for the company's logistics services organization; Transtar, U. S. Steel's short-line railroad subsidiary; sales and operations planning; information technology; commercial support; engineering; corporate quality and leadership of U. S. Steel's asset revitalization and reliability centered maintenance programs. Prior to joining U. S. Steel, Breves spent 14 years at Alcoa, culminating with her role as chief procurement officer from 2004 through 2012. In this role, Breves led a global transformation of Alcoa's procurement organization. Prior to Alcoa, Breves held positions in accounting, maintenance, and procurement at Alumax, Inc., an integrated aluminum manufacturer that was acquired by Alcoa in 1998.

### RTS names president and chief technology officer

■ Recycle Track Systems (RTS) announced the appointment of Allyn L. Shaw as its new president and chief technology officer.

In this newly created role, Shaw will oversee the expansion of RTS' cutting edge technology platform as the company continues to grow, and focus on enabling end-to-end technology and operations, including software, data management, mobility, and communication technologies to support scalability and innovation.

Shaw previously served as chief operating officer of Global Information Security at Bank of America (BOA) delivering end-to-end technology and operating services across the company supporting 66 million customers worldwide. At BOA, Shaw led the integration of sophisticated technology initiatives and brought to life transformative solutions for brands and businesses.

Most recently, Shaw was recognized by Diversity MBA as one of the world's top 100 business leaders under 50.

### Sharps Compliance adds Susan Vogt to board

■ Sharps Compliance Corp., a full-service national provider of comprehensive waste management solutions including medical, pharmaceutical and hazardous, has appointed Susan Vogt to its board of directors. Vogt replaces F. Gardner Parker who has resigned his board membership.

Vogt has over 35 years of experience in the global life science, pharmaceutical, biotech and clinical diagnostics markets in corporate leadership roles as well as serving on the board of directors for several public and private companies in the industry.

She currently serves as an independent director and member of the audit committee for Anika Therapeutics and previously served as a non-executive director and chair of the audit committee for UK-based Tap Biosystems and as a non-executive director and member of the remuneration and nomination committees for Andor Technology, PLC (LSE: AND). Additionally, she has served as an independent director and member of the audit committee for Justrite Manufacturing.

Vogt's corporate leadership experience includes serving as chief executive officer and director of Aushon Biosystems, Inc., a biosciences company which was acquired by Quanterix Corporation in January 2018. Prior to that, Vogt served as president, chief executive officer and director of Seracare Life Sciences, Inc. Vogt began her career at Millipore Corporation, a multinational bioscience company.

During Vogt's 24 years at Millipore, she held positions of increasing responsibility, culminating in the role of president of the Bio Pharmaceutical Division, a \$520 million division with more than 1,600 employees across 23 countries, serving customers in the biotech, pharmaceutical and beverage manufacturing industries.

### ALT Sales named Elite Dealer by National Crane

■ ALT Sales Corp., a member of the ALL Family of Companies, has earned Elite Dealer status from National Crane by Manitowoc. It's a prestigious designation, one that has been earned by just two dozen other dealers throughout all of North America.

The honored status recognizes the hard work of ALT Sales Corp. and its entire staff, who prepared for over three years to create practices and efficiencies that demonstrably benefit customers through increased machine uptime.

Criteria for Elite Dealer status are rigorous. Guidelines include having a greater number of parts in stock and ready to go so customers always have access to what they need, intense training on National machines for technicians so service remains responsive and top-notch, and a commitment to being current on equipment and computer updates recommended by National.



## BUSINESS BRIEFS

### Yanmar completes acquisition of ASV Holdings

■ Yanmar Group has completed its acquisition of compact equipment manufacturer ASV Holdings Inc. (ASV), a manufacturer of compact tracked loaders and skid-steer loaders.

Yanmar has acquired 100 percent of ASV's outstanding shares of common stock for total consideration of \$70.70 million, or \$7.05 per share.

ASV's independent dealer network throughout North America, Australia, and New Zealand will join Yanmar's existing global construction equipment operations. The company also sells OEM equipment and aftermarket parts, and owns and operates a 238,000 sq.ft. production facility in Minnesota.

The acquisition strengthens Yanmar's range of compact equipment products allowing it to offer full dig, load, and carry solutions in the work-site and contributes to Yanmar's prospects for growth in North America and globally.

### AISI welcomes James Herald to the board

■ The American Iron and Steel Institute's (AISI) board of directors welcomed EVRAZ North America president and chief executive officer, James Herald, as a director.

Herald has over 35 years of experience in the oil and gas and energy industries, both in service and manufacturing sectors. Prior to joining EVRAZ, he served as chief executive officer of Azip Energy Services.

### Astec Industries appoints Barry Ruffalo as new CEO

■ Astec Industries, Inc. has appointed Barry Ruffalo as its president and chief executive officer.

Ruffalo has also been elected to the board of directors. Ruffalo will join the board of directors as a Class I director and will stand for re-election at the company's 2020 annual meeting. On the effective date of Ruffalo's appointment, Richard Dorris, interim chief executive officer, will resume his role as chief operating officer.

Prior to his appointment, Ruffalo was employed by Valmont Industries, a publicly traded diversified global producer of highly engineered fabricated metal products, where he served in group president roles since 2016, having previously served as its executive vice president, operational excellence beginning in 2015. Prior to his work with Valmont Industries, Ruffalo was employed by Lindsay Corporation.

### C&M Conveyor, Ohio Blow Pipe change personnel

■ Brett Jaffe, chief executive officer of C&M Conveyor and Ohio Blow Pipe, has named two new company managers.

Kevin Wykoff, vice president of operations, will oversee the installation and service groups for C&M Conveyor and Ohio Blow Pipe. Dave Gilkes, vice president of engineering, will oversee the engineering groups for C&M Conveyor and Ohio Blow Pipe.

### Total Reclaim names Bobby Farris CEO

■ Total Reclaim, a recycler of regulated waste materials, announced the appointment of Bobby Farris as chief executive officer.

