



American Recycler

NewsVoice of Salvage, Waste and Recycling

AmericanRecycler.com

Celebrating Our



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Glass recycling is gaining ground

by MAURA KELLER

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Americans dispose of about 10 million metric tons of glass each year, but only one-third of it gets recycled. This pales in comparison to several European countries, such as Switzerland, where nearly 90 percent of glass is recycled.

However, it appears that glass recycling may be making a comeback in the U.S., albeit slowly. In the city of Greenville, South Carolina, glass recycling is being resurrected after the city decided to halt glass recycling back in 2016. Thanks in part to RAM Recycling, glass recycling is being collected from commercial and residential customers alike, and being offered to Fisher GlassEco, a regional operation that makes countertops and others surfaces from glass aggregate.

The rejection of glass for recycling purposes is primarily due to the contamination that happens to the glass during the transportation process. Typically glass is collected in curbside recycling bins and sent to recycling facilities where it eventually ends up in landfills rather than being recycled. Here's why – during the transportation process, the glass is often broken and becomes contaminated by being mixed with other recycling residue, such as small bits of plastic and paper, making it unrecoverable.

To offset this continuous contamination of glass, many municipalities have rejected glass as part of their recycling programs. In fact, the ceasing of glass recycling in Greenville is not unique as glass markets continue to be tight throughout the U.S. But as some municipalities continue to eliminate glass recycling from their collection efforts, others are putting more emphasis on glass recycling as commercial and residential consumers focus more attention on this recycling stream.

According to the Glass Packaging Institute, communities are addressing a broad range of recycling challenges, including increased collection costs, tighter export markets and quality/contamination issues. In order to address challenges with recycling quality, several localities have transitioned to dual stream, or similar collection methods to enhance the value and resale of glass. This being noted, glass remains immanently recoverable within single stream recycling programs, and some MRFs have invested in technology to improve the capture rates for glass and other recyclables. One example is FCC Environmental, which has made investments in the Houston MRF to better sort out glass and other recyclables from the city's single stream program.



In 2018, the glass industries collectively purchased 3.2 million tons of recycled glass for remelting into new containers and fiberglass insulation.

PHOTO BY SALPIC32 | DREAMSTIME

Amanda Pratt, director of corporate communications at Rumpke Waste & Recycling, said that Rumpke started processing glass in 2003. Since then, the company has partnered to identify new markets for the material.

"There's more technology available to assist us in processing the stream of material to help meet manufacturer demands," Pratt said. "Over the years, we've invested millions to make sure that families and businesses that want to recycle glass have an opportunity to do so."

Today, Rumpke processes glass and sends it to the container and insulation industries.

"The best part is our partners are regional," Pratt said. "We are keeping jobs and dollars in the midwest."

Back in 1932, when William F. Rumpke founded the company, he would pull glass from the waste stream for recycling. Today the company is doing it on a much larger scale. Currently, Rumpke recycles around 4,000 tons of glass per month.

As Pratt explained, Rumpke is the only waste and recycling hauler in the nation to operate a glass processing

facility. "Our service region spans four states. Glass collecting through curbside and commercial programs is separated out at our large MRFs and put through a cleanup system before being transported to our Dayton, Ohio facility for final processing," Pratt said. "Glass makes up 15 to 20 percent of the single stream curbside residential mix. By recycling it we are keeping it out of our landfills, conserving resources and meeting a demand."

For a recycling program to be successful, it has to be easy, accessible and economically viable. If one piece of the equation is missing, programs are put at risk. According to Pratt, recycling today requires attention to detail.

"People have to recycle right, we have to work together to reduce contamination in our streams to ensure a marketable product. Contamination, accessibility and costs are challenges. Rumpke, as a recycling leader, is committed to working with these communities to help build programs with each municipality's specific objectives in mind."

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FOCUS: Electronics

E-waste controlled by legislation in 25 states



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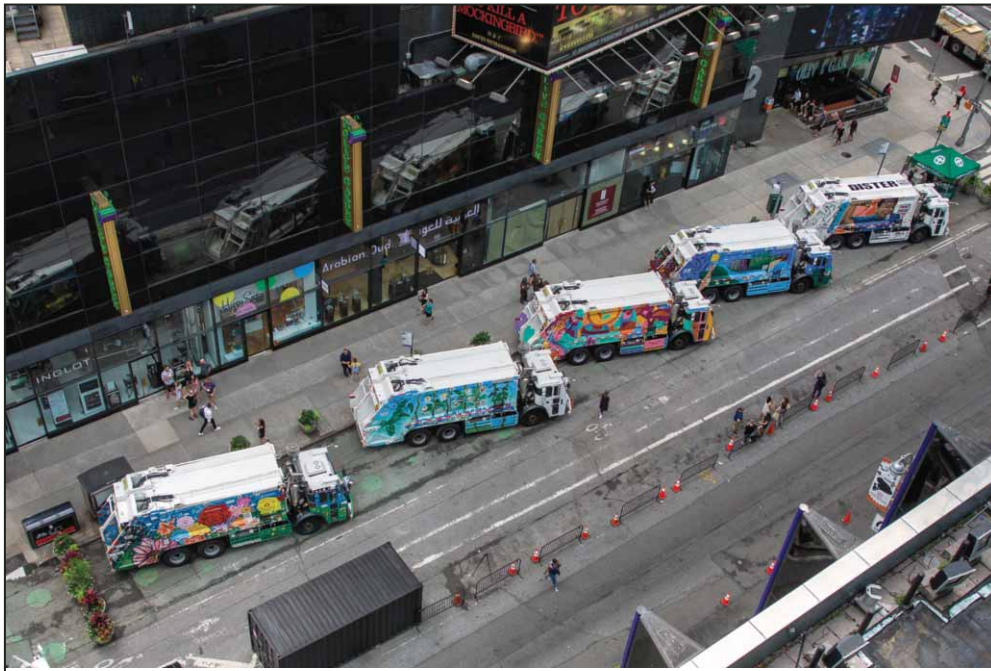
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DSNY debuts fleet of colorful "Trucks of Art"



Overhead view of all five "Trucks of Art" on display in Times Square on Friday, July 12, 2019
PHOTO BY JAMES O'CONNOR/DSNY

The New York City Department of Sanitation premiered Trucks of Art, a unique art exhibit that challenged artists to beautify five new, state-of-the-art collection vehicles with hand-painted designs.

Debuted in Times Square, the trucks' artwork encourages New Yorkers to think sustainably and honors New York's Strongest, the 7,500 uniformed men and women who keep New York City healthy, safe and clean. While this is the first time the Department has transformed our collection trucks into an artist's canvas, Trucks

of Art builds upon the Department's history of working with artists.

"We're grateful that these artists volunteered to share their talent with New Yorkers," said sanitation commissioner Kathryn Garcia. "These Trucks of Art truly are works of art, and they'll beautify our cityscape while reminding New Yorkers that they're our partners in keeping New York City healthy, safe and clean."

Nearly 100 artists submitted design concepts, with artists as far away as Pakistan expressing interest in the project. Additionally, Trucks of Art



Artist Lady K-Fever in front of the truck artwork she designed and painted. "We're experiencing a global garbage problem, and I designed my mural to make people think about the beauty of our environment - and how their recycling can impact a positive future," said Lady K-Fever. "Putting this design on a Sanitation truck also reminds people just who helps them take care of our environment - DSNY!"
PHOTO BY JAMES O'CONNOR/DSNY

was a zero waste challenge - artists used cans of New Yorkers' unwanted paints collected from the Department's SAFE Disposal Events and Special Waste Disposal Sites.

The Times Square Alliance hosted the public premiere of Trucks of Art on Broadway, where the five vehicles were on display. The trucks - each weighing nearly 23 tons and offering

painters nearly 400 sq.ft. of "canvas" - are "dual bins," which have two containment areas to separate materials, for example isolating plastic, metal and glass from paper and cardboard. The Trucks of Art are the newest to join our fleet, and each will be assigned to routes after being on display for the public throughout the summer.



Artist Misha Tyutyunik in front of the truck artwork he designed. He painted it along with Victor A. Saint-Hilaire. "My mural honors the Department of Sanitation and brings an awareness of recycling to the New Yorkers who DSNY serves," said artist Misha Tyutyunik. "My artwork often revolves around abstract concepts and designs, which I use to tackle different subjects, such as recycling, which is depicted in this truck."
PHOTO BY JAMES O'CONNOR/DSNY

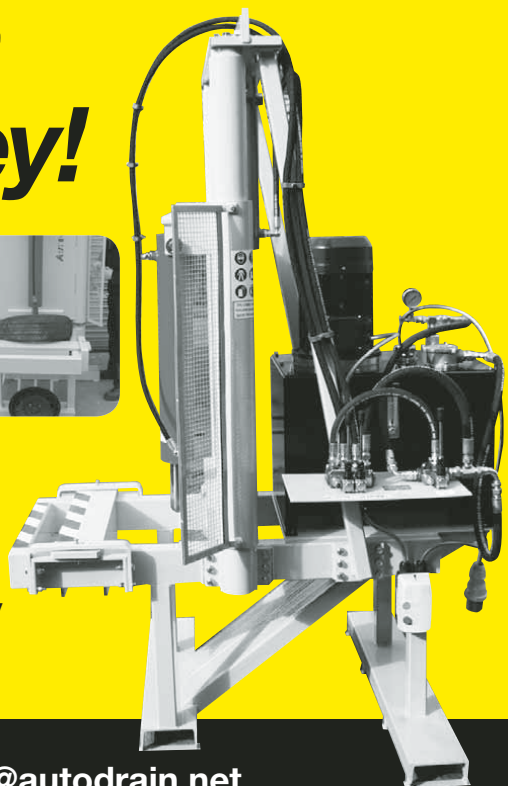
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Hewey named Facilities Staff Recycler of the Year

New Hampshire the Beautiful, Northeast Resource Recovery Association (NRRRA) and NRRRA's School Recycling CLUB recognized custodian Larry Hewey of Loudon Elementary School in Loudon, New Hampshire as the Facilities Staff Recycler of the Year. The award was presented at the 10th Annual School Recycling Conference.

No school can maintain a sustainable recycling program without the help of their maintenance and custodial staff. At Loudon Elementary, that person is "Mr. Larry." According to Brandon Raymond, a teacher at LES, Hewey has shouldered much of the responsibility for their new recycling program.

Since hosting an NRRRA Trash On the Lawn Day last November, Hewey has taken it upon himself to help every student at LES to learn the rules by directing them to the proper recycling bins during lunch hours and by answering their recycling questions with patience and enthusiasm.

Hewey was the one who picked up the school's NH the Beautiful bins at NRRRA (after his work hours) and helped disperse them to all the classrooms. He looks for ways to increase the efficiency of the program – emphasizing the importance of having "everyone" on board by assisting both students and staff with their recycling. According to Brandon, "...he has taken all of this upon himself to make our school and world a better place."

For aditional information and direct links, view this article on www.AmericanRecycler.com.

EGLE kicks off Know It Before You Throw It campaign to promote cleaner recycling

The Michigan Department of Environment, Great Lakes, and Energy has launched Know It Before You Throw It, a first ever statewide education campaign to better inform Michiganders on what can and cannot be recycled and how to recycle correctly.

EGLE's goal is to promote awareness of cleaner recycling practices to reduce the amount of contaminated materials improperly going into recycling bins. The state also wants to double Michigan's recycling rate to 30 percent by 2025 and ultimately reach 45 percent annually. Michigan's current 15 percent recycling rate is the lowest in the Great Lakes region and ranks among the nation's lowest.

The Know It Before You Throw It campaign launches as communities across Michigan and the U.S. are struggling with international market shifts, resulting in higher costs for some local governments that fail to meet new industrywide cleanliness standards for recyclable materials.

"We want to inform and inspire more people than ever before in Michigan about how to recycle better," said EGLE's Materials Management Division director Jack Schinderle. "This campaign is a first of its kind for Michigan that offers multiple benefits. Increasing recycling and improving the quality of materials we're recycling saves energy, reduces water use, decreases greenhouse gases, conserves resources and translates into local jobs."

EGLE officials were joined during today's news conference at a Lansing recycling transfer station by East Lansing Mayor Mark Meadows; Lansing Deputy Mayor Samantha Harkins; state Sen. Curtis Hertel Jr., D-East Lansing; state Rep. Sarah Anthony, D-Lansing; state Rep. Kara Hope, D-Lansing; state Rep. Julie Brixie, D-East Lansing; Michigan Recycling Coalition Execu-

tive director Kerrin O'Brien; and Michigan Waste and Recycling Association Board Chair Kevin Kendall.

Recycling in Michigan is receiving a major boost as state legislators in an overwhelmingly bipartisan move have increased EGLE's funding for recycling from \$2 million last year to \$15 million in 2019. The extra funds will support development of recycling markets, increase access to recycling opportunities and reinforce planning efforts to grow recycling at the local level.

"What's really great about EGLE's campaign is that we've spent the past decade or more stressing the importance of putting more resources into recycling education and supporting local communities' programs," Hertel said. "Michigan is now putting words into action."

To kick off the campaign, EGLE introduced the Michigan Recycling Raccoon Squad, a six member team of recycling champions who will serve as EGLE's education ambassadors. EGLE-commissioned research shows that education is key for residents to learn how to properly recycle. For example:

- 50 percent of Michigan residents mistakenly believe they're allowed to recycle plastic bags in their curbside recycling, which is prohibited by most municipalities.

- 76 percent of Michiganders are unaware that failing to rinse and dry items before putting them in the recy-

cling bin poses a risk of contaminating everything in the bin.

"Some of the material being disposed of through landfills and incinerators could be recycled or composted in most metropolitan communities without great difficulty," Kendall said.

Michigan recycles more than 90 percent of bottles and cans, but bottles and cans represent only 2 percent of all the waste Michiganders recycle every year. Almost 53 percent of the state's municipal solid waste goes to landfills instead of recycling facilities. Lansing and East Lansing, for example, recycle nearly 7,500 tons of waste annually. While the cities have a relatively low contamination rate of 8 percent-10 percent, that number is on the rise, according to data provided by both municipalities.

"By encouraging people to focus on the basics and think about what they're recycling before they toss it, we can improve our environment and build stronger communities," Harkins said.

Five decades have passed since Michigan's historic accomplishment with the bottle deposit legislation earned the state national recognition as an environmental champion.

"Over that time, Michigan has gotten complacent," said O'Brien. "We can and must become America's leaders again in recycling. The EGLE campaign is a tremendous opportunity for Michigan to advance to the next level of performance in protecting our environment."

Northeast Recycling Business Assistance Guide updated

The Northeast Recycling Council (NERC) has updated its Recycling Business Assistance Guide for the Northeast U.S. This resource provides a comprehensive compendium of resources available to start-up and expand recycling businesses in the 11 northeast states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

The Guide provides state specific contact and program information about grant and loan fund programs, tax incentive programs, sources of technical support and other resources for assisting recycling businesses.

The topic headings are:

- Primary resources
- Grant & loan funding programs or grant, tax incentive and loan funding programs
- Technical assistance for recycling businesses
- General business assistance
- Disaster debris management
- Waste reduction & reuse resources

Each listing includes a contact name, address, phone, e-mail and web address (when available).

In addition, there is a complete list of the recycling industry trade associations with hyperlinks to their websites.

I was really embarrassed when my wife caught me playing with my son's train set by myself. In a moment of

panic, I threw a bedsheet over it. I think I managed to cover my tracks.



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Innovative recycling demonstration project to launch in Oregon

Responding to the urgent need to improve recycling rates, plastic and packaging makers launched a 60 day recycling demonstration project in Portland, Oregon. The project aims to demonstrate how a wider range of materials can be captured from the curbside recycling stream.

The innovative project involves installing a portable secondary sorting system at the Far West Recycling materials recovery facility (MRF), which is being provided by Titus MRF Services. Selected materials from four regional MRFs will be further sorted, creating six additional streams of recyclables. It will be managed by the Plastics Industry Association (PLASTICS) with funding from the American Chemistry Council, Americas Styrenics, Berry Global, Carton Council, LyondellBasell and Metro.

“MRFs across the country are doing their best to extract value and marketable commodities for domestic markets, but many are technologically limited in what they can recover and sort for,” said Kim Holmes, vice president of sustainability at PLASTICS. “With this project the funders hope to show what is possible when secondary sorting capability is brought into a region to further sort that valuable material, sending it to market rather than the landfill.”

The materials collected – which include a wide range of packaging forms and types of plastics, as well as gable top and aseptic cartons – will be measured, sorted and marketed showing how the efficiencies and economics of recycling can be positively shifted with added secondary sorting capabilities. The data collected through the

course of this project could help inform communities across the U.S. about the new streams of material that could be captured from their curbside programs. For the funders of the project, creating new streams of valuable recycled materials will help them, and many others meet the growing post-consumer recycled material (PCR) demand.

Roy Brower, director of regional waste programs for Metro, a regional government serving the greater Portland metropolitan area said, “Metro is working with the Oregon Department of Environmental Quality, local recyclers and others to ensure that the region has a strong and resilient recycling system in the future. Metro is supporting this demonstration project because it will test a potential innovative sorting approach that could increase recycling.”