Farris most recently served as a general manager for TerraCycle, a company with a mission to eliminate waste by recycling "hard-to-recycle" materials. Farris led its division that collects and recycles regulated waste materials such as lighting, batteries and electronics.

Farris brings more than 20 years of executive level experience in the appliance, lightbulb and electronics recycling industry to his role at Total Reclaim, and will utilize his strong background in sales and operations management to continue the company's growth in the industry.

Prior to TerraCycle, Farris served as vice president of business development for JACO Environmental, the country's largest appliance recycling company.

For nine years, Farris also served as director of Electronics Recycling Services at Waste Management Inc., the country's largest waste hauler, where he oversaw development and implementation of the company's environmental management standards into all electronics recycling operations, and spearheaded the organization's expansion of electronics recycling services into nationwide product stewardship markets.

### Cleveland Vibrator expands and relocates

■ Cleveland Vibrator Company has initiated the process of relocating the company's headquarters and manufacturing operations from Cleveland's near west side to a larger facility on the city's south side, according to Craig Macklin, chief executive officer.

Cleveland Vibrator, in business since 1923 and at its current location since 1953, is moving into a space previously occupied by Watt Printing Company at 4544 Hinckley Industrial Parkway. The new facility has a 54,000 sq.ft. capacity with a 6,000 sq.ft. mezzanine. The company plans to occupy 37,000 sq.ft. and lease out the remaining space.

The company offers industrial vibration solutions for a host of industries, including mining, foundry, aggregate, recycling and more.

According to Macklin, the company will be investing in the new space and foresees the need to add employees once the move is complete. Plans are to improve truck dock space, rework electric power distribution, install overhead cranes, paint booths and weld fume exhaust system, add new machining equipment and renovate the office and production areas.

The company has received grant funding approval from the State of Ohio through JobsOhio and the Ohio Air Quality Development Authority. The City of Cleveland has also committed assistance to the project through the Vacant Property Initiative.

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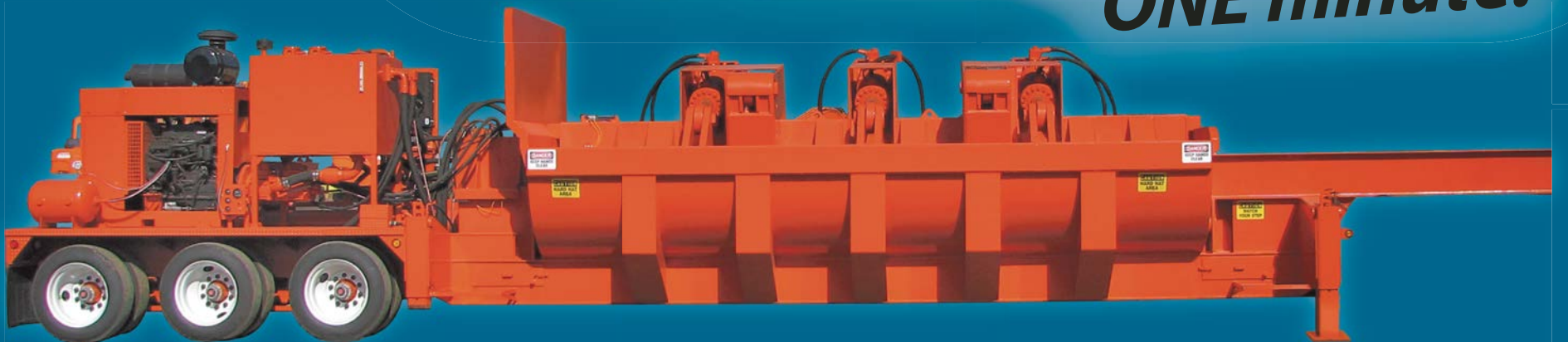


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## Alliance created to keep waste workers safe

The Solid Waste Association of North America (SWANA), the National Waste and Recycling Association (NWRA), and the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) have signed an Alliance agreement to provide SWANA members, NWRA members and the public with information, guidance, and access to resources to help protect the health and safety of workers in the solid waste industry.

OSHA deputy assistant secretary Loren Sweatt, SWANA chief executive officer and executive director David Biderman, and NWRA president and chief executive officer Darrell Smith signed the two year agreement at the U.S. Department of Labor's Frances Perkins Building. They were joined by SWANA chapter safety ambassadors, county and municipal safety directors, and other representatives from the waste and recycling industry and OSHA to recognize this important partnership.

"SWANA will work closely with NWRA and OSHA to provide timely and useful safety information and resources to the entire industry," said Biderman. "It doesn't matter whether a solid waste employee is in the public or private sector; our goal is to protect all solid waste workers. Our network of 42 state chapters in the U.S. provides a nationwide platform for distributing safety information developed under this Alliance."

The Alliance agreement commits the associations and OSHA to collaborate in safety training and education efforts with a focus on backovers and distracted driving; slips, trips, and falls; needlestick injuries; heat and cold stress; and musculoskeletal injuries. It also

See SAFETY, Page B2

# Zero waste trend expands through recycling and reuse

by MAURA KELLER

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The current hot topic facing consumer marketing aficionados as well as recycling industry sectors is the concept of "zero waste." Manufacturers and brand enthusiasts are attempting to gain the attention of environmentally conscious consumers by touting companies' zero waste initiatives, while municipalities and other government entities are also embracing this newest trend. But is zero waste achievable and what does it mean for the recycling industry?

According to the Zero Waste Alliance, zero waste is the goal of diverting at least 90 percent of waste from landfills and incinerators. From San Francisco Airport to Proctor and Gamble to Subaru, entities across the globe are embracing zero waste like never before.

Matthew Hollis, co-founder and president of Elytus, an innovative waste management company that uses technology to help clients receive better waste removal services and become more sustainable in the process, said that zero waste is a largely misunderstood concept.

"It's not that the facility isn't generating any type of waste it's just that all waste generated is either reused, repurposed or recycled so that nothing is sent to a landfill," Hollis said. "With the concept of a circular economy, the byproduct of one



With landfill space being at a premium, the need for a reduction in waste generation is at an all-time high. Endeavoring for zero waste goals will maximize the possibility of slowing the devouring of available landfill yardage.

organization can be the resource for another thus eliminating the need for a disposal facility of any type."

According to Lizbeth Vega, founder of Ecoefficient Strategies and a TRUE (Total Resource Use and Efficiency) zero waste advisor, zero waste means waste diversion from the landfill in a way to reuse, recycle and compost it.

"In today's society, it means changing behaviors and being consciously aware of the impact of our daily decisions for the environment. It is a mindset, a way of living rather than being just a trend or a project for companies," Vega said. "We need everyone to be involved

and really start making those strategic decisions."

Ecoefficient Strategies is a consulting business helping companies have an environmentally friendly mindset throughout the organization by simplifying processes, reducing or eliminating waste to landfill and increasing profitability.

From a company perspective, Vega said zero waste is a huge challenge for different reasons. For example, there are many gaps to fill in the whole value chain in order to be sustainable with cost effective packaging solutions, logistics and consumption trends. Also, companies must be profitable to survive and grow.

So is zero waste truly 'zero'? Michael Hess, founder, president and chief executive officer, Waste Harmonics, said achieving zero waste is difficult to do right now, but strategizing and taking small steps can help minimize waste to get as close to zero as possible.

"There are some manufacturers in the marketplace that have been able to achieve a zero waste profile but they have such great control over their supply chain that they can actually begin to dictate what does come in, how it's packaged, etc.," Hess said. "On the flip side, take some of the single stream recycling that's being done

See CLOSED-LOOP, Page B6

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# Fuel efficiency tips: Get the very most out of each gallon of fuel

Fuel is one of the greatest operating costs for any contractor who owns heavy equipment and/or trucks. Working in a way that can save fuel can end up saving a lot of money.

"To reduce fuel use, you have to know how and when fuel is being wasted," said William Bernhard, technical and safety services manager for the Association of Equipment Manufacturers (AEM).

Start by examining top fuel usage influencers in off-highway applications. "Machines equipped with telematics can provide actionable data by tracking dozens of data points so that workers can gain valuable insights to help save fuel," said Bernhard.

## Idle Time – A Key Factor

Idle time is often the largest contributor to fuel inefficiency and a good start to manage fuel consumption.

To decrease idle times, operators can take advantage of fuel-saving technology, such as auto-idle. Also popular is auto-shutdown where a machine can idle for a preset period of time.

Examine the patterns in your machine's idle times. If a machine idles for short periods of time (a few seconds to a few minutes) frequently throughout the day, that may mean the machine is at a bottleneck in the workflow.

An example is an operator having to wait for another operator to complete a task before continuing work. In this case, either machine selection, material location or some other jobsite factor needs to change to reduce idle time.

However, if a machine idles for several minutes at a time or more, infrequently throughout the day, that probably means the operator is not shutting down the machine when on break or on the phone, when exiting the

machine, or when having their work interrupted for a longer period of time.

In these cases, a discussion is needed with the operator regarding company expectations, to take the necessary steps to decrease idle time.

## Equipment Operation

How an operator uses a machine can influence fuel efficiency. Small changes in behavior can have large effects on fuel use.

One easy way that operators can save fuel is by using the appropriate work mode, which makes it easier for operators to match the power needed to the application at hand.

In order to set up a jobsite to optimize fuel use, a company needs to examine data related to jobsite workflow, including equipment capacities, the number of each machine on site, equipment and material locations, terrain and more.

Maintenance is also an issue, for example, checking fuel filters on the machines, from your suppliers, the storage tanks at your jobsites and your base fuel storage facilities, according to Bernhard.

"By tracking how much fuel is used in applications, the amount and type of idle time, and analyzing other machine data, you can get a good picture of when fuel is wasted," he adds.

"Combine this with fully understanding and using the fuel-saving features of your machines, and you will be able to get the most out of each gallon."

For aditional information and direct links, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

# SWANA studies increase of fires at WTE facilities

An important new report issued by the Solid Waste Association of North America's (SWANA) Applied Research Foundation (ARF) addresses the issue of preventing and controlling fires that originate in the wastes received and stored at waste-to-energy (WTE) facilities in the U.S. and Canada.

The problem, although not new, is receiving heightened attention due to the increased disposal of products such as lithium ion (Li-ion) batteries.

"As with all solid waste management facilities, the issue of fire prevention and control at WTE facilities is growing in importance, in part, due to the increased processing and disposal of Li-ion batteries and similar products" says Jeremy O'Brien, P.E., director of the SWANA Applied Research Foundation.

The report, "Fire Prevention and Control at WTE Facilities," examines two case studies of large-scale fires at WTE facilities two months apart. These fires occurred in late 2016 and early 2017 in the Washington, DC metropolitan area. The purpose of documenting these incidents is to identify capital and operational improvements that were made as a result of the fires.

"The purpose of this report is to help WTE facility managers identify and implement effective response procedures that will minimize the impacts of spontaneous fires that originate in wastes offloaded at WTE facilities for processing," said O'Brien.

WTE facility managers are encouraged to consider the steps taken at the two case study facilities to remedy the issues that may have contributed to the severity and impact of the fires. Of particular importance is the recommendation to clear the tipping floor at the end of each day, to create areas of separation between the wastes on the tipping floor and the refuse pit, and to churn the waste in the refuse pit on a regular basis.

The report also includes a review of the guidelines that have recently been developed in the United Kingdom to guide the development of fire prevention plans for new WTE facilities and to identify how these guidelines can be used to improve fire protection strategies currently in place for WTE facilities in North America.

SWANA urges WTE facility managers to minimize future fire risks and impacts at their facilities by following the recommendations presented in this report.

The full report, "Fire Prevention and Control at WTE Facilities" is currently only available to SWANA ARF subscribers. SWANA members receive free access to ARF industry reports one year after publication.