Glass recycling

■Continued from Page 1

Recently, several entities within Virginia – Fairfax County, City of Alexandria, Prince William County, and Arlington County – announced a new strategic partnership to recover and recycle glass.

To tackle the challenge of contaminated recycled glass, these jurisdictions are now collecting glass via large purple glass-only drop-off containers and bringing it to Fairfax County’s “Big Blue” processing plant, where it will be recycled for use in a variety of projects. For example, in Alexandria, Virginia, purple glass-only drop-off bins are placed at the city’s four recycling drop-off centers, which are open 24 hours a day, 7 days a week.

Likewise, in June, Ohio’s Hancock County Solid Waste Management District reignited its glass recycling program by partnering with Rumpke Recycling as part of the process.

“The residents and officials in Hancock County want to grow their recycling programs. It was important to find a way to reincorporate glass recycling,” Pratt said. “Fortunately, we were able to work with them to place recycling depots or drop off centers where residents can drop off glass. The glass is hauled to our Dayton processing facility.” It is then cleaned and sized to use as feedstock in fiberglass manufacturing.

“The markets are strong and the technology is in place. We have learned so much about the process,” Pratt said. “The framework is available, and Rumpke is committed to investing in the effort to help more consumers and businesses grow their glass recycling

programs. We aren’t afraid of innovation. We continually invest in our system to make the best product possible and to ensure long-term end use.”

Advancements

As the Glass Packaging Institute explained, glass recycling processors have installed advanced ceramic detection and color sorting technology to properly sort out recycled glass purchased from MRFs. Some MRFs can also increase the quality and quantity of glass and other commodities heading through their sorting lines by placing a “glass breaker” at the beginning of the process, instead of the middle or end. Improved sorting technology at both the MRF and glass processing level has become increasingly important over the past few years, as greater types and quantities of packaging materials have entered the recycling stream.

The Glass Packaging Institute stresses an increased amount of opportunities in the future of glass recycling. The glass container manufacturing and fiberglass industries maintain a strong demand for quality recycled glass around the country. In 2018, these industries collectively purchased 3.2 million tons of recycled glass for remelting into new containers and fiberglass insulation.

What’s more, as local communities, state legislatures and Congress continue to address climate change through legislation, the environmental and energy benefits provided by glass recycling across the country will contribute to helping communities achieve future goals and mandates.

Events Calendar

September 23rd-25th

Missouri Recycling Association Conference. Sheraton Westport Chalet Hotel, St. Louis, Missouri.
573-491-4255 | www.moraconference.org

October 7th-12th

ARA (Automotive Recyclers Association) Annual Convention and Expo. Charlotte Convention Center, Charlotte, North Carolina.
615-223-6656 | www.a-r-a.org

October 9th-10th

Waste & Recycling Expo, CANADA. Enercare Centre, Downtown Toronto, Ontario, Canada.
770-984-8016 | waste-recycling-expo-canada.us.messefrankfurt.com

October 20th-22nd

West Virginia Educational Conference on -Litter Control & Solid Waste Management. Canaan Valley Resort and Conference Center, Davis, West Virginia.
304-926-0448 | www.awvswa.org

October 21st-24th

SWANA WASTECON. Phoenix Convention Center, Phoenix, Arizona.
800-467-9262 | www.swana.org

October 29th-30th

The Northeast Recycling Council (NERC) Fall Conference. The Graduate Providence Hotel, Providence, Rhode Island.
802-254-3636 | www.nerc.org

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Thermostat Recycling Corp. launches contest honoring collectors of mercury thermostats

Thermostat Recycling Corp. (TRC) has launched its eighth annual Banish Mercury Off the Planet competition.

The contest recognizes members of Heating Air-Conditioning Refrigeration Distributors International (HARDI) that collect the most mercury-containing thermostats.

HARDI is the largest and most successful trade association representing HVACR distributors in the U.S.

“We anticipate another successful year as HARDI wholesalers throughout the country demonstrate their commitment to a safer and cleaner environment by serving as the collection center for

contractors to drop off mercury-containing thermostats,” said Danielle Myers, Operations and Compliance Manager, TRC.

The contest officially began May 1 and concludes October 31.

HARDI members need not sign up to enter the contest. All they must do is return thermostats collected through the bins that TRC places in HARDI wholesale member branches throughout the United States.

HARDI members are in every state and have collection bins where their customers — HVACR contractors — can conveniently deposit the thermostats.

The Banish Mercury off the Planet contest, originally called the Big Man on Planet until 2018, names winners in three categories:

- Distributor that recycles the most pounds of mercury overall.

- Distributor that recycles the highest average pounds of mercury (total pounds divided by branch count locations that submitted a collection bin).

- Distributor with the highest participation rate (for distributors with more than 10 locations).

TRC will publicly recognize the winners of each category at HARDI’s annual conference in December 2019.

Slow Down to Get Around effort recognized



The National Waste & Recycling Association (NWRA) was recognized by the American Society of Association Executives (ASAE) with their 2019 Power of A Silver Award for its “Slow Down to Get Around” legislative advocacy campaign. The Power of A Awards recognize and celebrate the extraordinary contributions associations make to society by enriching lives, creating a competitive workforce, preparing society for the future, driving innovation and making a better world.

“This award recognizes the hard work of our chapters, member companies, and staff to fight for safer roads,” said Darrell Smith, president and chief executive officer of NWRA. “We want motorists to move over when they approach a waste and recycling collection vehicle. Driving safely should be a top priority for anyone getting behind the wheel. These laws carry an important message – stay alert and slow down around waste and recycling trucks.”

NWRA member companies have been diligent in providing advanced safety training for drivers and those who step-off the trucks to make collections. However, drivers who are distracted – or just going too fast – are a major hazard for waste collection workers.

Anthropocene.Design and Arqlite awarded

Manufacturing entrepreneur Chris Graff announced the winners of the NYC Curb-To-Market Challenge (CTMC), a contest that sought the best idea and business plan to repurpose New York City’s recyclable waste and locally manufacture a product to sell in the New York City market.

Anthropocene.Design, a circular economy design consultancy, and Arqlite, a recycling innovation company that has developed the first large scale solution for flexible plastics, were named co-winners of the competition.

Anthropocene.Design and Arqlite emerged from a group of six finalists, impressing the judging panel with their innovative approaches to reusing underutilized recycled plastics. Both companies demonstrated efficient, sustainable and

environmentally aware methods to implement the entire process of sourcing and converting the recycled waste for use, manufacture a product locally in New York City and sell that product to the largest potential market.

Anthropocene.Design and Arqlite will each receive an investment of \$250,000 in their respective businesses. They will also gain a new, intimately involved advisor in experienced manufacturing entrepreneur and NYC CTMC founder Chris Graff, as well as access to a broad network of advisors and angel investors. Both companies are expected to begin their operations in New York City in the coming months.

“While we had many highly qualified applicants, Anthropocene.Design and Arqlite both really blew me out of the

water with their approaches to reusing recyclable plastic waste,” said Chris Graff, founder of the NYC Curb-To-Market Challenge. “I am incredibly excited to help them grow their innovative manufacturing approaches right here in New York City. Arqlite’s artificial gravel has already proven successful in Argentina and can have a huge impact here in New York, while Anthropocene.Design may truly revolutionize the industry’s approach to solar rotational molding.”

A panel of judges, including government officials, industry experts and corporate chief executive officers, selected finalists from the initial application pool for in-person pitches. These finalists were then flown to New York City, where they presented to the judging panel.

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PepsiCo Recycling offers program to educate students about recycling

PepsiCo Recycling announced that, through the Recycle Rally – a free program designed to educate and instill recycling behaviors at K-12 schools across the U.S. – nearly 10 million pounds of waste material was diverted from landfills during the 2018-19 academic year. Since launching in 2010, Recycle Rally has facilitated collections of close to 500 million recyclable containers.

Participating schools in the Recycle Rally compete in an annual recycling contest and the schools that collect the most recyclables win funding for sustainability initiatives or other important projects. This year, Arnold Elementary in San Antonio, Texas, and O'Connell College Preparatory School in Galveston, Texas, ramped up their recycling collections to emerge as the top performing schools in two competitive leagues.

"We're thrilled to be one of this year's Recycle Rally winners, but the most exciting thing about Recycle Rally is how it enables sustainable change for the long term," said Paul Perea, teacher and Recycle Rally leader at Arnold Elementary. "We plan to invest the \$50,000 we won through the program in new green initiatives, and we are currently looking into an aquaponics system to create fertilizer out of fish waste and a van to support beach clean-ups in the community."



"The success of Recycle Rally shows that if we can create an environment where children feel empowered to recycle – and educated to recycle properly – they will go the extra mile to ensure their empty cans or bottles don't end up in a landfill," said Tom Mooradian, manager of environmental sustainability at PepsiCo. "It's about normalizing recycling behaviors at the earliest possible age so they become second nature. Our goal is that these children will change the status quo and help make our vision of a circular economy a reality."

Recycle Rally is now active in more than 6,000 K-12 schools, providing the funding and resources crucial to addressing the gap in recycling education in the U.S.

Energy investment in 2018 hit \$288.9 billion, exceeding fossil fuel investments

Global investment in renewable energy hit \$288.9 billion in 2018, with the amount spent on new capacity far exceeding the financial backing for new fossil fuel power, according to new figures recently released.

These numbers, produced by BloombergNEF (BNEF), were published in June as part of REN21's Renewables 2019 Global Status Report.

The numbers show that while investment was 11 percent down over the previous year, 2018 was the ninth successive year in which it exceeded \$200 billion and the fifth successive year above \$250 billion. The figure does not include hydropower above 50MW, which saw an additional \$16 billion invested – also down on 2017, when \$40 billion was invested.

The dip in investment in 2018 can be partly attributed to falling technology costs in solar photovoltaics, which meant that the required capacity could be secured at a lower cost, and a slowdown in solar power deployment in China.

However, globally, solar was still the largest focus of investment, with \$139.7 billion in 2018, down 22 percent. Wind power investment increased two percent in 2018, to \$134.1 billion. The other sectors lagged far behind, although investment in biomass and waste-to-energy increased 54 percent, to \$8.7 billion.

The figures compare the amount invested in new renewable power capacity, which was \$272.3 billion globally in 2018 (excluding large hydro), with that in new coal- and gas-fired generating capacity, which was \$95 billion.

"Global trends continue to indicate that investing in renewable energy is investing in a profitable future. Investments in renewable energy in 2018 were three times higher than the amount invested in new coal and gas-fired generators," said Inger Andersen, executive director of the UN Environment Programme. "While this is encouraging, we need to significantly step up the pace, if we are to meet international climate & development goals."

China leads, Europe and developing countries rally

A geographical breakdown of the \$288.9 billion figure for total renewable energy investment in 2018 shows that China led investment worldwide for the

seventh successive year, at \$91.2 billion. However, this was down 37 percent from 2017's record number, due to a number of factors including a mid-year change in the government's feed-in tariff policy, which hit investment in solar power.

China also accounted for 32 percent of the global total investment, followed by Europe at 21 percent, the U.S. at 17 percent, and Asia-Oceania (excluding China and India) at 15 percent. Smaller shares were seen in India at 5 percent, the Middle East and Africa at 5 percent, the Americas (excluding Brazil and the U.S.) at 3 percent and Brazil at 1 percent.

If China is excluded, renewable energy investment in the developing world actually increased 6 percent to \$61.6 billion, a record high.

"When overall investment falls, it is easy to think we are moving backwards, but that is not the case," Angus McCrone, chief editor at BloombergNEF, commented: "Renewable energy is getting less expensive and we are seeing a broadening of investment activity in wind and solar to more countries in Asia, Eastern Europe, and the Middle East and Africa."

Investment in Europe jumped 39 percent to \$61.2 billion, the highest level in two years, driven mostly by large on and off shore wind investments.

In the U.S. investment edged up one percent to \$48.5 billion, the highest level since 2011, also driven by an increase in wind power financing.

Investment in the Asia-Pacific region (excluding China and India) increased 6 percent to \$44.2 billion, the highest level in 3 years, while the Middle East and Africa saw investment leap 57 percent to a record \$15.4 billion. However, in the Americas (excluding Brazil and the U.S.), investment declined 23 percent (excluding large hydropower) to \$9.8 billion.

"It is reassuring to see investment growing in the U.S.," said Prof. Dr. Nils Stieglitz, president of Frankfurt School of Finance & Management, involved in the report, "Ironically, this renewables investment growth may in part be driven by projects rushing to qualify for the current tax-support scheme, which is due to expire in only a few years as chances for extension are currently quite low."

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Ohio Compost Community forms 11th chapter of US Composting Council

USCC members from the State of Ohio have affiliated with the US Composting Council as an official state chapter of the USCC. The Ohio Organics Council (OOC) is a 501(c)(6) nonprofit focusing on promoting the composting and organics recycling industry in the State of Ohio.

The group will host its annual conference under its new chapter flagship, with USCC executive director Frank Franciosi as a speaker. The OOC also plans to focus

on member recruitment in the coming year.

The OCC becomes the eleventh regional chapter of the USCC. The industry is expanding due to increased efforts at removing food scraps from disposal along with traditional yard trimmings. The demand side of the industry is expanding with the growing recognition of the beneficial uses of compost.

Boeing advances biofuels, recycling and conservation

Boeing released its 2019 Global Environment Report, highlighting how the company is building cleaner, more fuel-efficient airplanes and finding innovative ways to recycle and conserve resources.

In 2018, Boeing unveiled its new environment strategy through 2025 with ambitious goals to innovate products for environmental performance, reduce emissions, waste, and water and energy consumption at work sites, and to work with communities around the globe.

“We are committed to cleaner water, air and land, and this report highlights the wide range of efforts surrounding Boeing’s environmental stewardship around the globe,” said Bryan Scott, vice president of environment, health & safety.

Highlights of the report include:

- Surpassing 2018 targets, including reducing greenhouse gas emissions by up to 7.3 percent at work sites.

- Partnering with a UK-based recycler to keep up to two million pounds of excess carbon fiber from Boeing factories out of landfills per year.

- Using renewable energy to power Boeing’s primary data center, saving enough electricity to power more than 4,000 homes annually.

- Working with Etihad Airways to fly a 787 Dreamliner powered partly by biofuel made from desert plants irrigated with seawater.

- Designing new energy-efficient facilities around the world, including the 737 Completion and Delivery Center in Zhoushan, China, and the fabrication facility in Sheffield, UK.

- Catalyzing development of sustainable aviation fuel and offering customers the option of using biofuel on delivery flights.

Boeing is the world’s largest aerospace company and leading provider of commercial airplanes, defense, space and security systems and services.

SWDA improves curbside program

The Solid Waste Disposal Authority of the City of Huntsville, Alabama (SWDA) announced their new and improved curbside recycling collection program, Recycling Alliance of North Alabama (RANA).

RANA is a free, opt-in program that began August 1 with monthly curbside recycling cart pick up. The new automated program will be more efficient and user friendly. The carts will replace

the current 18 gallon bins with larger 95 gallon rolling carts with lids.

SWDA urged all eligible residents to sign up for the new RANA program in order to receive a new cart and continue their free recycling service. If residents currently have their garbage picked up by the City of Huntsville or Madison County, they are eligible for the new program.

Unifi names sustainability \$10,000 grant winner



Left to right: Michelle La, Izzy Parnell-Wolfe, Cal Zero Waste and Lin King from Cal Zero Waste with Richard Gerstein, Catherine Scott and John Bisignano from Unifi.

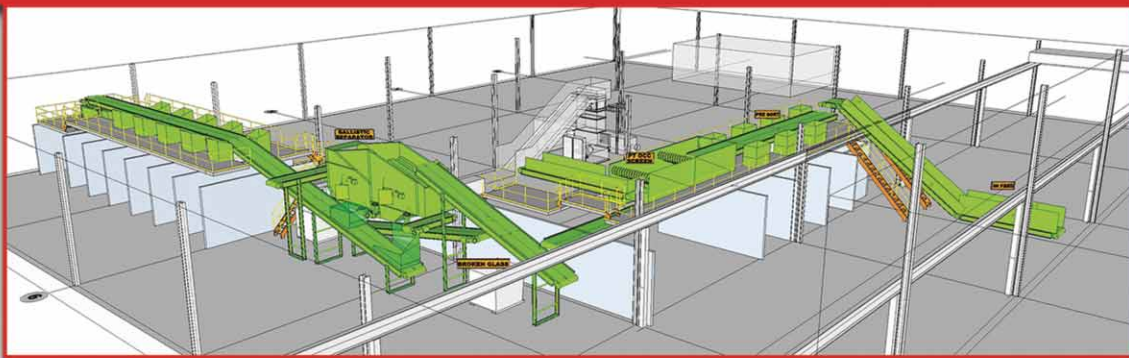
Unifi, Inc., makers of Repreve®, a leader in branded recycled performance fiber, has awarded a \$10,000 grant to the University of California, Berkeley, for its efforts to boost sustainability on campus. The school won the grant after submitting a video as part of the Pac-12 Zero Waste Challenge. Repreve is the founding sustainability partner of Pac-12 Team Green, which promotes sustainability and circular economy efforts taking place on and around the Pac-12 Conference and all 12 of its member universities, including UC Berkeley.

“Cal’s video really stood out for its students’ and staff members’ tremendous efforts to raise awareness about the importance of a circular economy during the Zero Waste basketball game,” said Richard Gerstein, executive vice presi-

dent – Unifi. “These students understand the importance of protecting our environment. We applaud them for going above and beyond to create exciting promotions at the game to show fans that products people enjoy every day are made when you close the loop on recycling.”

The grant is part of Unifi’s official sponsorship of all Pac-12 Championship events. Unifi’s grant program provides an opportunity to each Pac-12 institution to receive a \$5,000 annual grant award to promote campus zero waste activities and circular economy programs. UC Berkeley received an additional \$10,000 grant based on its winning submission of a three-minute video summary of the circular economy sustainability program that was developed.

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PAPER

Manufacturers teach students

Students across the U.S. and Mexico learned valuable lessons about recycling and sustainability when paperboard packaging manufacturers recently taught TICCIT® in their local communities. Short for “Trees Into Cartons, Cartons, Into Trees,” TICCIT is an educational outreach program from the Paperboard Packaging Council (PPC).

An annual tradition for many folding carton and rigid box manufacturers, TICCIT is designed to teach third through fifth graders about the positive environmental impact of trees and paper. The curriculum shows students that trees are a sustainable crop just like fruits and veggies. It also highlights the many uses of trees and paper and underscores the importance of recycling.

In addition to a classroom presentation, TICCIT includes a fun, hands-on component: students plant tree saplings in paperboard cartons to take home. Some manufacturers even print their own cartons for the occasion. The carton, when planted directly in the ground, provides protection and a natural water funnel for the new tree. As the tree grows, the carton will break down and complete the “trees into cartons, cartons into trees” cycle.

In total, manufacturers across the country donated over 17,000 saplings that families can now see taking root.

ISRI, PSI take the lead on Indonesian scrap imports

The Institute of Scrap and Recycling Industries (ISRI) and Paper Stock Industries (PSI) Chapter representatives traveled to Jakarta, Indonesia, recently to meet with various stakeholders regarding Indonesia’s regulations on imports of recovered fiber.

Adina Renee Adler, ISRI’s assistant vice president of international affairs, and former PSI Chapter president George Chen of G&T Trading International Corp. met in July with Indonesian government officials, inspection agencies, and domestic recyclers and consumers “to better understand the market, the policies, and the different positions that impact recovered fiber imports into Indonesia,” Adler said. They encouraged the Indonesian government to use ISRI’s scrap specifications as its guide regarding contaminants/out-throws in imported recovered fiber, and they reviewed the implications of the government’s proposed zero contamination policy.

In separate meetings with the Ministry of Environment and Forestry and the Indonesian Pulp & Paper Association, as well as a joint meeting with the Ministry of Trade, Ministry of Industry, and KSO Sucofindo (which oversees the government’s preshipment inspection regime), Adler and Chen enhanced their understanding of the government’s

current policy of intent to accept zero contamination through 100-percent inspection of imported recovered fiber, including cutting open bales. They also learned that while the Ministry of Trade and Ministry of Industry accept ISRI specifications as import guidelines, the Ministry of Environment and Forestry leads the government’s import policy and it is not yet convinced it can accept the ISRI specs because they allow for a small percentage of contaminants/out-throws in imported scrap. Those thresholds “cause concerns because Indonesia’s waste management infrastructure lacks sufficient capacity,” Adler said.

In addition to requiring preshipment inspections, Indonesia customs will check the quality of imported recovered fiber when the cargo arrives at any Indonesia port, Chen noted. If customs officials find any prohibitive materials, they will reject the entire shipment and return it to the port of origin. “All exporters need to very careful when shipping recovered paper to Indonesia,” Chen said.

In their discussions, Adler presented the ISRI national perspective while Chen brought a professional recovered paper trader’s expertise to the table. “George was instrumental in providing a technical perspective on the infeasibility of the proposed inspection regime while also noting the market demand in Indonesia for the high quality materials processed in the U.S.,” Adler said.

As a follow-up to these recent meetings – and before the Ministry of Environment finalizes its import policy – ISRI and the PSI Chapter plan to send technical information and guidance on the role ISRI’s specs can play and the support they can offer to help the government minimize illegitimate contaminated loads “to ensure the continued flow of high quality recovered paper into Indonesia,” Adler said.

As PSI Chapter president Leonard Zeid of Midland Davis Corp. concluded, “The ISRI/PSI specs are the most recognized and agreed upon specifications. They have been and continue to be used worldwide. ISRI/PSI will continue to promote their relevance and use to help facilitate global trade.”

Scholarship winners announced

For the second year in a row, the PSI Chapter (Paper Stock Industries) selected college-bound students as winners in its academic scholarship program. Each student will receive \$2,000 to apply toward tuition at any regionally accredited two-year or four-year post-secondary school for the 2019-2020 academic year.

This year’s scholarship winners, along with their sponsoring ISRI/PSI Chapter member company and the school they will attend, are as follows:

•Declan Blair, WestRock (Norcross, Georgia); Norcross, Georgia, Kennesaw State University.

•Rebecca Bordelon, Graphic Packaging International (West Monroe, Louisiana); Louisiana State University.

•Amber Keomany, Graphic Packaging International (Fort Smith, Arkansas); University of Arkansas.

•Fernanda Montoya, Midland Davis corp. (Moline, Illinois); Northern Illinois University.

•Madison Nyhuis, PADNOS (Holland, Michigan); Western Michigan University.

•Julian Saldana, WestRock (Fresno, California); University of California San Diego.

•Heidi Westra, Resource Management Co. (Chicago Ridge, Illinois); Calvin College.

•Emily Woodin, Graphic Packaging International (Kalamazoo, Michigan); Western Michigan University.

To apply for a PSI Chapter scholarship, applicants must have a C+ average or better in high school, meet all admission qualifications at the two year or four year post-secondary school of their choice, and be a dependent of an individual who has been employed for at least one year by a company that is a current active member of ISRI and the PSI Chapter. The employee must work in the recycling division of the member company, and the applicant cannot be a dependent of a company officer or principal.

Applicants must submit an official transcript of their high school grades, SAT and/or ACT scores, two letters of recommendation, a résumé of their personal history and a one-page essay.

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* ————— Testimonial ————— *

I received your publication by mail. I can confirm I have never seen it before in its hard copy version. I like the layout and it is very informative, in a league of its own in terms of quality information. No wonder it is the only recycling publication quoted on Lumistar's blog. I look forward to upcoming issues.



I have read issues of your publication in the past by accessing digital archives at one of two libraries I am a member of. Your website is also fantastic.

—Paul Angel, LUMISTAR CORPORATION

PLASTICS

Recycled content minimum in plastic bags demanded

Twenty-seven organizations called for urgent government action to help deal with the global plastic problem. The industry led Recycle More Bags coalition proposes using legislative action and procurement policy to drive demand for a minimum of 20 percent post-consumer recycled content in some types of plastic bags by 2025.

The U.S. and Canada have been largely dependent on foreign markets for recycling plastic bags and similar plastic grades, like plastic wrap. Foreign demand for these products has decreased markedly in recent years, primarily as a result of China's "National Sword Policy," which banned the import of many recyclables. The North American recycling industry is now more dependent than ever on the health of domestic plastic film recycling end-markets. However, these domestic markets have long been impeded by the continued expansion of domestic oil and gas activity and the low-cost virgin plastic resins that are produced as co-products.

According to More Recycling, a company that tracks plastic recycling year over year in the U.S. and Canada, the amount of bags and wrap collected through at-store recycling programs has grown, but that growth is expected to slow or reverse if the dynamics in the marketplace continue. There is a need to recognize the value of using recycled resin in new products to mitigate plastic pollution and to encourage the expansion of the North American circular economy.

The Recycle More Bags coalition consists of stakeholders involved in the plastic recycling industry: industry asso-

ciations, material recovery facility (MRF) operators, plastic reclaimers, municipalities, environmental non-profits, recycling consultants and a film plastic stewardship organization. The coalition's signatories, who are situated at various steps along the circular economy supply chain, see a need for government to mandate an increased use of recycled resin in plastic bags. At this pivotal moment, government intervention is essential to encourage continued uptake of recycled resins by the plastic film industry, which has been slowed by low pricing of virgin plastics.

The call-to-action proposes a progressive timeline to increase the use of post-consumer recycled content in garbage bags and grocery bags. The vast majority of these two types of plastic bags are made from 100 percent virgin plastic resin. Incentivizing – and where needed, requiring – a minimum level of recycled content in these two applications will replace large amounts of virgin material and support the dual goals of increasing plastic recycling rates while ensuring plastic bags are managed in an environmentally responsible manner.

Increased demand for recycled plastic resin would in turn create greater incentive for effective and efficient recycling of plastic products, expediting the shift to a circular economy and improved environmental outcomes. For example, if all plastic bags sold in the U.S. and Canada included 20 percent recycled content, carbon emissions savings of about 353,000 tons per year – the equivalent of the removal of 250,000 cars from the road – would result.

Bottle-to-bottle recycler tackles ocean plastic pollution

As part of its closed-loop philosophy, CarbonLITE Industries, a recycler and producer of post-consumer PET (polyethylene terephthalate plastic) is launching a new category – 100 percent post-consumer, ocean diverted plastic. CarbonLITE's newest offering will replace virgin materials for food, beverage and cosmetic applications. These products will have the dual benefit of reducing ocean plastics and the amount of virgin material produced.

"Plastic pollution in the ocean is impacting animal health and our food chain, and must be urgently addressed. Our team worked diligently with experts to source and provide a statistically meaningful supply of certified ocean-diverted plastic so our customers can be

part of the solution," said Jason Farahnik, director of brand partnerships and resin sales.

CarbonLITE also owns PinnPACK Packaging, a sustainable food packaging company in Southern California, which allows it to introduce this grade of ocean diverted plastic in a vertically integrated enterprise.

Since its founding, CarbonLITE, has been focused on closed loop, bottle-to-bottle recycling. The company recycles over four billion beverage containers annually between its facilities in California and Texas, ensuring the circular life cycle of beverage containers. A third plant is underway in Pennsylvania, which will increase CarbonLITE's capacity to over six billion bottles a year.

A boy scout said to his scout leader, "Sir, is this snake poisonous?"

The scout leader replied, "No, that snake's not poisonous at all."

So the boy picked up the snake which bit him. The boy starts to spasm and foam at the mouth as the other kids look on in horror.

The scout leader continues, "But that snake IS venomous. Poison is ingested or absorbed, while venom is injected. Let's get it right next time, boys."

INDUSTRY PROFILE

A Closer Look

by Lindsay Fournier

KW Plastics

Kenny Campbell • 800-633-8744

"If you had told me back in the 1980s that we would be shipping more plastic today than lead, I would have said you were crazy," said Kenny Campbell, co-owner of KW Plastics. Innovation and demand have allowed KW Plastics to continuously transform since its founding 38 years ago in Troy, Alabama.

KW Plastics was formed in 1981 when the co-founders and co-owners, Kenny Campbell and Wiley Sanders, observed the need for a solution to the excess casings of spent lead batteries which could not be sent to landfills. They both worked for a local lead smelting operation, Sanders Leads Company, which removed alloys from the spent batteries and converted automotive battery casings to polypropylene (PP), but due to EPA regulations the hazardous casings could not be landfilled.

They partnered to create, process and market the reclaimed batteries and recycled resin – creating a closed-loop recycling operation that delivered recycled plastic converted to PP back to casing manufacturers for use. Becoming the first closed-loop recycling operation for plastics was difficult work for Campbell and Sanders, as there was no precedent for it, but the need was obvious from their previous work.

"At first it was hard to figure out the right way to do everything. There was no one to call. There wasn't an expert in the industry. This wasn't an industry. We did a lot of R&D or trial and error. We had our own machines built. We had our own mechanics making the washlines and machines we needed. We had a good welder, a good chemist and we made it work," said Campbell.

Even picking a name for the newly formed company posed a difficult decision. They even held a contest with their former co-workers at the partnering Sanders Leads Company. Despite the multitudes of suggestions, the founders simply decided on KW Plastics – coming from the initials of their first names.

In addition to inventing the first closed-loop system of its kind, KW Plastics founders encountered challenges in the 1980s proving the value of recycling. At the time, both the environmental benefits and economic rewards of the recycling industry were in question. While only battery case manufacturers initially utilized the polypropylene produced by KW Plastics, Campbell made it a personal mission to add new customers.

One tactic he used to find companies that would benefit from their polypropylene resin was to simply walk the aisles of Walmart, noting the products' manufacturers and then he later contacted and pitched the product. This tactic worked well and KW Plastics gained many customers from it, despite Campbell being stopped by concerned Walmart employees a time or two in the process.

By 1986, the value of KW Plastics and the PP they produced created a market on the West coast, so the Bakersfield, California facility was born for the first major expansion of KW Plastics. In addition, the company worked towards perfecting the recycling process with on-site labs, state-of-the-art equipment and innovative technology for high quality control testing. Campbell and Sanders understood that investments – in the right people and the right equipment – were necessary for the quality of product they were committed to producing.

After capitalizing on the PP market, other plastics were researched to include in the company's offering. In 1993 the KW Plastics Recycling Division was opened at the headquarters in Troy, Alabama to recycle post-consumer high-density polyethylene (HDPE), as it was a natural fit for the company due the similar properties as PP. This segment of the company took off and just five years later KW Plastics entered the packaging industry as KW Containers, an injection company, with the creation of 100 percent recycled and recyclable paint containers. This progressed until the 2016 launching of TruSnap – a paint can made from 100 percent recycled plastic and KW's proprietary resin.

In the nearly 40 years since its founding, KW Plastics and its team have grown as needs arise and as technology changes to meet them. "I've always said: 'If we can collect it, we can find a home for it,'" Campbell stated.

The largest challenge they face currently is keeping supply for the demand, which is constantly driving them towards further investment and expansion. KW Plastics continuously develops technology internally to meet the demand. Though, they feel some of the most impacting technology implementation actually happens in the supply chain when MRFs utilize infrared technology to sort materials more or better.

Today, KW Plastics consists of a network of sister companies including both KW Plastics of Troy and KW Plastics of California, KW Plastics Recycling Division, KW Container, Sanders Lead Company and Wiley Sanders Trucklines. Having this network allows them to provide control of their feedstock and pool together resources during all stages of the process from beginning to end. After collecting raw material from all over the country, it is stored in large silos on site until needed.

These silos have become famous over the years, first being built to stop local newspapers from conjuring up misleading stories about KW Plastics' intentions for

See A CLOSER LOOK, Page 10

WASTE

NY DEC discloses new enforcement action against Dunn Landfill

The New York State Department of Environmental Conservation (DEC) Commissioner Basil Seggos announced the state's latest actions against S.A. Dunn & Company, LLC., for violations of the facility's Mined Land Permit that resulted in significant off-site dust impacts to the surrounding community, including the adjacent school. DEC issued an Order on Consent to the landfill operator, including a new, on-site monitor and a \$35,000 penalty.

This latest legal action against the facility comes in response to an off-site dust event that occurred on April 3, 2019, when DEC staff, responding to residents' complaints, conducted an inspection and observed substantial clouds of airborne dust migrating across Partition Street Extension and onto adjacent properties to the east of the mine site. High winds combined with improv-

erly secured mined sand piles staged on-site resulted in dust adversely impacting the adjacent school and surrounding neighborhoods.

Under terms of the facility's current Mined Land Permit and Dust Control Plan, the facility is required to take specific measures to contain and prevent visible dust from leaving the property, including applying water and hydro-mulch to excavation areas on wind-sided slopes. DEC's investigation determined the facility failed to adequately address blowing sand from the facility.

Highlights of the Consent Order include:

- A new, on-site monitor contracted by the state and paid for by the facility;
- A revised dust control plan that requires the facility operators to mulch and hydro-seed the staged on-site sand

piles, which were the primary source of the off-site dust impacts; and

- Construction of an approved soil berm on the north side of the facility to provide additional buffer to the school property.

In March, DEC directed the Dunn Landfill to take new actions to improve operations and reduce odors at the facility. Comprehensive actions to reduce odors include a new gas collection and cover system requirements and enhanced odor monitoring to reduce impacts to the community. DEC installed four hydrogen sulfide (H₂S) monitors at strategic locations to provide enhanced monitoring of odors at the landfill site. The monitors are placed at the perimeter of the landfill property to determine whether and when the landfill is emitting excessive levels of H₂S. The devices sample and record H₂S data every 10 minutes around the clock, and DEC reviews the resulting data. To date, monitors have recorded low levels of H₂S, typical of similar non-urban settings.

Fernandez named director in Miami-Dade County DSWM

The Miami-Dade County Department of Solid Waste Management (DSWM) has named Michael J. Fernandez as director of the DSWM. Fernandez had previously served as the deputy director of operations for DSWM.