## Safety

Continued from Page B1

provides the opportunity to include OSHA National, Regional and Area Offices in events such as Wastecon® and SWANApalooza.

This Alliance adds an important new component to SWANA's award winning safety program, which includes SWANA's Chapter Safety Ambassadors, Hauler Safety Outreach, Slow Down to Get Around and Safety Summits. The 7th Annual Safety Summit will occur this year at Wastecon in Phoenix, Arizona, October 21 to 24, and will feature Biderman discussing the new partnership along with SWANA's other safety efforts.

## Obituary Fear

*My other big obituary fear is, when I die, theyll have my picture, and they always have underneath it, in quotes, He loved to laugh. Oh, he loved to laugh. Well, that doesnt tell you anything. Everybody loves to laugh -- youre laughing! Thats like saying, He hungered for food.*

—Patton Oswalt

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According to the U.S. Tire Manufacturers Association (USTMA), in 1990 only 11 percent of annually generated scrap tires were consumed in beneficial end use markets. The rest went into stockpiles. But by 2017, approximately 81.4 percent of scrap tires generated in the U.S. were consumed and recycled in such ways as tire derived fuel, ground rubber and civil engineering applications...

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**Buyers Favor Online Auto Parts Marketplaces**  
As e-commerce trends continue to grow, traditional automotive retailers with brick and mortar entities are taking notice. Automotive recycling companies agree that the online marketplace has had a huge impact on the automotive recycling parts industry.

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Frank Kiloran, director of circular solutions at Rubicon Global said the temporary plastics ban from China has two impacts from Rubicon's point of view...

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## Multi-million dollar waste processing system opens

Penobscot Energy Recovery Co., (PERC), located in Orrington, Maine, unveiled its new multimillion dollar waste processing system.

PERC, located on a 42 acre site in Maine, was completed in 1988 to serve the MSW needs of Maine communities.

The new waste processing system will replace older equipment, use less energy and recover more metals for recycling.

This change – which has effectively transformed PERC from a refuse-derived fuel incinerator to a mass-burn incinerator – has also expanded the portion of delivered waste that PERC can convert to marketable electricity from about 77 percent to 99 percent.

“This new system represents an important evolutionary change in the way we process waste,” plant manager Henry Lang said in a press release. “It allows us to utilize nearly 100 percent of the waste we receive from municipalities and commercial waste haulers, recycling it into steam and electricity and reducing even further the amount that ends up in the landfill.”

The improvements are centered around a new conveyor line that screens and delivers processed waste to the plant’s boilers. It replaces two older lines that date back to the plant’s original construction and were very expensive to maintain.

The new process line works in combination with PERC’s recent acquisition of slow-speed grinders, known as Terminators. The machines help create a more uniform fuel size, which makes combustion more efficient. If some of the waste is not properly sized, the new line easily sends it back to the Terminator for a second pass, enabling higher utilization of waste.

The Terminators also allow PERC to process oversized bulky waste, such as carpet, tires, wood waste and other materials that other waste facilities won’t take and that previously went directly to landfill. Unlike the plant’s original stationary grinders, the Terminators are mobile, and can be moved to allow easy maintenance and accommodate flexible processing modes.

A ribbon cutting ceremony was attended by PERC’s owners, which included several of the more than 40 communities the plant serves, local and state officials and area business people.

## MassDEP releases draft Solid Waste Master Plan

Plan will increase diversion of food material and textiles, aid municipal and commercial recycling, enhance enforcement of waste disposal bans

The Massachusetts Department of Environmental Protection (MassDEP) issued the Draft 2020-2030 Solid Waste Master Plan. The proposal seeks to increase diversion of food material, textiles and bulky waste items, provide financial and technical assistance for municipal waste and recycling programs, and enhance compliance and enforcement of waste disposal bans. A public comment period on the draft runs through December 6, 2019, and includes five public hearings across the Commonwealth.

“The Draft Solid Waste Master Plan proposes aggressive goals for reducing our waste in the next decade and beyond,” said MassDEP commissioner Martin Suuberg. “The draft plan outlines a mix of regulatory, financial and technical assistance to move towards these goals, improve the Commonwealth’s waste management system, and provide important environmental and economic benefits for Massachusetts.”

The Solid Waste Master Plan establishes the Commonwealth’s policy framework for reducing and managing solid waste that is generated, reused, recycled or disposed of by Massachusetts residents and businesses. The Draft 2020-2030 Plan proposes a broad vision for and strategies on how the Commonwealth will seek to manage its waste over the next decade and beyond.

From 2008 to 2018, Massachusetts’ per capita disposal dropped by 18 percent. The new plan proposes to build on this progress and further reduce the current annual total of 5.7 million tons of solid waste disposal by 1.7 million tons or 30 percent by 2030. The plan also proposes an aggressive longer-term goal to reduce trash disposal by 90 percent by 2050.

Initiatives included in the draft plan will:

- Increase requirements on the diversion of commercial food material from disposal;

- Improve the performance of recycling facilities handling construction and demolition materials;

- Provide financial and technical assistance to enhance municipal solid waste and recycling programs;

- Target the reuse and recycling of textiles, mattresses and other bulky waste items;

- Enhance compliance and enforcement of existing waste disposal bans and pursue additional bans on target materials; and

- Advance adoption of extended producer-responsibility systems for select materials.

The draft plan takes a balanced approach to meeting Massachusetts’ capacity needs for waste materials. This approach includes fostering opportunities to reduce waste up-front through source reduction and reuse, growing in-state capacity and markets to manage recyclables and food materials, and maintaining the moratorium on additional municipal waste combustion.

Comments on the draft plan can be submitted via e-mail to [dep.swmp@mass.gov](mailto:dep.swmp@mass.gov) or via the mail to: John Fischer, Massachusetts Department of Environmental Protection, 1 Winter Street, Boston, MA 02108.

For copies of the draft plan, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

## J.F. Lehman & Company acquires Lone Star Disposal

J.F. Lehman & Company (JFLCO), a middle-market private equity firm focused on the aerospace, defense, maritime, government and environmental sectors, has acquired Lone Star Disposal, L.P., Delta Waste Services, L.P. and Tanner Road Facility, L.P.

Lone Star is a leading vertically-integrated provider of construction and demolition (C&D) and municipal solid waste (MSW) disposal and related environmental services in Houston, Texas. The company’s comprehensive service platform utilizes an asset base consisting of a C&D landfill, an MSW transfer station, a C&D recycling facility and a C&D collection fleet.

“Lone Star represents an excellent addition to our portfolio of companies in the environmental services sector,” said Glenn Shor, a partner with JFLCO. “Lone Star’s industry-leading reputation, vertically integrated service offering and strategically located asset base reflect core characteristics we seek in our investment portfolio. We are eager to continue Lone Star’s history of excellence and look forward to supporting the continued growth of the business through organic development and complimentary bolt-on acquisitions.”

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# EQUIPMENT SPOTLIGHT

## Waste-to-Fuel

by **MARY M. THORNTON**

maryt@americanrecycler.com

There is an ever increasing need to invent processes which result in fuel alternatives via the use of waste.

CM Shredders, a leading manufacturer of industrial shredders and recycling systems, recently introduced a new line of single shaft shredders for use in waste-to-fuel applications and a wide range of other uses as well. "The new CM SOLO series single shaft shredders line features CM's world renowned shredding technology along with replaceable sizing screens and a 'Smart-Ram' system that automatically adjusts ram pressure for maximum efficiency. The machines are ruggedly built and engineered for performance, durability and lowest cost of operation in the industry," said Mario Vazquez, sales and marketing director. The CM SOLO Series machines are designed for less power usage, minimal dust, and reduced manpower requirements. Five models are available, with the choice of 12", 15" or 20" rotor diameter and power-train options from 30 to 125 hp. They also feature four-way reversible tool steel cutting teeth to handle small applications as well as large scale size reduction operations.

CM Shredders recently opened a new 4,000 sq.ft. R&D test lab and demo facility at CM's headquarters in Florida, featuring an array of both single shaft and dual shaft shredding sys-

tems. "Our new CM test lab will provide new products and processes to help our customers with a proactive approach when facing the challenges of today's production environments, whether through test shredding, applications, developing turn-key systems, training support or R&D work. We work closely and proactively with key suppliers and other industry experts to find high performance solutions that help our customers to improve and optimize their current operations," explained Vazquez.

The new CM SOLO series single shaft shredders line is the first new product developed jointly with CM's new sister company, Schutte Hammermill, a New York-based manufacturer that has developed an extensive line of size reduction equipment that includes hammer mills, lump breakers, crushers and shredders.

According to Tim Hanna, vice president of business development, Ewaled Vacuum Evaporators and Crystallization are a clean separation technology that has been recognized as a Best Available Technique in waste-to-energy programs, the recy-



Prab Inc.

cling of e-waste and batteries, auto salvage storm water leachate, and more.

Prab Vacuum Evaporators are fully automatic, standardized, modular units that are low in energy consumption and have a low CO2 footprint. Capacities range from 1 to 200 tons per day (43-53,000 gpd) of distillate from wastewater treatment. These highly reliable evaporators are effective in reducing wastewater volume and producing a high quality, reusable distillate (ZLD). They are an effective solution for concentrating and removing salts, heavy metals and a variety of hazardous components. Prab Ultrafiltration Systems are designed to separate organics, emulsified oils and suspended solids from wastewater, incoming water, and process water without the use of chemical additives. PRAB wastewater treatment technologies help companies meet zero manifesting goals and comply with federal Resource Conservation and Recovery Act requirements, as well as state and local discharge regulations.

Systems are fully automated, and modular units are low in energy consumption. Other water and wastewater treatment equipment is available for a wide range of industries and applications. Application examples using these systems include: per EPA compliance, reducing wastewater materials from auto salvage storm water; converting dangerous automotive and lead waste in automotive batteries into useful products for society; production of synthesis gas, made from solid bio-

See WASTE-TO-FUEL, Page B5



CM Shredders

### MANUFACTURERS

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### Pre-Shredding with WEIMA

WEIMA's single-shaft shredders are robust enough to process a wide variety of input materials while resisting foreign objects commonly found in waste streams.

weima.com





## BioHiTech installs digesters

BioHiTech has completed several unit installations and expects to deliver a total of 12 digesters to the 4 universities that have a combined enrollment of more than 100,000 students. Upon full deployment, the 12 digesters will be capable of diverting more than 2 million pounds of food waste from landfills each year. In addition, the Revolution Series Digesters will also provide real-time data analytics to assist each university in determining ways to reduce overall food waste generation.

“Universities and colleges represent an important market vertical for BioHiTech and we are excited to

expand our customer base in this area,” said Frank E. Celli, chief executive officer of BioHiTech Global. “With college dining halls and restaurants generating tens of millions of pounds of food waste each year, our digesters offer a cost-effective solution to dispose of this waste in a sustainable manner that avoids landfills and reduces CO2 emissions associated with waste transportation. In addition, our real-time data analytics platform can help these institutions achieve a reduction in food waste generation which is ultimately better for our planet as well as their bottom line.”

## Waste-to-Fuel

Continued from Page B4



Weima America

mass and carbonic feedstock such as wood chips; landfill leachate recovery which is then used as biogas energy; metal chip and fluid separators that can convert materials into briquettes that can be used as fuel, and are easy to remelt, transport, and store.

Prab has a portfolio of over 39 customizable equipment offerings across 4 divisions, all unified under the Prab brand-offering metal chip processing equipment, fluid filtration equipment, conveyors, industrial water and wastewater treatment equipment, parts, services, and solutions to meet the unique needs of a variety of customer industries around the world. Prab works with its customers to optimize operational performance by improving the management of their waste streams, helping to increase customer profit margin and in meeting or exceeding compliance to strict environmental rules and regulations.