Fernandez is replacing Alina T. Hudak, who continued to serve in her capacity as Miami-Dade County deputy mayor until her retirement in July after 35 years of distinguished service.

Fernandez has a long, illustrious record in the solid waste industry and at DSWM. He was first hired by the department in 2008 as the director of the transfer division, where he oversaw the operation of both the county's three regional waste transfer stations and waste transfer operations at the North Dade and South Dade landfills as well as removal of rejects and residue from the Resources Recovery Facility.

In 2014, Fernandez was promoted to assistant director of disposal operations. In that position, he was a part of the department's senior management team leading post-Hurricane Irma cleanup efforts across the County. It was in part due to these efforts that he was again promoted, to deputy director, in 2018.

During Fernandez's tenure, DSWM implemented a number of programs to enhance efficiency, reduce costs and improve productivity. At least two of these programs – the Transfer Division Night Shift Program and the Transfer Division On-Board Scales Program – won prestigious achievement awards from the National Association of Counties.

Prior to joining Miami-Dade County and DSWM, Fernandez spent eight years in the private sector waste industry and, later, three years as a sanitation superintendent for the City of Hallandale Beach.

As director of DSWM, Fernandez will oversee one of the largest publicly owned and operated solid waste systems in the U.S., with close to 1,000 employees, a budget of approximately \$500 million, a customer base of 353,000 households, and a collection and disposal system including multiple landfills, regional transfer stations, 13 trash and recycling centers and the largest public waste-to-energy plant in the country.

A woman was taking an afternoon nap. When she woke up, she told her husband, "I just dreamt that you gave me a diamond necklace. What do you think it means?"

"You'll know tonight," he said.

That evening, the man came home with a small package and gave it to his wife. Delighted, she opened it to find a book entitled, "The Meaning of Dreams."

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A Closer Look

■Continued from Page 9

the raw material outside the plant. Later, Campbell commissioned a local billboard artist and friend to paint a smiley face on the silos. The "smiley face silo" is the largest industrial silo, holding up to 30 million pounds of raw material, serving as a landmark and a happy reminder of the growth of the company and its environmental good.

With up to 150 million pounds of silo capacity and equipment that processes billions of pounds annually, they currently have the industry's largest capacities to purchase, store and reprocess resin. The final product is a premium postconsumer resin that is shipped to molding facilities across the nation that manufacture plastic products for the packaging, beauty and personal care, housewares, automotive, pipe, paint & coatings, agriculture and sheet industries – ensuring KW Plastics end up in virtually every home in America.

KW Plastics and its family of companies has become a strong entity that works together in order to provide closed loop solutions, seamless logistics and a strong network of resources to its suppliers and customers. While they are the world's largest plastics recycler for HDPE and PP, they pride themselves in their reputation quality and personal customer service. Campbell and Sanders feel strongly that a human should always answer business calls and that an on-site, hands-on approach is always taken to solve customers' issues.

Looking towards the future, KW Plastics is optimistic – believing plastics recycling will continue to grow and validate itself as an environmental and economic solution provider in sustainability.

WASTE

New program connects waste industry with Veterans for jobs

The National Waste and Recycling Association (NWRA) has partnered with Orion Talent, the nation's largest military and industry experienced recruitment firm, to close the labor shortage in the waste and recycling industry.

"By 2026, the solid waste collection industry will have 14,200 new jobs for collection drivers and riders; 1,900 new jobs for diesel service technicians and mechanics; and 300 new jobs for welders, cutters, solderers and brazers. I am proud that NWRA has partnered with Orion Talent to help us attract veterans to our industry," said Darrell Smith, NWRA president and chief executive officer.

Driving for the waste and recycling industry offers numerous advantages such as rising wages, a five day work week, set daily work schedules, and being able to return home at the end of each day's shift unlike long-haul drivers. Despite all this, our industry's companies are increasingly struggling to find enough CDL drivers.

"The waste and recycling industry has experienced a growing labor shortage over the past several years. A tightening labor market with more job openings than potential qualified employees will only exacerbate the situation as demand for these positions grows," said Smith.

David Coe, SVP Strategic Programs for Orion Talent, agrees that the military talent community can add value to the waste and recycling services industry. "Military veterans possess many technical, skilled trade, maintenance and of course leadership/team building skills that have been immediately transferable to the waste and recycling industry for many years", said Coe.

Through this partnership, Orion Talent and NWRA will provide direct access to military veteran job seekers for association members, enable member organizations to direct market to the military talent community, and leverage accredited training programs that help employers learn best practices for the hiring and retention of veterans.

NYC Sanitation provides status of projects, initiatives and future goals of strategic plan

The New York City Department of Sanitation has published its 2019 Strategic Plan Update, three years after the release of the Department's first plan. It represents a blueprint to fortify the department's vital services, enhance employee and public safety, modernize the department's fleet and facilities, develop the department's workforce to lead New Yorkers to send zero waste to landfills. The 2019 Update provides a progress report on these goals.

"Over the last year, we have reached milestones that have been many years in the making," Sanitation Commissioner Kathryn Garcia said in the report. "The City's ban on foam products and the statewide effort to ban plastic bags will finally eradicate two harmful and unnecessary products from our waste stream. The implementation of the Waste Equity law and the opening of the city's final two marine transfer stations represent significant progress on completion of the Solid Waste Management Plan. The newest initiative we have committed to in this year's progress update is to implement a commercial waste zone system which will complement these successes."

Highlights of the 2019 Strategic Plan Update, which covers Fiscal Year 2019, include:

- A unique outreach campaign, Make Compost, Not Trash, focused on facilitating behavior change

at the neighborhood and community level to increase participation in curbside organics collection.

- Added over 600 apartment buildings to its curbside organics program, and increased the number of food scrap drop-off sites to 165, up from 113 last June.

- Collaborated with the Manhattan Borough President's Office, the Manhattan Solid Waste Advisory Board and Pratt Industries to launch the Manhattan Paper Challenge, tasking Community Boards with increasing their paper recycling rates to win financial awards.

- Grew participation in the cycleNYC electronics recycling program by nearly 1,000 buildings; the program now serves 35 percent of the City's 10+ unit buildings. The department also expanded curbside e-waste collection service to include all of Brooklyn and western Queens.

- Collected nearly five million pounds of textiles in the refashionNYC textile recycling program.

- Launched a new food donation portal in May 2019 as part of the DonateNYC reuse and donation platform to facilitate connections for hyper-local food donations.

- Completed the final two conversions of the city's marine transfer stations, a critical implementation milestone of the Solid Waste Management Plan for managing the city's waste and recycling.

- Fully implemented turn by turn routing technology in the city's snow fleet and more than doubled the number of paperless field locations with the implementation of our SMART 3.0 personnel and equipment scheduling system.

- Welcomed its first chief supplier diversity officer, allowing for more centralized efforts to increase opportunities for Minority and Women Owned Business Enterprises in agency contracts.

- Appointed a chief learning officer, a dedicated office for the design and implementation of professional development programs for all employees.

Originally, the Department of Sanitation committed to 12 goals and 46 corresponding initiatives to guide its work. In June 2018, four additional initiatives were added to build on successes and redouble efforts to achieve long term goals. This year, the department has introduced one new initiative. To date, the department has now achieved 27 initiatives; up from 21 at this time last year. An additional 17 initiatives have been partially achieved, and 5 others are underway.

This year, the department has added a new initiative – to implement a commercial waste zone system that will lead to safer and more efficient collection that provides high-quality, low cost service, while furthering the city's zero waste goals.

WM's acquisition of Advanced Disposal gets approved

Advanced Disposal Services, Inc. held a special meeting of stockholders during which the company's stockholders voted to adopt the merger agreement pursuant to which the company would be acquired by an indirect, wholly-owned subsidiary of Waste Management, Inc. in an all-cash transaction.

Approximately 85.9 percent of the outstanding shares of Advanced Disposal's common stock entitled to vote at the special meeting voted in favor of the proposal to adopt the merger agreement.

Under the terms of the merger agreement, Advanced Disposal stockholders will be entitled to receive \$33.15 per share in cash upon completion of the merger, which remains subject to the satisfaction of customary closing conditions.

The transaction is expected to close by the first quarter of 2020. Upon closing of the transaction, Advanced Disposal common stock will be de-listed from the New York Stock Exchange and de-registered under the Securities Exchange Act of 1934, as amended.

No. 1 Preferred Publication





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WOLVERINE TIRE DEBEADER

Light truck and passenger tires.



2014 ELDAN TIRE RASPER SYSTEM

Includes magnets, baghouse and deluge system.



CUMBERLAND MODEL 30 TIRE GRANULATOR

Recently rebuilt, 100 hp.



MAGNATECH 72 X 72 SHREDDER

Includes UMO, cyclone, bag house and spare parts!



2006 MAC 5200 BALER

16" x 16" x variable bale size.



AL-JON/UNITED F-466 ALUMINUM FURNACE

Mid-1980s aluminum smelter.



2015 WENDT TOMRA X-TRACT

Dismantled and ready to ship!



2007 E-Z-A+ CAR CRUSHER

10,500 hours. Great shape!



RUBBER MULCH PAINT LINE

Dual drum batch painting line.



2008 BARCLAY 4.9 PRIMARY TIRE SHREDDER

New knives and seats to be installed!



BARCLAY 6" CLASSIFIER

Good condition. Daisy wheel tire shred classifier.



UNITED 990 ALUMINUM FURNACE

Start earning more for your aluminum!



2015 WENDT TROMMEL

In very good condition!



SIEMENS 1500 HP SHREDDER MOTOR

900 rpm, 3-phase, 4,000 volt.



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2012 DOOSAN DX255 WITH SHEAR

With Genesis GXP 400 R shear. Runs every day.



MOSLEY 330T SHEAR

Good working condition. Maintenance records available.



48" SGM EDDY CURRENT

Model VIS-48-TS



2012 AL-JON 580 CL BALER

Only 1,800 hours on the engine!



2006 AL-JON 580CL AUTO LOGGER

Needs some TLC.



WILLIAMS 60 X 90 HAMMERMILL SHREDDER

Tons of spare parts and conveyance!



1981 HARRIS 500-TON SHEAR BALER

Includes conveyance!



2011 CM LIBERATOR 2R

Rebuilt and ready to run. The best machine for wire separation and wire free rubber material.



2014 100 X 72 EIDAL ROTARY SHEAR

(2) 150 HP motors. Very good condition.



48" HURON VALLEY EDDY CURRENT

Model MK-V-48.



2011 SIERRA 656 SLB SHEAR BALER

Rebuilt main cylinder and control panel.



WENDT TUMBLEBACK FEEDER

28' high. Excellent condition!



1997 MAGNATECH 66X60 SHREDDER

Includes conveyance & ECS.

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METALS

Steel imports down 12 percent year-to-date

Based on final Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,062,000 net tons (NT) of steel in May 2019, including 1,853,000 net tons (NT) of finished steel (down 38.2 percent and 9.3 percent, respectively, vs. April final data). Through the first 5 months of 2019, total and finished steel imports are 13,584,000 and 9,953,000 NT, down 11.7 percent and 18.1 percent, respectively, vs. the same period in 2018. Annualized total and finished steel imports in 2019 would be 32.6 and 23.9 million NT, down 3.3 percent and 7.0 percent, respectively, vs. 2018. Finished steel import market share was an estimated 19 percent in May and is estimated at 21 percent over the first five months of 2019.

Key finished steel products with a significant import increase in May compared to April were sheets and strip all other metallic coatings (up 100 percent), heavy structural shapes (up 98 percent), reinforcing bars (up 56 percent), hot rolled bars (up 17 percent), and standard pipe (up 15 percent). The major finished

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)					
	MAY 2019	APR 2019	2019 Annualized	2018 Full Year	% Change 2019 Annual vs. 2018
SOUTH KOREA	290	275	3,089	2,764	11.7%
JAPAN	124	158	1,466	1,383	6.0%
GERMANY	64	143	1,240	1,339	-7.4%
TAIWAN	81	72	1,047	1,069	-2.0%
VIETNAM	61	79	883	1,110	-20.4%
BRAZIL	41	94	720	479	50.2%
CHINA	47	63	698	696	0.3%
ITALY	46	65	681	605	12.5%
All Others	1,101	1,094	14,063	16,249	-13.5%
TOTAL	1,853	2,044	23,887	25,694	-7.0%

product with a significant year-to-date (YTD) increase vs. the same period in 2018 was line pipe (up 11 percent).

In May, the largest volumes of finished steel imports from offshore were from South Korea (290,000 NT, up 5 percent from April final), Japan (124,000 NT, down 22 percent), Taiwan (81,000 NT, up 13 percent), Germany (64,000 NT, down 56 percent) and Viet-

nam (61,000 NT, down 23 percent). For the first 5 months of 2019, the largest offshore suppliers were South Korea (1,287,000 NT, down 16 percent vs. the same period in 2018), Japan (611,000 NT, no change), Germany (517,000 NT, down 6 percent), Taiwan (436,000 NT, down 7 percent) and Vietnam (368,000 NT, down 5 percent).

May 2019 steel shipments down 0.8 percent

The American Iron and Steel Institute (AISI) reported that for the month of May 2019, U.S. steel mills shipped 8,142,270 net tons, a 0.8 percent decrease from the 8,210,425 net tons shipped in the previous month, April 2019, and a 1.1 percent increase from the 8,056,366 net tons shipped in May 2018. Shipments year-to-date in 2019 are 40,504,746 net tons, a 3.0 percent increase vs. 2018 shipments of 39,316,041 net tons for five months.

A comparison of May shipments to the previous month of April shows the following changes: hot rolled sheets, down 1 percent, hot dipped galvanized sheets and strip, down 2 percent, and cold rolled sheets, down 4 percent.

I've fallen in love with a pencil and we're getting married.

I can't wait to introduce my parents to my bride 2B.

U.S. import for consumption of steel products report released

The U.S. Census Bureau announced that preliminary May steel imports were \$1.9 billion compared to the preliminary April totals of \$2.5 billion.

The May change in steel imports based on metric tonnage reflected decreases primarily in blooms, billets

and slabs. Increases occurred in reinforcing bars, sheets and strip and heavy structural shapes. Decreases occurred primarily with Spain, Turkey and Korea.

The year to date final statistics through April 2019 showed steel

imports of 10.4 million metric tons compared with 11.3 million metric tons through April 2018.

The largest commodity decreases occurred primarily in oil country goods, hot rolled sheets and cold rolled sheets. Increases occurred pri-

marily in billets and slabs. The largest country decreases occurred primarily with Canada and Russia. Increases occurred primarily with Brazil and Italy.



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HYDRAULIC SCRAP MAGNET

- Easy Installation
- Sizes 28"-72" Available
- Complete Enclosed System (Pump, Generator, Control Box)

METALS

Preliminary determinations issued in import investigations

The U.S. Department of Commerce announced its preliminary determinations in the countervailing duty (CVD) investigations of imports of fabricated structural steel from Canada, China and Mexico.

In the China and Mexico investigations, Commerce made affirmative determinations, finding that exporters received countervailable subsidies at rates ranging from 30.30 to 177.43 percent, and 0.01 (de minimis) to 74.01 percent, respectively. In the Canada investigation, Commerce made a negative determination, finding that exporters received countervailable subsidies at de minimis levels ranging from 0.12 to 0.45 percent.

Based on these preliminary determinations, the Department of Commerce will instruct U.S. Customs and Border Protection to collect cash deposits from importers of fabricated structural steel from China and Mexico.

In 2018, imports of fabricated structural steel from Canada, China and Mexico were valued at an estimated \$722.5 million, \$897.5 million, and \$622.4 million, respectively.

The petitioner for these investigations is the American Institute of Steel Construction Full Member Subgroup, Chicago, Illinois.

The strict enforcement of U.S. trade law is a primary focus of the

Trump Administration. Since the beginning of the current Administration, Commerce has initiated 172 new antidumping and countervailing duty investigations – this is a 219 percent increase from the comparable period in the previous administration.

Antidumping and countervailing duty laws provide American businesses and workers with an internationally accepted mechanism to seek relief from the harmful effects of the unfair pricing of imports into the United States. Commerce currently maintains 488 antidumping and countervailing duty orders which provide relief to American companies and industries impacted by unfair trade.

Commerce is currently scheduled to announce its final CVD determinations on or about November 19, 2019.

If Commerce makes affirmative final determinations, the U.S. International Trade Commission (ITC) will be scheduled to make its final injury determinations on or about January 2, 2020. If Commerce makes affirmative final determinations in these investigations, and the ITC makes affirmative final injury determinations, Commerce will issue CVD orders. If Commerce makes negative final determinations, or the ITC makes negative final determinations of injury, the investigations will be terminated and no orders will be issued.

Liberty completes acquisition of ArcelorMittal's European assets

Liberty Steel, part of Sanjeev Gupta's global GFG Alliance, completed the acquisition of seven major steelworks and five service centers across seven European countries from ArcelorMittal.