RDF, or refuse derived fuel is created from post-industrial waste, post-consumer or household waste as well as from materials such as carpet (fibers), wood and paper. “Weima’s Precut machine is perfect for applications like these, which require pre-shredding. In waste-to-energy settings, the infeed material is typically mixed waste. In order to properly sort and process these materials down the production line, it’s important to sort out those pieces that can’t be properly reduced into RDF. Several pieces of equipment including

a cross-belt magnet and eddy current on the discharge portion of the pre-shredder can help prevent foreign bodies from damaging the machinery further down the line,” Dale Walker, technical sales engineer explained.

Weima was founded with the goal of diverting manufacturing and consumer waste from landfills. Because the company is involved so many industries and shreds so many types of scrap, the single-shaft shredders are available in a range of sizes and configurations to accommodate these industries. “Our experience in these industries continues to strengthen our ability to process all kinds of waste. With the Weima Precut, those materials can be shredded simultaneously because the rotor is robust and can withstand most foreign bodies that accidentally make it into the pre-shredding process.

“The National Sword dilemma has left some manufacturers with a significant amount of production waste piling up at their facilities. This is problematic from an operational standpoint. At one point in the past, that material would’ve typically been sent to a landfill. It’s an exciting time to be in the recycling industry. Companies are seeing that there’s more to ‘going green’ than just being trendy. It has become necessary, more and more, to responsibly dispose of or reintegrate byproducts of production processes,” Walker stated.

## Meridian Waste begins waste and recycling in Callahan, Florida

Meridian Waste, an integrated, non-hazardous solid waste services company, began residential solid waste and recycling collection services on September 30 for the Town of Callahan, Florida. The new service is the company’s first Florida exclusive solid waste franchise.

Meridian Waste is providing once a week garbage collection utilizing a 95 gallon cart, once a week yard waste collection, once a week bulk waste collection (limit two items per collection), and every other week recycling collection. The company purchased a new rear load collection vehicle, a knuckle boom truck, and all new garbage and recycling carts to service the town and its citizens.

Specific guidelines regarding what residents may or may not place curbside for correct solid waste and recycling collection can be found at: [www.Meridian-Waste.com/Callahan](http://www.Meridian-Waste.com/Callahan).

Important changes include the elimination of glass from the recycling stream due to it being a common contaminant in single stream recycling processes and the change to every other week collection of recyclables to keep costs low and fewer trucks on the road.

Commercial collection became an open market on October 1, allowing businesses the opportunity to choose their waste hauler for the first time in more than a decade. The commercial hauler must hold a Nassau County solid waste permit in order to provide service. Meridian Waste is one of the approved Nassau County solid waste haulers.



Meridian Waste team members Billy Harris, commercial driver’s license driver and Quince Perry, helper, collect garbage in the Town of Callahan, Florida.

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## NEW PRODUCT SHOWCASE



### ASV BREAKS INTO SIZE CLASS WITH RT-50 POSI-TRACK LOADER

ASV Holdings Inc., a manufacturer of all-purpose and all-season compact track loaders and skid steers, introduced the new compact RT-50 Posi-Track® loader.

The RT-50 includes best-in-class ground pressure, ground clearance, serviceability and performance. The nimble machine features serious performance for its weight and is easy transportability, making it an ideal compact track loader for rental houses, commercial businesses, weekend warriors or as an addition to landscape, construction or snow-clearing contractor fleets.

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### BROKK OFFERS THREE DARDA CONCRETE CRUSHERS

Brokk®, a manufacturer of remote-controlled demolition machines, has launched three new concrete crusher models — the CC440, CC480 and CC580. The attachments increase operator safety and productivity on a variety of tough demolition jobs including top-down and interior demolition.

With large jaw openings and a crushing force from 44 to 54 tons, depending on model, the new crushers can easily handle concrete slabs 17 to 22" thick. Additionally, all 3 crushers can cut through rebar up to 1.2" in diameter, while keeping to the same size and weight class as their predecessors.

**Brokk Inc.**  
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### EGGERSMANN OFFERS DIGESTATE DRYER TO ENHANCE COMPOSTING

High water content can slow down the composting process and reduce the quality of the final product. The Digestate Dryer of the Eggersmann brand BRT HARTNER homogenizes, loosens and dries digestates and fermentation residue. At the same time, ammonia is driven out of the material by pressure ventilation.

The BRT HARTNER DCD is designed as a fully automated continuous dryer. The material is moved through the machine with a scrape chain conveyor, equipped with special mixing and turning rollers

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### HITACHI DELIVERS A NEW CONSTRUCTION-DUTY LOADER

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### COMPACT INDUSTRIAL SHREDDER DESTROYS HDDS, SSDS

Gladiator™ Hard Drive Shredders from Intimus are high torque, low-speed shredders designed specifically for the physical destruction of a wide range of digital storage media. These compact yet powerful devices feature specially hardened cutters that rip items into small shreds.

The shredder is equipped with two separate cutting chambers, each with its own clearly labeled feed chute. This dual chamber design allows the Gladiator to be used for both HDD and SSD media.

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## Closed loop

■Continued from Page B1

today with paper, cardboard, plastic, etc. Recycling programs are great, however there's almost always residual waste in the mix, meaning things like the wrong type of plastic being thrown into a bin or there's food contamination. This is one of the reasons why truly zero is difficult. Another initiative companies are looking into is zero landfill — diverting materials from a landfill into a waste to energy facility. Again, not zero cost, just diverting waste."

Vega's experience is in the food and beverage industries where the majority of the organic waste generated can be diverted from the landfill within or outside of the facility.

"The most impactful way to move forward is to eliminate waste," Vega said. "By using lean manufacturing, companies have achieved reductions or elimination of waste during only a few months of implementation. It is also important to assess the procurement department. What are we buying? How are our supplier contracts? Are we choosing an environmentally responsible supplier? Remember, if waste enters the facility initially (upstream), there will be waste at the end of the process (downstream). Some companies are engaging successfully with their suppliers to return the packaging or start discussions about the best way to deliver their product."