The 740 million deal makes Liberty Steel one of the top 10 producers globally, excluding China, with a total rolling capacity in excess of 18 million tonnes covering a wide range of finished products.

This is the largest single transaction undertaken by GFG and brings the Alliance's worldwide workforce to nearly 30,000 across 30 countries.

The seven sites, which became part of Liberty, employ over 14,000 people

and include the major integrated steel works at Ostrava in the Czech Republic and Gala i in Romania as well as rolling mills at Skopje (North Macedonia), Piombino (Italy), Dudelange (Luxembourg) and two plants near Liege in Belgium. The service centers are based in France and Italy.

These operations supply steel to multiple sectors across Europe's industrial heartlands, including: construction and infrastructure products, automotive, aerospace, energy, industrial equipment, consumer products and yellow goods. Liberty Steel aims to boost sales from these sites by around 50 percent over the next three years.

MHI and Primetals Technologies acquires ABP Induction Systems

Mitsubishi Heavy Industries (MHI) and Primetals Technologies will acquire ABP Induction Systems, a global manufacturer and servicer of induction furnaces and heating systems from CM Acquisitions, a Chicago based private equity firm. ABP offers a variety of products and comprehensive services to blue chip customers, including leading automotive OEMs and suppliers, industrial manufacturers, independent foundries as well as steel plant manufacturers and steel producers. MHI and Primetals Technologies will jointly take ABP's shares. Future business activities will be conducted in close cooperation with and under the leadership of Primetals Technologies. The completion of the acquisition of ABP is subject to the approval of the relevant authorities, and is planned to close around the end of August, 2019.

ABP provides state-of-the-art equipment for ferrous and nonferrous metal casting, forging and steel making. Its main

products are induction melting, holding and pouring furnaces as well as induction heaters. ABP's business is built upon a large and global customer base with more than 1,600 active units worldwide. ABP also has a core competence in the service business and provides comprehensive aftermarket solutions to customers through the entire product lifecycle. Service centers are strategically located close to the major industrial areas in Germany, the United States, China, India, Mexico, Russia, South Africa, Sweden and Thailand.

ABP also exclusively provides special induction heaters to Primetals Technologies for endless strip production, which helps provide a competitive edge.

ABP will be a group company of MHI under the ownership of Mitsubishi Heavy Industries America, Inc., headquartered in Houston, Texas, and Primetals Technologies USA LLC, Alpharetta, Georgia.

Nucor reports quarterly results

Nucor Corporation announced consolidated net earnings of \$386.5 million, or \$1.26 per diluted share, for the second quarter of 2019. By comparison, Nucor reported consolidated net earnings of \$501.8 million, or \$1.63 per diluted share, for the first quarter of 2019 and \$683.2 million, or \$2.13 per diluted share, for the second quarter of 2018.

Included in the first quarter of 2019 results was a benefit of \$33.7 million, or \$0.08 per diluted share, related to the gain on the sale of an equity method investment. Included in the second quarter results was a benefit of \$23.3 million, or \$0.06 per diluted share, related to insurance recoveries.

In the first half of 2019, Nucor reported consolidated net earnings of \$888.3 million, or \$2.88 per diluted share, compared with consolidated net earnings of \$1.04 billion, or \$3.23 per diluted share, in the first half of last year.

"Unusually wet weather and aggressive supply chain destocking impacted mill order rates in the first half of 2019.

We have seen lower volumes during the first half of this year resulting in a more challenging price environment," said John Ferriola, Nucor's Chairman, chief executive officer and president.

He continued, "However, real demand for our products remains strong in key end-use markets. We see healthy conditions in end-use markets that typically account for more than two thirds of our steel shipments. For this reason, we are cautiously optimistic that pricing has bottomed for most products and that volumes should be more closely aligned with real end-use demand in the second half of the year."

The average scrap and scrap substitute cost per ton used during the second quarter of 2019 was \$330, a 6 percent decrease compared to \$352 in the first quarter and a decrease of 12 percent compared to \$373 in the same quarter of 2018. The average scrap and scrap substitute cost per ton used in the first half of 2019 was \$341, a decrease of 4 percent from 2018.





Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$275.00	264.00	292.00	294.00	289.00
#1 Bundles	per gross ton	275.00	244.00	290.00	295.00	275.00
Plate and Structural	per gross ton	281.00	254.00	259.00	289.00	264.00
#1 & 2 Mixed Steel	per gross ton	212.00	239.00	231.00	260.00	259.00
Shredder Bundles (tin)	per gross ton	150.00	159.00	165.00	163.00	165.00
Crushed Auto Bodies	per gross ton	150.00	159.00	165.00	163.00	165.00
Steel Turnings	per gross ton	83.00	87.00	94.00	152.00	138.00
#1 Copper	per pound	2.47	2.51	2.47	2.48	2.43
#2 Copper	per pound	2.3	2.92	2.26	2.27	2.20
Aluminum Cans	per pound	0.67	0.65	0.55	0.54	0.46
Auto Radiators	per pound	1.49	1.44	1.45	1.63	1.63
Aluminum Core Radiators	per pound	0.64	0.55	0.43	0.45	0.42
Heater Cores	per pound	1.06	1.10	1.10	1.15	1.12
Stainless Steel	per pound	0.53	0.54	0.49	0.51	0.51

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

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AUTOMOTIVE

KAR launches ADESA Europe

KAR Auction Services Inc., a global vehicle remarketing and technology solutions provider, launched its Adesa Europe digital auction, a rebranding of Belgium-based CarsOnTheWeb (COTW). Acquired by KAR in February 2019, COTW is now fully integrated into the KAR family.

The Adesa Europe brand extends the KAR family of companies' international name recognition and reputation beyond North America and the U.K. to Continental Europe. Adesa Europe will continue to provide COTW customers a robust online wholesale vehicle auction marketplace that seamlessly connects

OEMs, fleet owners, wholesalers and dealers in more than 50 countries.

The Adesa Europe brand will extend to each of the local markets where it has sales operations as Adesa Belgium, Adesa France, Adesa Germany, Adesa Italy, Adesa Netherlands and Adesa Spain.

Adesa Europe provides sellers and buyers across Europe with a wide range of vehicle auction, transportation, finance and related support services. The company's online and mobile tools are available in 19 languages and deliver real-time search, bid, payment and logistics scheduling functionality.

IHS Markit expects light-duty vehicle sales in China to decline 6 percent from 2018

China's light vehicle (LV) sales fell nearly 10 percent in June 2019 from prior year – the 12th consecutive month sales declined – casting new doubts on what has been the world's biggest growth engine for auto sales, a recent analysis by business information provider IHS Markit reported.

Total LV sales in China over the past 12 months (July 2018 to June 2019) were 25,396,063, down more than 10 percent from the prior 12 month period. Sales in the U.S. during the same stretch were 17,149,780, a decrease of 1.5 percent from the previous 12 months.

China's auto sales downturn began in mid-2018 and the country closed out that year with an annual decline in LV sales for the first time this century.

The Mobility and Energy Future analysis explores what may be behind falling Chinese auto sales. It questions whether the recent stretch of monthly declines represent a weak period, reflecting economic factors and the U.S.-China "trade war," or a structural shift toward a "new normal" of lower sales.

"One of the major axioms of the global automobile industry, that China will continue to be a growth engine of world auto sales, is no longer the case," said Daniel Yergin, vice chairman, IHS Markit and chair of Mobility and Energy Future project. "Whether declining LV sales in China is a blip in a multidecade upward trajectory or the beginning of a "new normal" of slower – and at times negative – growth, this is the key question."

Should the decline in auto sales be more protracted than it is now, it would likely prompt a fundamental reassessment of automakers' strategies, according to the analysis. As it is, the slowdown has already unsettled a global auto industry that has been geared to high growth in China.

A new Mobility and Energy Future report from IHS Markit, entitled China's Auto Sales: Why Have They Fallen As Much as They Have? identifies a mix of macroeconomic and auto industry-specific factors that have contributed to China's auto sales slowdown – a slowdown that has been surprisingly consistent across all of China's provinces and despite continued economic growth.

"Recent sales trends point to a decoupling of car sales and economic growth in China," said Nigel Griffiths, chief automotive strategist, IHS Markit. "This is a fundamental shift since the two have been strongly correlated up this point."

Among the factors contributing to the sales downturn:

- Less availability of auto loans – Since spring 2018, the Chinese government has been clamping down on the shadow banking system, including peer-to-peer lending platforms. China's car finance market is traditionally restrictive, with high deposit requirements for car loans.

- Dealer destocking – Particularly since January 2019, dealers have been attempting to lower stock levels. This is a normal adjustment in mature markets. But it is a relatively new business reality for Chinese dealers.

- Accelerated transition to China 6 emission standards-compliant vehicles – Just over half of the Chinese market by sales volume has opted to introduce China 6 emission standards (similar to Euro 6 vehicle emissions standards) well ahead of the July 2020 national deadline. The accelerated transition is distorting the market, with a temporary effect of pushing back factory sales to the dealer network.

- Tax policy changes – Previous cuts to the sales tax on smaller engine cars "pulled forward" some sales that would have otherwise been made in 2018 and beyond.

- Growth of ride hailing – IHS Markit estimates that the number of rides rose 28 percent in 2018 and similar growth is expected in 2019. Chinese car sales for 2019 are expected to be 300,000 units lower than would have been the case if these new mobility options were not available.

- Trade War – Recent escalations in the U.S.-China trade fight could add to the declines, according to the analysis. In May the U.S. ratcheted up tariffs on \$200 billion of Chinese imports from 10 percent to 25 percent. IHS Markit now expects U.S. tariffs on China to result in 500,000 fewer sales of light-duty vehicles (LVs) in China than would otherwise occur during 2020.

The one bright spot amid the downturn has been electric vehicles (EVs), the analysis indicates. New registrations of EVs (defined as battery electric vehicles [BEVs] and plug-in hybrid electric vehicles [PHEVs]) in China rose at a monthly average of 85 percent from July 2018 to March 2019 compared to year-earlier period. However, EV sales are not enough to offset the significant declines in internal combustion engine vehicles.

"The continued strength of EV sales in China is likely largely the result of supportive government policies, including subsidies and a production mandate for new energy vehicles," said Elena Pravettoni, senior economist, IHS Markit. "But EVs still remain a small fraction of the total Chinese market."

New registrations of EVs for Q1 2019 were 222,602 – less than 4 percent of the China's total car sales in that period, the IHS Markit analysis shows.

IHS Markit does expect LV sales in China to eventually stabilize and return to positive growth in the coming future, with average annual gains of about 3 percent in 2020-2025 even when accounting for continued deceleration of gross domestic product growth. By comparison, annual gains averaged 7 percent from 2011 to 2017

SALVAGING Millions

by Ron Sturgeon
Autosalvageconsultant.com

It's a noisy world – Why would anyone notice you?

The first article in this series listed more than 25 tactics to increase your business success, all of them based on my experience. I started with nothing and didn't attend college, so I know you can achieve maximum success, regardless of your education.

I love marketing. And I love trying to help others understand its importance. As with most things I try to teach, I almost always encounter the same headwinds, "Oh, you don't understand; my business is different." It should be a book title! The problems are always the same, and lack of good marketing is always at the top of the list.

Marketing is not just advertising. The world is a busy place and folks have lots of options. I've helped banks, insurance agents, auto dealers, lawyers, restaurants and many other types of small businesses; all of them need help with marketing and finding customers.

The place to start is with a unique selling proposition. What makes you special? Why should anyone care about you or your products or services? I don't want to hear that you're the best, or that your quality is the highest, or that you have the best employees. Those are tired rhetoric, and even if true, people don't believe them. You have to have something that makes you stand out from others. You must be able to write it and speak it in one or two sentences, tops.

Next, how do people even know you are out there? You can't spend enough money to get in front of everyone. You need networking and help. Do you send thank you cards to

everyone you meet? Not many folks do; even though it's a unique selling proposition. Do you have a well done website? It's imperative today. If you can identify your target market closely enough, do you make sure you stay in front of them? (This is much harder if your market is too big).

I teach a seminar on how to establish yourself as an expert and gain a unique selling proposition: Write a book. Who do you know who has done that? You can do a book and have 1,000 copies for less than \$5,000, using what I teach and a ghost writer. Most won't even read the book, but they will be honored that you chose them for an auto-graphed copy.

Are you an expert tailor? "10 Secrets Tailors Know about Getting the Perfect Fit." Are you a blossoming contemporary artist? "Understanding Contemporary Art for a Novice." Maybe you do asphalt work? "Understanding Asphalt Work and How to Get It Done on a Budget." How many businesses will that open the door to, helping you make more bids? You think any other contractor will give them a book?

Read my articles on prospect and customer acquisition cost and read five good books on marketing, starting with Seth Godin's The Purple Cow. You will be much smarter. But one thing is for sure, without a marketing plan and execute it, it won't matter even if you have a unique selling proposition. You're a small fish in a big noisy sea, and the likelihood you will be noticed is remote.

Remember, only you can make BUSINESS GREAT!

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AUTOMOTIVE

California and Canada team against vehicle pollution

Reducing transport pollution will help Canadians save money, clean the air and help fight climate change. The auto sector is changing quickly, with electric and autonomous vehicles and other advanced technologies creating huge new opportunities for automakers, parts manufacturers, software developers, and Canada's mining sector. As demand for cleaner and more efficient vehicles grows, investing in innovation is essential to ensure that Canadian automakers remain competitive and continue attracting jobs of the future.

The Minister of Environment and Climate Change, Catherine McKenna, and the chair of the California Air Resources Board, Mary Nichols, signed a new cooperation agreement to advance clean transportation.

With the fifth-largest economy in the world, California remains a global leader in harnessing clean solutions to spark economic growth and create new, middle-class jobs. Canada likewise remains committed to ambitious climate action, and is taking effective, concrete measures to reduce pollution throughout its economy. Cleaner vehicles and fuels are key to meeting Canada's climate goals.

The agreement commits Canada and California to work together on their respective regulations to cut down on

greenhouse gas pollution from vehicles like cars, pickup trucks and SUVs. Effective regulations, like those currently in effect in California and Canada, help ensure that people can drive fuel-efficient cars that cut down on pollution and save money in fuel costs.

The agreement also commits Canada and California to work together to promote the uptake and opportunity of cleaner vehicles. This will ensure Canadians have access to a wide variety of vehicles as we work toward having all light duty vehicles sold here being 100 percent zero emission vehicles by 2040. To help get there, this year's federal budget offers Canadians a rebate of up to \$5,000 for qualifying zero emission vehicles and other tax incentives for businesses that want to upgrade to zero emission fleets. In California, automakers are required to ensure that zero emission vehicles make up a growing proportion of their sales, and the state aims to have five million zero emission vehicles on the road by 2030.

Canada and California will also share best practices and technical information about regulating cleaner fuels, building on California's success with its pioneering Low Carbon Fuel Standard. Canada is developing a Clean Fuel Standard that will cut emissions by 30 million tons in 2030.

Publicly traded IAA Salvage Auction business spinoff created

KAR Auction Services Inc., a global automotive remarketing and technology services provider, has successfully completed its previously announced separation of IAA, Inc. IAA is now an independent public company, trading on the New York Stock Exchange under the ticker symbol IAA. In early 2018, KAR announced the proposed separation with the goals of increasing shareholder value and allowing each company greater flexibility to accelerate its distinct strategic priorities. KAR will continue to focus on its auction marketplaces and has made meaningful investments and acquisitions to bolster its digital, data analytical and technology capabilities while expanding the company's international footprint.

KAR will continue to operate its physical, online and digital whole car auction marketplaces and offer a broad scope of ancillary and related services, including dealer floorplan financing, logistics, inspections and fleet management solutions. The company also maintains a leadership position in the use of

data and technology to deliver clear, actionable insights to customers on pricing, matching supply and demand and inventory optimization. In 2018, KAR generated approximately \$2.4 billion of revenue. It is well-positioned with attractive opportunities for enhanced growth and margins around the globe.

IAA will operate the pre-separation salvage auction businesses of KAR, primarily comprised of Insurance Auto Auctions, Inc. in the U.S., Impact Auto Auctions Ltd. in Canada and HBC Vehicle Services Limited in the United Kingdom. Through those businesses, IAA has been a leader in total loss claim solutions and damaged and salvage vehicle auctions in North America and the United Kingdom. In 2018, Insurance Auto Auctions, Inc. generated approximately \$1.3 billion of revenue.

Under the terms of the spin-off, KAR shareholders retained their KAR shares and received one IAA share for every KAR share held as of 5:00 p.m. EDT on June 18, 2019, the record date for the distribution.

INTERNATIONAL

Department of Commerce finds dumping and countervailable subsidization of imports

The U.S. Department of Commerce announced the affirmative final determinations in the antidumping duty (AD) and countervailing duty (CVD) investigations of imports of steel racks and parts thereof from China, finding that exporters from China have sold steel racks and parts at less than fair value in the United States at rates from 18.06 to 144.50 percent. In addition, Commerce determined that exporters from China received countervailable subsidies at rates from 1.50 to 102.23 percent.

In 2017, imports of steel racks from China were valued at an estimated \$200 million.

The petitioner is the Coalition for Fair Rack Imports, whose members are Bulldog Rack Company (West Virginia), Hannibal Industries, Inc. (California), Husky Rack and Wire (North Carolina), Ridg-U-Rak, Inc. (Pennsylvania), SpaceRak (Michigan), Speedrack Products Group, Ltd. (Michigan), Steel King Industries, Inc. (Wisconsin), Tri-Boro Shelving & Partition Corp. (Virginia) and UNARCO Material Handling, Inc. (Tennessee).

The strict enforcement of U.S. trade law is a primary focus of the Trump Administration. Since the beginning of the current Administration, Commerce has initiated 172 new antidumping and countervailing duty investigations – this

is a 219 percent increase from the comparable period in the previous administration.

Antidumping and countervailing duty laws provide American businesses and workers with an internationally accepted mechanism to seek relief from the harmful effects of the unfair pricing of imports into the United States. Commerce currently maintains 491 antidumping and countervailing duty orders which provide relief to American companies and industries impacted by unfair trade.

The U.S. International Trade Commission (ITC) is currently scheduled to make its final injury determinations on or about September 3, 2019. If the ITC makes affirmative final injury determinations, Commerce will issue AD and CVD orders. If the ITC makes negative final determinations of injury, the investigations will be terminated and no orders will be issued.

The U.S. Department of Commerce's Enforcement and Compliance unit within the International Trade Administration is responsible for vigorously enforcing U.S. trade law and does so through an impartial, transparent process that abides by international law and is based on factual evidence provided on the record.

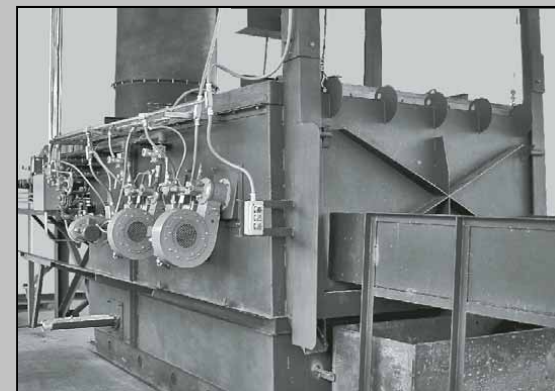
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INTERNATIONAL

Canadian vehicle manufacturers support aligning emission standards

Member companies of the Canadian Vehicle Manufacturers' Association (CVMA) remain committed to making continued progress on fleet fuel economy and GHG emissions, while offering products consumers are demanding. Canada will continue to align with a single national standard with the U.S. given the highly integrated and long lead development nature of the automotive industry.

The CVMA recognizes that the Canadian Government will conduct a detailed, data driven mid-term technical review on vehicle fleet GHG emissions before finalizing regulations. CVMA will continue to be engaged as the process unfolds and will support a fact-based review of the market that will result in a standard that reflects the safety impacts of new vehicle technology and achieves year over year improvements.

"Having worked so hard toward a new North American trade agreement that supports our highly integrated economies, Canada needs to ensure key national regulatory standards remain aligned with the United States so that the auto sector can deliver vehicles to Canadian consumers with continuing environmental improvements at affordable costs," said CVMA president Mark Nantais.

Ireland achieves strong recycling rate and surpasses EU targets

Ireland has achieved its highest ever recycling rate and surpassed all EU recycling targets, Repak reported.

Ireland has an overall recycling rate of 68 percent for all materials.

Recycled glass is 86 percent, recycled metals at 79 percent, paper recycling at 78 percent, wood at 95 percent and plastic at 33 percent. All of these exceed the EU target percentages.

Repak, Ireland's only Government-approved packaging recycling compliance scheme announced the rates with its 2018 annual report.

While Ireland currently recycles a third of all plastics, which is higher than most EU countries, the amount will have to double (55 percent) by 2030 to meet future targets.

I was arrested the other day for stealing people's electrons.

I was heavily charged, despite my victims testifying that it was an overall positive experience.

Trinseo and INEOS Styrolution plan European commercial scale polystyrene chemical recycling plant

Styrenics Circular Solutions (SCS) and Agilyx announced a collaboration between INEOS Styrolution, Trinseo and Agilyx to advance the first-of-its-kind polystyrene (PS) chemical recycling facility in Europe.

SCS members INEOS Styrolution and Trinseo, leaders in the manufacturing of PS and other styrenic materials combined resources to advance the development of a commercial scale chemical recycling plant. The new plant will be capable of processing up to 50 tons per day of post-consumer PS feedstock.

This project advancement follows the promising results of an evaluation study in which SCS, the joint industry initiative to increase the circularity of styrenic polymers, engaged Agilyx, a

leading developer of chemical recycling technologies for plastics, to perform tests with samples of post-consumer PS food packaging waste. Agilyx evaluated the composition of the waste feedstock and successfully recycled it back into its original liquid monomer, using its proprietary depolymerisation technology. This project demonstrated polystyrene's unique intrinsic capability to be fully recycled.

"This is an exciting time in the advancement of plastics recycling, when we really can make a difference with the development of a plant that will not only lead the way to significantly increase European PS recycling rates, but also truly close the loop with food grade recycled content," said Rob Slangen,

plastic and feedstocks technology leader at Trinseo and member of the SCS Technology Working Group. He added: "As such, we are well-positioned to become a key contributor to the European Commission's recycling goals."

PS is a polymer with unique circularity potential, as it is most easily reversed into its original monomer at high yield with the emerging game-changing recycling technologies. The liquid state of its monomer enables easy purification.

The recycled monomer is identical to the virgin monomer. It can thus be processed into styrenics polymers with identical, virgin quality enabling all applications, including food contact. Also, from there it can be continuously recycled, over and over again.

UK'S oldest pub adopts newest food waste disposal

Established in the eighth century, Ye Olde Fighting Cocks Pub was purchased in 2012 by Christo Tafelli. While committed to preserving the pub's history, Tafelli also endeavored to create the greenest and most cost-efficient pub in all of England. To accomplish these seemingly opposing goals, he oversaw a \$1.3 million renovation that included the installation of a cardboard bailer, a glass crusher and an LFC-70 biodigester to lessen lorry collections, shrink landfill deposits, and reduce the pub's carbon footprint.

"At Pub 18 trade show in London, I learned about different technologies to save space and go green, including the LFC® biodigester," explained Tafelli. "The math made sense. In the first week, I eliminated three food waste collections. Multiplied by 52 weeks, I spent \$33,730 last year on overall waste removal with about 20 percent for food waste. That's about \$6,487 a year I'll save. The biodigester will pay for itself quickly."

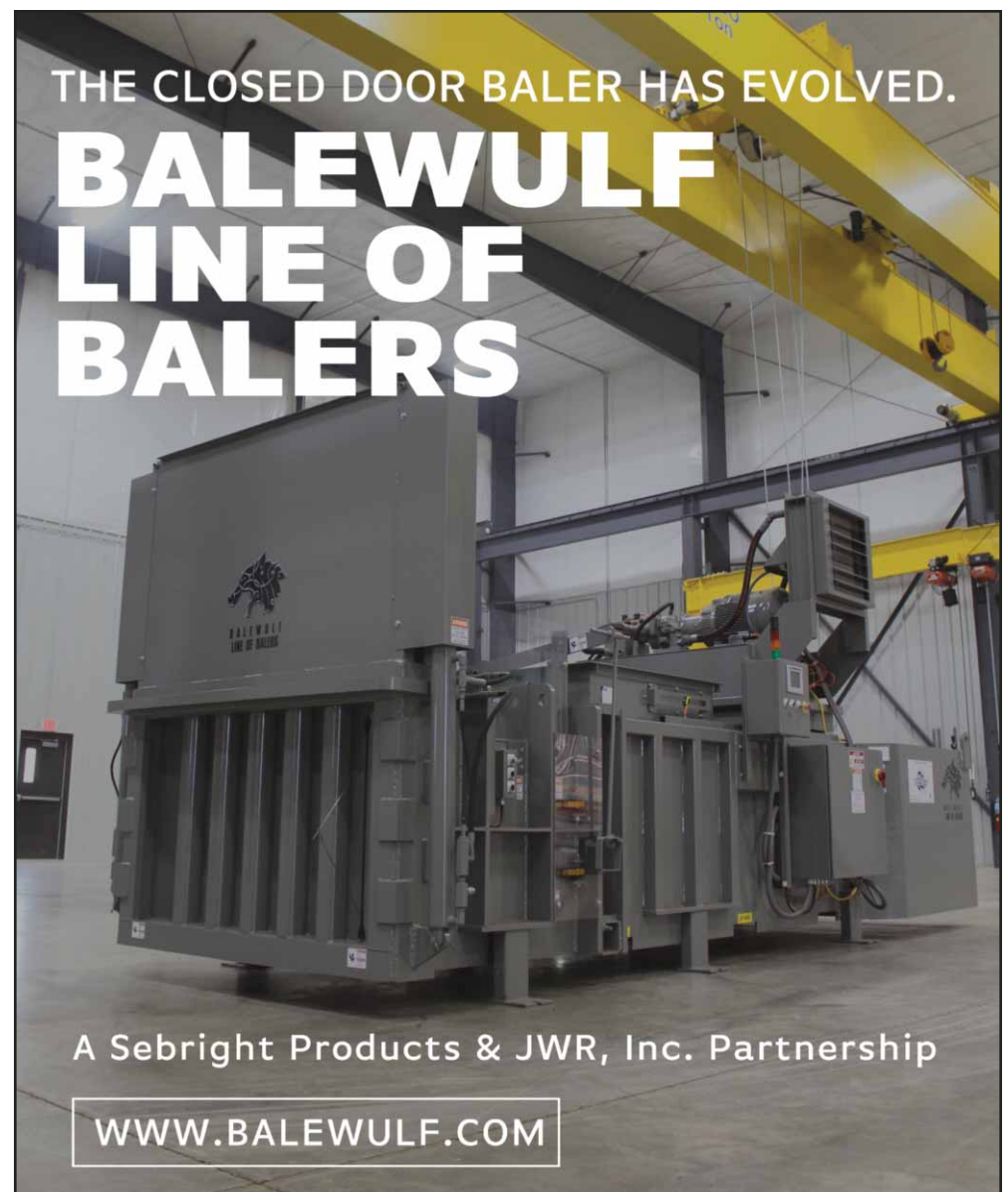
Manufactured by Power Knot LLC, the LFC-70 turns between 150 to 280 lbs. of food waste per day into drain-safe "grey" water – noiselessly, safely and odor-free. Tafelli also avoids storing of food waste and potentially attracting vermin or exposing customers to unsavory smells, particularly during warm weather.

At present, the United Kingdom has no commercial food waste regulation; efforts are voluntary. But "Food Waste in England," a report produced for the House of Commons Environment, Food, and Rural Affairs Committee (2016-2017), makes it clear that regulation is imminent. Also, two registered UK charities, the Waste and Resources Action Programme (WRAP) and IGD, a grocery industry association, have developed the Food Waste

Reduction Roadmap initiative. It aims to have 50 percent of the UK's largest food businesses measuring, reporting, and acting on food waste by September 2019, with full commercial compliance by 2026.

The biodigester decomposes food aerobically (with oxygen), producing only water, CO₂, and heat to 108° F,

further speeding decomposition. The CO₂ generated is part of the natural cycle of carbon generation from plants, making the process carbon neutral. Food waste, which can be added to the continuous process at any time, is fully digested within 24 hours, and gravity-discharged into the drain as harmless grey water.



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BUSINESS BRIEFS

Brent Hildebrand joins AMP Robotics as director

■ AMP Robotics Corp. (AMP), a pioneer in artificial intelligence (AI) and robotics for the recycling industry, has hired industry veteran Brent Hildebrand as managing director of enterprise sales. In this role, he is responsible for sales and business development into new geographies and expanded applications within the recycling industry.

Hildebrand brings more than 20 years of recycling and waste management industry experience to AMP. Most recently he was vice president of recycling at Alpine Waste and Recycling, owned by GFL Environmental. At Alpine, he was responsible for developing their vertically integrated recycling business and modernizing their operational infrastructure. He deployed the first AMP Cortex™ AI powered robotics system for sorting and expanded recycling programs for new materials, including disposable coffee cups. During this time, he served as president of the Colorado Association for Recycling and received the Sustainability Champion Award from the Colorado Environmental Partnership and the Colorado Department of Public Health and Environment for his leadership promoting recycling in Colorado. Prior to GFL, he held management roles at Waste Management, TRI-R Recycling and Browning Ferris Industries (BFI).

Company Wrench names Walter as Fuchs manager

■ Company Wrench, Ltd. has hired Mike Walter as the product manager of the Terex-Fuchs product line. In addition to the Carolinas, Company Wrench is currently the official Fuchs dealer in Ohio, Tennessee, Kentucky and Florida.

Walter brings over 30 years of experience to his new role. Walter's specific expertise in the scrap and recycling industries make him a perfect fit.

Originally from Baltimore, Walter proudly served eight years in the U.S. Army and is a Veteran of the Gulf War. Walter later served for several years in the Army Corps of Engineers.

Bunting Magnetics reaches 60th anniversary

■ Bunting Magnetics Co. celebrated its 60th anniversary as a company on August 3, 2019. Bunting is an industry leader in the design, manufacture and sales of cutting edge magnetic equipment used in applications such as magnetic separation, metal detection, conveyor systems, and magnetic printing cylinders. The main industries the company serves include the recycling, food and pharmaceutical industries, plastics, mining, printing, manufacturing, automotive, chemical, ceramics, textiles and more.

Founded in 1959 by Walter F. Bunting in Chicago, Illinois, the company has remained family owned and operated ever since. Walter's son, Bob Bunting, serves as the current president of the company, and Bob's son, Robert Bunting Jr., serves as the general manager of the magnet materials division. Both father and son expressed great enthusiasm for the 60th anniversary of the company.

Currently, Bunting Magnetics Co. is headquartered in Newton, Kansas with manufacturing and distribution facilities in Berkhamsted, England; DuBois, Pennsylvania; Elk Grove Village, Illinois; Newton, Kansas; and Redditch, England.

Bunting Magnetics Co. products address unique challenges across a variety of different industries. In the metal recycling industry, the stainless steel separation conveyor has been designed to separate very slightly magnetized particles of stainless steel scrap, providing for higher purity separation of metals and increased profit. For plastics companies, Bunting Magnetics Co. worked to develop the FF350 high temp drawer magnet, which allows for metal separation in extremely high temperature plastics manufacturing.

Bunting equipment allows customers to overcome conditions that would otherwise prevent them from achieving the highest level of quality in their operations.

Takeuchi names Hinton to newly appointed position

■ Takeuchi-US, a leader in compact equipment, has named Fred Hinton to a newly appointed position as technical trainer and content developer for the technical training group, effective immediately. This position was added in response to keeping up with the market growth Takeuchi has experienced.

Hinton's main responsibilities include helping the training group facilitate instructor-led technical training to Takeuchi dealers and customers both at the Pendergrass, Georgia facility and regional locations. Additionally, he will use his instructional design background to develop content for future courses and help take the training program to the next level.

With a background in instructional design, technical documentation and project management, Hinton brings 13 years of experience in construction and related industries. Recently, he earned an Associates in Theology degree from Sure Foundation Theological Institute in Seminole, Florida.

U.S. Steel names new chief information officer

■ The United States Steel Corporation has promoted Steven D. Bugajski, a 10 year veteran for the company, to the position of chief information officer.

Bugajski, who has degrees from Penn State University and Waynesburg University, is an information technology professional who hails from the health care field. He joined the Pittsburgh-based steelmaker in 2008 and has served in a variety of information technology managerial positions, including leading the global teams for infrastructure, business processes, project management and administration, transaction processing and enterprise applications.

He has served as U.S. Steel's interim chief information officer and general manager for the Global Business Service Center since May.

C&M Conveyor names Brett Jaffe as CEO

■ C&M Conveyor and Ohio Blow Pipe welcomed Brett Jaffe as chief executive officer.

Jaffe brings over 25 years of experience and in-depth knowledge leading manufacturing organizations in both the public and private sector. Prior to joining C&M Conveyor, Jaffe achieved success as the leader of the private-equity backed Fire-Dex and most recently as an executive-level lean consultant with Moffitt Associates.

A man went to visit a friend and was amazed to find him playing chess with his dog. He watched the game in astonishment for a while. "I can hardly believe my eyes!" he exclaimed. "That's the smartest dog I've ever seen!"

"Nah, he's not so smart," the friend replied. "I've beaten him three games out of five."