Mike Newman, chief executive officer of Returnity Innovations, is considered an expert in the transformation of logistics platforms from single-use to circularity, and reducing mountains of plastics and corrugated cardboard entering our waste stream while saving millions in packaging expenses.

"The explosive growth of e-commerce has led to an avalanche of single-use shipping packaging that is difficult — or impossible — to recycle," Newman said. The goal of zero waste is to move from a linear to a circular economy, which reduces waste and reuses as much as we can."

Reusable shipping packaging is relevant across all industries, but Newman sees a strong adoption in retail sectors.

"Everybody loves the convenience of e-commerce, and hates the mountains of shipping packaging it creates. Returnity is helping brands solve this problem by eliminating single-use packaging that is expensive, cumbersome, and bad for the planet," Newman said. Traditionally, packaging tends to be the last area companies are looking to innovate; poly mailer bags and cardboard boxes are seen as a cost of doing business. But as consumers grow more aware of the tons of containers and packaging waste and the realities of climate change — pressure from customers is starting to create real change in business models."

Jonathan North, senior manager and program lead of Zero Waste World, an initiative recently launched by CHEP, said there is a strong argument for zero waste in the natural

world, where waste in one dimension becomes a valuable and much needed resource somewhere else.

"The circular economy that many are now striving for attempts to mimic this in the technical world where waste from our own supply chains is considered valuable raw material somewhere else," North said. "Again, drawing from the natural world, the circular economy can only succeed from a collaborative, multi-stakeholder approach." Zero Waste World a working collaboration of multi-company coalitions and open innovation events to create smarter and more sustainable supply chains. CHEP's goal is to address the dual challenge of businesses needing to meet growing consumer demand faster, easier and cheaper, while simultaneously shrinking the environmental impact of their operations.

As North explained, the zero waste concept is probably easier to embrace in the durable goods business, rather than in the business of manufacturing single-use products.

"Just striving for zero waste results in dramatic improvements in operations," North said. More and more, consumers are increasingly demanding brands to become more responsible and transparent in how they perform in supply chains. Consumer consumption, behavior and the associated waste generated are huge issues at the moment and are being tackled by more players today than ever before. This means that organizations in all industries must contribute to identifying and reducing waste."

So what does this mean for the recycling and waste industry? According to North, in the waste hierarchy model, disposal and recycling are traditionally seen as adding the least value, while eliminating, reducing and reusing are increasingly acknowledged as adding more value.

"Zero waste can mean tremendous opportunity for the waste and recycling industry," North said. "This industry will be a critical link in helping to close more and more loops, where waste can become a more valuable resource. This will require a new collaborative approach and innovative technology to solve future needs."

Hollis stressed that waste will always need to be handled or treated in some fashion but he doesn't see the industry going away. "I do see that it could transform from that of a landfill industry to more of a recycling, material handling, and commodities driven industry," Hollis said.

The matter ultimately comes down to economics. Hess said there's an opportunity for waste and recycling company owners to help their customers better understand their waste streams and how sustainability initiatives like zero waste can play into that. "While most companies may not be able to achieve zero waste at this time, there are ways to begin minimizing waste," Hess said, "And start charting the path towards a more sustainable waste program."



## Roof Maxx could avoid 230,000 tons of waste by 2021

A recent study and poster presentation by The Ohio State University confirms the benefit of Roof Maxx restoration treatments for the nation's legions of aging and failing asphalt roofs.

Roof Maxx, a nationwide network of new-breed roofing restoration experts, is helping property owners and commercial developers delay costly roof replacements by up to 15 years through the use of eco-friendly plant-based technology to restore a roof's flexibility and waterproofing protection.

Ohio State University holds a gold ranking within Sustainability Tracking, Assessment & Rating System (STARS), placing the university among the top in the nation for its commitment and excellence in sustainability-focused research.

The current research, presented by Drs. Juliana Vasco-Correa and Ajay Shah, notes that asphalt shingles account for 80 percent of U.S. roofs, and approximately 7 percent of U.S. roofs are replaced every year.

If even 1 percent of single family homes (about 15 percent of yearly replacements) applied an SMEE (Soy Methyl Ester Emulsion) formula such as Roof Maxx instead of replacing the roof, we could avoid 2.8 million tons of landfill waste and 1.1 million metric tons of CO2 equivalents in emissions. It would be the equivalent of taking 240,000 average passenger vehicles off of the road and would save \$750 million to homeowners over the average 60 year lifespan of their house.

By Roof Maxx' projections the company expects to protect 60,000 homes by 2021, amounting to elimination of 230,000 tons of waste and a collective savings of \$62 million.

In related findings, the recent release of "An Economic Impact Analysis of the U.S. Bio-based Products Industry: 2018 Update" notes that bio-based products (such as Roof Maxx) contributed \$459 billion to the U.S. economy in 2016, amounting to a 17 percent increase over 2014 and adding some 4.65 million jobs.

For Roof Maxx, these sustainability discoveries are helping to propel the company's status as the fastest growing roofing company in America, with a presence in 47 U.S. states in just 2 years.

### The Solution: Soybean Science

"Roof Maxx extends the life of asphalt roofs by five years per treatment," said Mike Feazel, chief executive officer and co-founder of Roof Maxx with brother Todd Feazel, co-founder and EVP of production and distribution. "By repeating the process every five years a property owner can extend a roof's life by as much as 15 years for approximately 15 to 25 percent of the cost of replacement."

Technicians spray the organic liquid compound onto aging asphalt shingled roofs. The plant-based oil penetrates into roof shingles and replaces the petroleum oil the shingles have lost over time, extending their lifespan and preventing them from cracking and leaking.

## NYC Sanitation Department proposes new organics recycling requirements

The New York City Department of Sanitation announced a proposal that would require additional food related businesses to separate organic waste. The proposal would cover approximately 8,500 additional businesses and is expected to keep 100,000 tons of food waste out of landfills every year.