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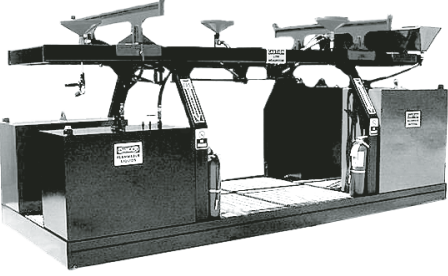
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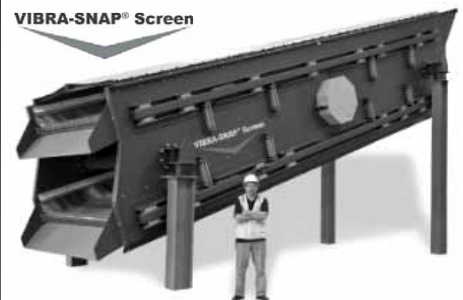


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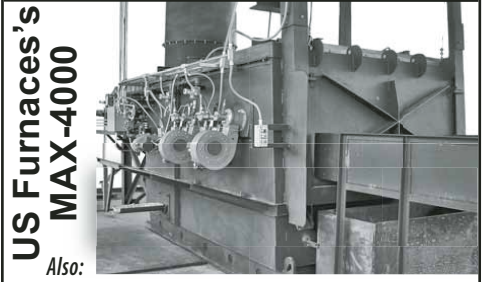
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BUSINESS BRIEFS

Brokk appoints business development manager

■ Brokk, a manufacturer of remote controlled demolition machines, appointed Jeff Keeling as its business development manager. Keeling transitioned from the role of Brokk's mid-western regional sales manager to the new position earlier this year. He works closely with regional sales managers to develop and grow the Brokk brand in key segments across the U.S. and Canada. He is also responsible for educational initiatives aimed at helping customers maximize their Brokk machines' potential.

In addition to his six years at Brokk, Keeling has a lifetime of experience in the concrete cutting and construction industry, including experience with Husqvarna, Volvo Construction Equipment and Hilti. He served as executive vice president for Magnum Diamond & Machinery, his family-owned concrete saw and diamond blade manufacturing business, where he gained an in-depth understanding of the concrete cutting and demolition industry. After the family manufacturing business was sold to DIMAS, now Husqvarna, Keeling worked with his father in their own heavy equipment sales business, Precision Demolition. It was there that Keeling was first exposed to Brokk machines, serving as a distributor of the equipment. He holds a bachelor's degree in Personnel Administration from the University of Kansas.

PAR North America names new sales leader

■ PAR North America (PAR), a business unit of global vehicle remarketing and technology solutions provider KAR Auction Services Inc., has named Drew Shull vice president of sales and client experience. This appointment aims to help create new client relationships and foster PAR's existing customer base.

In his new role, Drew Shull will focus on enhancing PAR's client experience and product offerings, while leading the sales team. He and the sales team are responsible for executing on the company's overall strategy, which includes implementing client retention initiatives, driving results and expanding PAR's product portfolio.

Prior to joining PAR, Shull served as regional manager at AFC, a KAR business unit, where he led the 12 branch Midwest region with an automotive floorplan portfolio of \$200 million. While at AFC, he coached and mentored branch managers on sales strategies, relationship building and integration of new products from the KAR Auction Services portfolio of brands. He also led the Mobility Branch, an international business opportunity for rental cars, fleet cars, rideshare and retail subscription programs. He served in various sales and financial roles before joining the KAR family.

Shull will be based in central Indiana and will report directly to Scott, PAR president.

GBB promotes Jennifer Porter to vice president

■ Gershman, Brickner & Bratton, Inc. (GBB) has promoted Jennifer F. Porter to the position of GBB vice president. A sustainable development leader who joined GBB in 2017 as a senior project manager, Porter has more than 17 years of experience on sustainability initiatives for both governments and the private sector, with extensive expertise in solid waste management, recycling, and composting program evaluation and development.

At GBB, Porter has managed multiple key projects including leading the team tasked with planning and implementing the development of a circular economy Sustainable Business Park. The park is set to achieve 90 percent waste reduction by 2030, in Kent County, Michigan. Porter also led the strategic review of solid waste management services, contracts, and service providers for the City of Taunton, Massachusetts and is now heading the procurement efforts for waste collection and processing services. She was also project manager for public-sector assignments in Deschutes County, Oregon; the Chittenden Solid Waste District, Vermont; the City of Baton Rouge/Parish of East Baton Rouge, Louisiana; Charles County, Maryland; and the City of Columbus, Ohio. Additionally, Porter led a comprehensive waste audit/assessment at Logan Airport as part of a Sustainability Plan Implementation for the Massachusetts Port Authority.

Early in her career, Porter was conservation program coordinator for more than six years with the City of Portland's (Oregon) Office of Sustainable Development where she managed citywide recycling changes; led multifamily recycling projects resulting in a 21 percent rise in volume and a 90 percent decrease in contamination; headed the renewal of the 10 year franchise for the city's 23 residential waste haulers; coordinated the annual residential rate setting for the \$43 million annual enterprise fund; established strong working relationships with multiple stakeholders; and developed a statistical model for a commercial food composting program. Her diverse experience includes acting as chief operating officer at Rivertown Composting; manager of corporate sustainability for Healthy Buildings; and director of workforce initiatives at the Wayne Pike Workforce Alliance.

Padnos acquires Regal Recycling in Michigan

■ Padnos announced the acquisition of Regal Recycling of Howell, Michigan. The acquisition will include two locations: Howell which will be operated by Padnos and Whitmore Lake which will be operated by GLR Advanced Recycling (a partner of Padnos).

Founded in Holland, Michigan, in 1905 by Louis Padnos, the company has grown to be a prominent recycling entity with 19 locations throughout Michigan and Indiana.

Can Manufacturers Institute appoints Breen as leader

■ Can Manufacturers Institute (CMI) has appointed Scott Breen, a strong sustainability communicator, to lead the association's sustainability and recycling efforts.

Breen, who comes to CMI from the U.S. Chamber of Commerce Foundation, will represent the can manufacturing industry's sustainability policy, infrastructure and communications efforts as its vice president of sustainability.

Prior to joining CMI, Breen was the associate manager of the sustainability and circular economy program at the U.S. Chamber of Commerce Foundation. He is also the creator and co-host of the Sustainability Defined podcast. Breen began his career as an attorney advisor at the National Oceanic and Atmospheric Administration.

Breen received a B.A. in political economy from Georgetown University and was magna cum laude when receiving three advanced degrees – Juris Doctor, Master of Public Affairs and Social Entrepreneurship Certificate – from Indiana University.

ASV signs definitive merger agreement with Yanmar

■ ASV Holdings, Inc., a provider of rubber-tracked compact track loaders (CTLs) and wheeled skid steer loaders (SSLs) in the compact construction equipment market, announced that it has entered into a definitive merger agreement with an affiliate of Yanmar Holdings. Under the terms of the agreement, which been approved by both the ASV and Yanmar boards of directors, ASV stockholders will receive \$7.05 in cash for each outstanding share of ASV common stock, for a total value of \$70.7 million.

The ASV board of directors unanimously approved the agreement with Yanmar and recommends that ASV stockholders vote in favor of the transaction.

The combination of ASV's compact track loaders and skid steer loaders with the compact equipment portfolio of Osaka, Japan based Yanmar, creates a comprehensive and global provider of compact equipment with virtually no overlap in distribution networks. The ASV employee base, its manufacturing and distribution facility, international distribution network and supply chain creates a strong platform for North American expansion and will be a key part of Yanmar's long term international growth plans.

The transaction is subject to approval by ASV stockholders and other customary closing conditions and is expected to close in the third quarter of 2019. In conjunction with the merger agreement, a subsidiary of Terex Corporation, which owns 34 percent of the outstanding shares of ASV, has entered into a stockholder voting agreement in support of the merger.

Larry Burkholder retires after 57 years with Morbark

■ Morbark, LLC, announced that longtime industrial sales representative Larry Burkholder retired after nearly 57 years with the company.

While Burkholder's contributions have been mainly with the sales team, he served in a wide range of roles within Morbark over the course of his career, from accounting to marketing. Even when he joined Morbark on October 7, 1962, as a bookkeeper, he had a hand in sales, acting as a sales assistant to Ralph Morey, the brother of company founder Norval Morey. He also held the positions of marketing manager, manager of Recycling Systems Inc., a division of Morbark; and vice president and general manager of Morbark of the Lake States, Inc., a franchised dealer based in Tomahawk, Wisconsin.

Burkholder excelled at sales at Morbark, helping his sales region earn the highest annual revenue for the company most frequently and acting as a major force behind the company at one time achieving a 90 percent market share for industrial equipment in Florida. He assisted customers in capitalizing on business opportunities and shepherding others through federal and state grant processes to purchase millions of dollars of Morbark equipment. Some of the customers he established are among Morbark's largest to this day.

Burkholder actively participated in the industry and community throughout his career, having served as president of the National Wood Energy Association during its formative years in the 1980s; on the boards or as a member of several industry associations, including the American Loggers Council, Michigan Forest Products Committee, Forest Resources Association; and as Chairman of the Isabella County Republican Party.

GreenMantra Technologies adds members to its board

■ GreenMantra Technologies, a rapidly growing clean technology company that upcycles and transforms recycled plastics into value added specialty polymers, announces the appointment of Donald Wiseman and Adam Shepherd to its board of directors.

Wiseman is president of Tundra Companies, a Minnesota based producer of advanced polymers and composites. He was previously president at PolyOne Corporation, leading their Performance Products and Solutions business unit and serving as general manager of the company's Geon Performance Materials business. His career experience also includes roles at Johns Manville, Cabot Microelectronics, Americhem, Michelman and Rohm & Haas.

Shepherd serves as president of Celina Capital Corporation, a Toronto based office that specializes in investment in private operating companies. Prior to joining Celina, he spent a portion of his career at Citibank Canada as a derivatives specialist, corporate banker and leader of Citibank's private bank.

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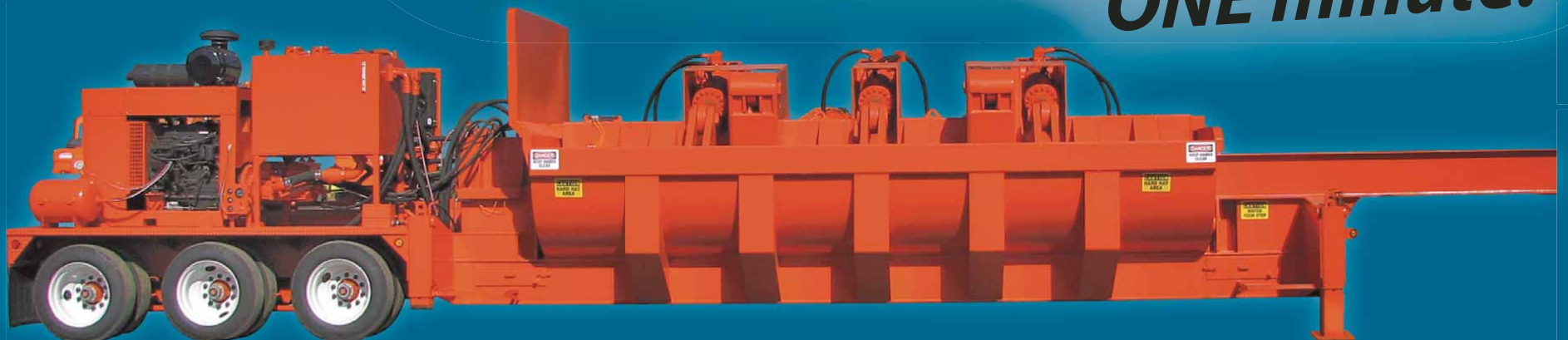


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E-waste recycling legislation rules 25 states

by MAURA KELLER

mkeller@americanrecycler.com

Few words captivate the technology sector more than the word ‘change.’ Anyone with even a casual understanding of the technology marketplace recognizes that change is constantly afoot. And because of this rate of change and advancement, e-waste handling and disposal has become a significant concern, resulting in various states establishing key legislation for the proper handling of electronics.

In the U.S., the disposal of solid and hazardous waste is governed by the federal Resource Conservation and Recovery Act (RCRA) – a law that was established in 1976 and opened the door to the future state of electronic waste that exists today.

According to Krystal Nelson, founder and chief executive officer of I-Impakt Consulting, prior to RCRA, all waste was treated the same in the U.S. No one was separating hazardous waste and there were no rules or regulations on how one disposed of their waste.

“This caused build up in many cities, which forced the government to sign the RCRA into law. Once this law passed, the cost increased for those who had to get rid of hazardous waste,” Nelson said. At the same time, shipping enabled workarounds for those who did not want to pay the increasing cost of disposing of hazardous waste. Many companies and organizations started dumping their waste, including e-waste, in other countries.

The Basel Convention is an international treaty that was designed to reduce the transporting of hazardous waste between nations and to prevent the transfer of hazardous waste from developed countries to less developed countries. Prior to the Basel Convention much of electronic waste was dumped overseas, but the Basel Convention required the U.S. to think of alternative ways to dispose of the electronic waste.

“Since the Basel Convention, the U.S. has not established any federal laws for electronic waste recycling, but



The United States government has been slow to enact federal level e-waste regulations, though half of the states have taken it upon themselves to create laws at county and state levels.

PHOTO BY ARTHURMUSTAFA | DREAMSTIME

25 states have passed laws for the recycling of electronic waste,” Nelson said. “California was the first to create an electronic waste state law in 2003 and the District of Columbia was the last to create a law in 2014.”

The progress made in electronic waste legislation has been slow, but as Nelson pointed out, the lack of continued progression is not a reflection of lack of effort.

“Over the years many bills have been introduced across the U.S. to put into place laws that will impact electronic waste – for example (H.R. 2791). This bill was introduced to stop the export of electronic waste to developing countries,” Nelson said. “It was not passed the first time the bill was introduced, but a slightly modified version of that same bill has been reintroduced

as (H.R. 3559) in 2019. A lot of the work that was done has been building up the momentum that will eventually help us expedite movement in electronic waste legislation.”

Mark Newton, head of North America corporate sustainability at Samsung Electronics, said that many of the existing e-waste laws were put in place to manage difficult to recycle products such as Cathode Ray Tube Televisions (CRT). “The last CRT was sold in 2006 yet, by weight, they still make up the majority of the consumer waste stream,” Newton said. “Since the industry has evolved into making lighter and more sustainable products, the desire to enact new legislation has decreased. The last two jurisdictions to enact new laws were Washington D.C. in 2014 and Utah in 2011.”

In the U.S. there are two voluntary standards that most electronics recyclers adhere to: e-Stewards and R2.

As Newton explained, both standards attempt to address proper disposition of e-waste through the lens of the “hierarchy of disposal” where reuse is preferred before recycling, however, e-Stewards also focuses on ensuring customer data is destroyed and that non-working electronics are not exported to developing countries.

“For these reasons, Samsung, through its global policy and fulfillment in the U.S., preferentially chooses to work through recyclers which adhere to the e-Stewards standard,” Newton said.

While only 25 states have laws for electronic waste, many of these laws

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Nigeria turns the tide on electronic waste

An ambitious new project launched in Lagos is aiming to reform the electronics sector and put an end to the toxic toll improper management of electronic waste is taking on Nigeria.

Over half a million tons of discarded appliances are processed in the country every year, threatening both the health of people in the informal recycling industry and the nation's environment.

With backing from the Global Environment Facility, the Government of Nigeria has joined forces with UN Environment and partners to turn the tide on e-waste, under the Circular Economy Approaches for the Electronics Sector in Nigeria project. Led by the National Environmental Standards and Regulations Enforcement Agency (NESREA), the \$15 million initiative will bring together players from government, the private sector and civil society to kickstart a financially self-sustaining circular economy approach for electronics in Nigeria, protecting the environment while creating safe employment for thousands of Nigerians.

Speaking at the launch of the program, permanent secretary of the Ministry of the Environment Ibukun Odusote said e-waste posed a grave danger to both the environment and human health in Nigeria.

"This intervention by Global Environment Facility aims to stimulate the development of a sustainable circular economy for electronic products in Nigeria," Odusote said, noting that the project would also support the E-waste Producers Responsibility Organization (EPRON) – a key initiative of the Government of Nigeria to promote sustainable production and consumption by encouraging producers to take responsibility for the entire lifecycle of their products.

"To achieve a world without waste, we must radically rethink our relationship with natural resources and key economic systems. We need to adopt a new way of doing business that brings together all actors along the supply chain, and across entire industries," said Naoko Ishii, GEF chief executive



Through a new governmental project, Nigerians are transforming potentially hazardous e-waste in their country, both imported and domestic, into a prosperous recycling opportunity.

PHOTO BY MOANCHO

officer and chairperson. "The Nigerian electronic waste project will put this new way of thinking into practice and is an approach we hope other African countries will adopt."

Nigeria's piles of e-waste come both from home and abroad. The country generated 290,000 tons of electronic waste in 2017 – a 170 percent increase against 2009. Meanwhile, Nigeria remains a major recipient of used electronics from abroad. While the true amount of overseas-generated waste landing in Nigeria is hard to quantify, United Nations University research has revealed more than 60,000 tons of used electrical and electronics equipment are shipped into the country annually via Lagos ports alone, with an unknown amount imported over land routes from neighboring countries. More than 25 per cent of this is dead on arrival – heading straight to dumps or dismantling.