Food scraps and other organic waste make up more than one-third of all commercial waste. Diverting this material from landfills is a key component of the city's goal of sending zero waste to landfills. Keeping food scraps and other organic waste out of landfills also reduces the emissions of methane gas, a harmful greenhouse gas and major contributor to climate change. Encouraging businesses to reduce, rescue, and recycle organic waste is critical to meeting the City's greenhouse gas emissions reduction goals.

The proposed rules would effect the following types of businesses:

- Food service establishments larger than 7,000 sq.ft., such as restaurants

- Chain food service establishments with two or more locations in NYC

- Retail food stores larger than 10,000 sq.ft., including grocery stores

- Food prep spaces larger than 6,000 sq.ft.

- Food service establishments in hotels with 100 or more rooms

- Catering establishments hosting events with attendance of more than 100 people

- Sponsors of temporary public events

Businesses covered by this proposal would be given the option to arrange for collection by a private carter, transport organic waste themselves, or manage it on-site using in-vessel composting, aerobic or anaerobic digestion systems, subject to registration with DSNY and compliance with the city's sewer discharge regulations.

The proposed rules will be subject to a public comment period and hearing on November 20, 2019.

## Construction underway at Sterling Natural Resource Center to incorporate anaerobic digestion system

Anaergia Inc. and its sister company Fibracast Ltd. have been added to the team selected for the construction of the Sterling Natural Resource Center (SNRC) in the East Valley Water District.

SNRC, being built in Highland, California, will be a state-of-the-art wastewater treatment facility. It will recover clean water, energy and nutrients, from the wastewater and provide the community with a place for, and opportunities for, education, entertainment, plus other events.

It will also offer advanced job training opportunities. The facility will initially convert up to 8 million gallons per day of wastewater and up to 130,000 gallons per day of imported organic waste streams, into 3 MW of renewable power for the facility, clean water for replenishing the natural groundwater aquifer, and the potential for fertilizer to improve soil quality. By replenishing the Bunker Hill Basin with clean treated water, the region will be able to store hundreds of millions of gallons of water for dry years.

SNRC will recover value from the waste streams by utilizing a series of technologically advanced solutions. These include Fibracast's state of the art FibrePlate™ membranes and Anaergia's high efficiency Omnivore™ Anaerobic Digestion system.

FibrePlate hybrid-membrane technology offers several unique benefits to facility owners and operators. This proprietary technology product combines the best advantages of hollow-fibre and flat sheet membrane systems, including high packing density, small foot print, backwash capability, low trans-membrane pressure and the ease of operation through automation.

Anaergia's high efficiency Omnivore™ digester system triples digester throughput with one tenth the energy use of conventional digesters, providing efficient high solids digestion. Anaergia is delivering a turnkey system solution which includes the equipment for organic waste reception, the Omnivore™ high efficiency digester, renewable energy generation, and digestate management with ammonia recovery. This facility is currently being constructed by Balfour Beatty with detailed engineering services provided by Arcadis.

John Mura, general manager/chief executive officer of the East Valley Water District, said: "Fibracast and Anaergia are bringing us transformative solutions. Utilizing their systems, SNRC will have many benefits for our community in addition to the benefits to the environment from converting waste, recovering water, generating renewable energy, and even creating opportunities for producing fertilizer".

*An elderly man went to the doctor for a visit. "Doc," he said, "I am so stricken. I have chest pains, headaches, back pains, nausea, arthritis, constipation, stomach cramps, earaches..."*

*"Sir," said the doctor, "you complain you have so many things. What don't you have?"*

*The man answered, "Teeth!"*

*For the best free exposure possible, participate in this feature favorite!*

## AR EQUIPMENT SPOTLIGHT

To be included in the spotlight, you must **manufacture** the equipment featured. We require a company name, one contact person, a telephone number and, if applicable, a website address.

To be listed in the appropriate spotlight, please call 877-777-0043.

### UPCOMING TOPICS

DEC	Eddy Current
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FEB	Dust Control
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American Recycler is not responsible for non-inclusion of manufacturers and their equipment. Manufacturers are to contact American Recycler to ensure their company is listed in the Equipment Spotlight.





# Nationwide Opportunities

## DADE Auctions Territory Representative —Nationwide Openings—

Looking for experienced heavy equipment professionals.

### Duties:

- You will contact companies and organizations in the waste, salvage, and recycling industries, securing equipment listings for the DADE Auctions website ([www.dadeauctions.com](http://www.dadeauctions.com)).
- Using our automated database, software and hardware, you will ask questions, enter data, and take pictures and video of equipment the client wishes to list on the auction site.

### Training:

- We provide a virtual on-boarding orientation and representative portal with ongoing training and field support, as well as an Auctions Representative Manager to consult.

### Requirements:

- Possess heavy equipment sales or operation experience, and be knowledgeable about the waste, salvage, and recycling industries and equipment needs.
- Possess basic smartphone and tablet technology skills, ability to navigate in a web browser, and enter data on a website.
- Demonstrated ability to effectively manage a large territory.
- The ability to visit prospective clients in person in various locations with your own reliable transportation.
- Secure listings in person at the client's location.



### Inquire at:

DADE Auctions, Inc.  
[sales@DADEAuctions.com](mailto:sales@DADEAuctions.com)  
844-222-2020

## Featured Buy Now Listings



Fairbanks 70' Truck Scale. Load cells and digital readout are in good shape.



Midwest Industries 60" Vibratory Screener  
Only one year of use.



Granutech Saturn M-50 Shredder  
200 HP motor. Includes conveyance!



Granutech Saturn 62 x 40 Tire Shredder  
300 HP motor. Includes conveyance!



Forsberg Destoner 11-GR Pressure Destoner.  
Used less than one year.



2004 Hyundai 2250 HP Motor  
Never used! Still in the crate!

[www.DADEAuctions.com](http://www.DADEAuctions.com) 844-222-2020