According to the International Labour Organization, up to 100,000 people work in the informal e-waste

recycling sector in Nigeria, collecting and dismantling electronics by hand to reclaim the saleable components. Informal workers are directly exposed to hazardous chemicals and commonly suffer respiratory and dermatological problems, eye infections and lower than average life expectancy.

The waste with no economic value is often dumped or burned –releasing pollutants including heavy metals and toxic chemicals (including dioxins, furans and flame retardants), into the air, water and soil. Over 52,000 tons of brominated (flame retardant) plastics, 4,000 tons of lead, 80 tons of cadmium and 0.3 tons of mercury are burned or dumped in Nigeria every year.

But while e-waste is a threat – it is also an opportunity. With 100 times more gold in a ton of e-waste than in a ton of gold ore, alongside other scarce and valuable materials such as platinum, cobalt and rare earth elements, a safe and efficient recycling industry has the potential to be a big business.

"The environmental and economic benefits of a circular economy are clear," said Inger Andersen, UN Environment Executive director. "This innovative partnership with the Government of Nigeria and the Global Environment Facility is a positive step in the country's efforts to kickstart a circular electronics system, and one that UN Environment is proud to support."

The Circular Economy Approaches for the Electronics Sector in Nigeria project will support the implementation of Extended Producer Responsibility legislation, working with the private sector to develop cost-effective value retention businesses, including recycling and disposal systems for electronic products, while ensuring that informal workers in the sector, such as e-waste collectors and recyclers, have opportunities to improve their livelihoods, working conditions, and their health and safety.

Along with promoting recycling of usable components of electronic products, the project will develop systems for the disposal of non-usable and toxic waste, and aims to collect, treat and dispose of more than 270 tons of e-waste contaminated with persistent organic pollutants and 30 tons of mercury-containing waste.

The project also aims to have an impact beyond Nigeria through the development of a practical circular electronics model for Africa and beyond, by sharing best practices, promoting regional and global dialogue, and engaging global manufacturers.

Circular Economy Approaches for the Electronics Sector is the first demonstration project in the electronics sector convened by the World Economic Forum under the Platform for Accelerating the Circular Economy, a public-private collaboration mechanism and project accelerator dedicated to bringing about the circular economy at speed and scale.

Wisetek, Samsung and DC DOE & Environment to collect e-waste

Free events to be held throughout the year to address the issue of responsible recycling of unwanted electronic equipment.

Wisetek Solutions, a global leader in IT asset disposal (ITAD), re-use and manufacturing services, is partnering with the D.C Library System and Samsung Electronics America to hold a series of monthly electronic waste recycling events throughout the year.

These free events will allow both members of the public and businesses in Washington, D.C. to recycle used electronic equipment responsibly and conveniently.

Covered Devices:

- Computers (desktops, laptops, tablets, small scale servers)
- Computer peripherals
- Computer monitors
- Desktop printers less than 100 lbs.
- Keyboards
- Mouse devices
- Speakers sold with computers
- Televisions
- Television peripherals
- DVRs, DVD players, VCRs
- Signal converter boxes
- Cable & satellite receivers
- Game consoles used w/TVs

Zack Boorstein, vice president of Wisetek USA said, "We are delighted to be part of such an important event and to be chosen to manage the recycling and repurposing of e-waste equipment across the DC region. With increased obligations on manufacturers to take back e-waste, and growing environmental awareness of this issue, Wisetek is happy to participate in this initiative. Education is key to companies learning more about the global sustainability benefits of equipment re-use and recycling and this strongly reflects the core values of Wisetek's business internationally."

"As one of the world's largest electronics makers, Samsung believes it is our responsibility to use the same innovative mindset in keeping our supply and disposition chains accountable as we do with our products," said Mark Newton, head of environmental, regulatory affairs, and sustainability at Samsung Electronics America.

For a list of the currently scheduled events, view this article on www.AmericanRecycler.com.

E-waste export reform legislation introduced to protect national security, create U.S. jobs

Rep. Adriano Espaillat (D-NY) and Rep. Paul Cook (R-CA) introduced the Secure E-Waste Export and Recycling Act (SEERA) legislation that will combat the national security threats posed by the unregulated export of e-waste from the U.S. Introduced with strong support from the Coalition for American Electronics Recycling (CAER), SEERA will restrict export of untested, non-working electronic scrap that provides feedstock for microchip counterfeiters based primarily in China.

"I appreciate the bipartisan interest and efforts to curb China's baneful economic practices and I am glad to work with Congressman Cook to abate e-waste exports to China, which directly threaten our national security and economic interests. Despite the recently enhanced prevention and detection measures imposed on e-waste, the current situation remains untenable and requires a comprehensive strategy to choke off counterfeiters' feedstock: American e-waste exports," Rep. Espaillat said. "Aside from the national security concerns this bill addresses, SEERA mitigates the damaging effects on the environment caused by China's unchecked recycling of e-scrap, which contains toxic materials such as lead, PCBs, mercury and more."

"China regularly counterfeits electronics and puts these dangerous products, including critical military

equipment, back into the market," Rep. Cook said. "These electronic components threaten the reliability and safety of a wide range of technology. SEERA will ensure we're not exporting electronic scrap materials that return to us as counterfeit parts and undermine the reliability of technology essential to our national security."

SEERA would add untested, non-working e-waste used by counterfeiters to a list of materials restricted under the Export Control Reform Act of 2018 due to national security concerns. The legislation includes exemptions for materials considered low risk because they are unlikely to be used by counterfeiters, including:

- Tested, working used electronics
- E-scrap that has been shredded or demanufactured, which may be exported for use as feedstock for smelters and other recycling processes
- Recalled electronics, which may be exported for repairs

By requiring domestic recycling of e-scrap, SEERA will increase high-value exports of refurbished computer equipment and commodity-grade material refined from used electronics. The export reforms will also enable U.S. recyclers to attract investment, expand capacity and create up to 42,000 quality jobs for Americans. For more details, read a summary of the bill on the CAER website.

The threat counterfeits pose to national security was first spotlighted in a Senate Armed Services Committee study that found one million suspected counterfeit parts in military technology, including helicopters, cargo planes, submarines, thermal weapons sights and missile control systems. The report states "much of the material used to make counterfeit electronic parts is electronic waste, or e-waste, shipped from the U.S. and the rest of the world to China."

The problem remains serious, as shown by the conviction of a California based electronics executive earlier this year for selling counterfeit semiconductor chips with fake branding that ended up in U.S. military systems, including a classified weapons system. The counterfeits were pulled from electronic waste – used or discarded chips – then altered by Chinese counterfeiters to appear like new semiconductors and sold to defense contractors.

In his plea agreement, Rogelio Vasquez of PRB Logics Corporation also admitted that in 2016 he acquired counterfeit integrated circuits from China, also processed from e-waste, and sold them into the U.S. defense supply chain believing they would be used in the B-1 Lancer Bomber military aircraft.

Crednology updates shareholders on it's Reg A Filing

Crednology Holding Corp. confirmed that COHO is still working on the approval of its Reg A financing submission to the SEC. The delay in obtaining the approval is due to one remaining issue relating to the number of shareholders of COHO which the company is trying to resolve.

On a really positive note, COHO has added another significant piece of business to its e-waste division with the signing of a new contract with a large aerospace company located in Los Angeles.

Orie Rechtman, chief executive officer commented, "The remaining issue with the SEC in regards to the Reg A approval relates to the number of shareholders the company had when the Form 15 was filed back in 2010. The number must be below 500. We are currently trying to resolve this issue."

Orie continued: "More exciting news relates to our results for the first six months of Fiscal 2019 which will be very strong. The new business we have signed both in our Cloud computing and e-waste divisions, including our new contract with a large aerospace company, bodes well for continuing growth and improved EBITDA during 2019. As always we strive for improved shareholder value."

Mint Innovation unveils world first electronic waste biorefinery

Mint Innovation has unveiled a working plant to demonstrate its world-first technology that enables valuable metals to be recovered from electronic waste. Gold, palladium and copper will be the first key metals extracted from e-waste at the New Zealand biorefinery in a couple of weeks.

New Zealand's Government has provided \$600,000 in backing, through the Ministry for the Environment's Waste Minimization Fund, for the construction of the demo plant, which is open for recyclers from around the world to visit.

Mint expects to recover around US\$10,000 in metals from each tonne of crushed and powdered e-waste supplied by New Zealand's leading IT recycler Remarkit.

Dr. Will Barker, chief executive officer of Mint Innovation, says while Mint has now scaled to pre-commercial, it may be first in the world due to this patented bioprocessing technology.

"The world has an e-waste problem that is compounded by both consumer demand for the latest electronic gadgetry and more countries refusing to import e-waste," Barker said. "Approximately 50 million tonnes of e-waste was generated worldwide last year, with the metallic value alone estimated


to be close to US\$50 billion. This includes US\$22 billion in gold, found primarily in circuit boards. That 'urban ore' is attractive feedstock for us. The primary advantage of Mint's technology is the scalability – enabling deployment of city scale plants that can recover value from e-waste in the city of collection."

Mint plans to fund and build its plants in cities and regions, such as the Birmingham-Manchester-Liverpool triangle, where the e-waste stream ranges from 1,000 to 50,000 tonnes a year.

Recyclers will first sort e-waste into the various value streams and send the circuit board stream direct to a local Mint Innovation plant near them. Mint plans to deal directly with recyclers with transparent payments based on metal value recovered.

"Our world-first biorefinery uses microorganisms to scavenge precious metals from complex waste streams," Dr Barker said. "It is cyanide free and the process streams themselves are recycled, providing an environmentally responsible solution for the particularly noxious waste stream. Residual inert waste from the process is available as an aggregate or filler and any remaining grey water is chemical free."

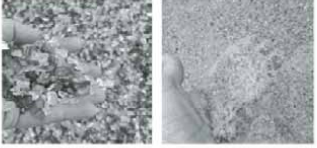
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EQUIPMENT SPOTLIGHT

Primary Reduction

by MARY M. COX

maryc@americanrecycler.com

Information security is as important as ever and that is just as true regarding the recycling of electronic waste.

BCA Industries builds specifically designed electronic shredding and recycling systems. John Neuens, sales and marketing director, commented, "The electronics recycling market is perhaps the segment of the industry where I see the most innovation driven by the variety of materials in assemblies. Some very real problems from privacy concerns, toxicity of materials, explosive battery issues to rare earth reclamation challenges must be resolved. We have recently been working on a Department of Defense project that requires all electronics discarded past life cycle to be reduced to 2mm. This requirement was difficult to provide as the work also involved harder metal materials which were mixed with a

large variety of recyclables. The situation caused us to think anew about whether traditional methods of reduction could even be used while also meeting the production needs involved."

He added, "The dynamics of that situation were similar to those of the lithium ion and nickel cadmium battery recycling systems we have developed. New methods and technologies were required so that we could bring a new value to the recycled material results. The reduction specification created by information privacy required us to develop a multi-staged system that took into account the sizing, heat dissipation, maintenance, air



Granutech-Saturn Systems

quality, innovative screening and recirculation designs—as well as some new separation methods that met the customer's expectation. The innovation of all our electronic devices creates innovation in the whole of the recycling industry."

With shredders ranging from 60 to 2000 h.p., Granutech's Saturn shredders are an ideal fit for e-scrap producers that are in need of a shredder for hard to shred material or with a high volume of material to process. The firm's most popular shredders for e-scrap are Saturn dual and quad shaft shredders such as the 52-32HT and Q44.

"Quad shaft shredders offer more flexibility with final product size because of the integral sizing screen, which retains oversize material in the shredder until it is small enough to fit through the screen. Our customers in the e-scrap business demand reliability

and flexibility from their machinery and suppliers. A range of offerings and features include interchangeable sizing screens on the quad shaft shredders. Saturn shredders continue to meet our customer's needs as they grow their business and their needs change," said Michael Graveman, regional sales manager for Granutech-Saturn Systems.

Graveman noted that the industry is trending toward further recovery through use of downstream separation equipment such as magnets and eddy current machines. Though Granutech does not manufacture these, Graveman warned against overlooking the importance of shredding because the separation equipment is not able to effectively separate material until it is liberated by the shredding process.

Serving the needs of the recycling industry for more than 50 years, Granutech Saturn is a leader in the manufacture of size reduction equipment. Manufactured at the firm's factory in Texas, the Saturn line of single, dual, and quad shaft shredders are valued for extreme durability and toughness, with the majority of machines produced still in operation.

"Whether you're looking for separation and material recovery, or complete data destruction, the Bengal Machine family of brands is the only size reduction company uniquely situated to offer customers a complete, turnkey system capable of reducing large bulky e-waste to a fine particle size, under 2mm. We can help you design the right system to meet your

See PRIMARY REDUCTION, Page B7



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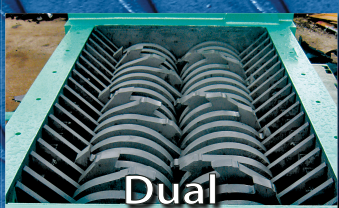
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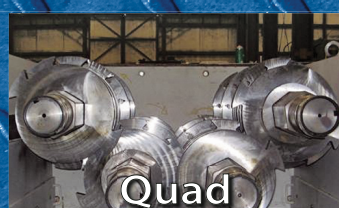
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Legislation

Continued from Page B1

require states to establish statewide recycling programs. Several states require manufacturers to accept and pay for the recycling of their products. In addition, direct consumers are impacted as many of the laws require consumers to recycle their electronic waste as opposed to dumping the electronics in the traditional trash.

As Nelson explained, many bills that have been introduced regarding electronic waste have gone through multiple iterations. Most of the electronic waste bills re-introduced repeatedly do not get passed. Two of these bills have surfaced again fairly recently, the "Secure E-Waste Export and Recycling Act" (SEERA), which would make it illegal at the federal level to export untested and non-working electronics overseas and the "Right-to-Repair" bills.

"For years the U.S. has been a big exporter of electronic waste and China was one of our biggest buyers," Nelson said. "If passed, the bill would protect the environment but it also has further implications of protecting the U.S. from counterfeit microchips placed in devices that end up back at the U.S. front door."

The "Right-to-Repair" bills are separate bills that have been re-introduced in over 15 states in 2019. These bills push for laws that would require producers of electronics to enable consumers to have more options for repairs.

According to Nelson, planned obsolescence is a key barrier to the "Right-to-Repair" bills getting passed.

"Planned obsolescence describes a strategy of deliberately ensuring that the current version of a given product will become out of date or useless within a known time period. This proactive move guarantees that consumers will seek replacements in the future, thus bolstering demand," Nelson said.

Newton added that a successful e-waste recycling law is one that considers the interests of all stakeholders and works to be fair to each. "Samsung prefers laws which allow us to choose which recyclers we work with in order to recycle electronics responsibly," Newton said. "This also allows us to ensure conformance with our standards, which exceed legal requirements. Successful laws also provide for the convenient collection of e-waste from consumers and allow a variety of collection methods such as permanent collection drop-off at public or private institutions, collection events or mail-back."

For example, Samsung is involved with the Electronics Recycling Representative Organization (ERRO), a non-profit organization dedicated to implementing a fair and equitable recycling plan in the state of Illinois. Under this plan, counties sign up to collect e-waste and manufacturers are assigned counties based on their proportional



"Right-to-Repair" bills have been introduced in over 15 states this year and aim to give consumers more avenues of recycling and reuse for electronic devices.

PHOTO BY ANDREAHUYOFF PIXABAY

market share. Manufacturers then employ recycling vendors to collect and responsibly recycle electronics that are collected through the opt-in county network. In this system, consumers have access to recycling solutions, manufacturers can choose their recyclers and are not burdened by unrealistic recycling collection targets.

Challenges Aplenty

Today's electronics can do more with less than their counterparts from 10 years ago. They often boast features that are multifunctional, lighter, thinner and are more efficient and use fewer materials.

"However, existing e-waste regulations are 10 years old and contemplate different products than those being designed today," Newton said. "As regulations evolve they should take into account the fact that substances of concern like lead and mercury have largely been phased out and the average weight of products is contracting because of a shift toward mobile products and the obsolescence of technologies like CRTs."

As Nelson explained, the recycling industry could easily point to the speed of changes in technology, planned obsolescence as well as other factors as key barriers for electronic waste regulations and legislation.

"That would be the easy way out, but the truth is that one of the key challenges for electronic waste legislation getting passed is consumers," Nelson said. "Consumers will ultimately lead the call for change in electronic waste on all fronts. When electronic waste starts to impact the health and safety of consumers in the U.S., change will be expedited. As consumers become more educated about electronic waste and start voting with their dollars, change will be expedited. This change will be expedited by the producers, recycling industry and legislation."

The lack of consumer awareness and direct impact, unfortunately, hold back legislation that could possibly incentivize more companies in the manufacturing and recycling industries to make changes in their current processes and pursue sustainable solutions.

So where is the future of e-waste headed? Nelson said companies like ERIdirect are already leading the way through the use of AI technology and co-bot technology. Through the new technology, they are able to use a co-bot to load, shred and separate mercury and other toxic materials from LED and LCD panels.

"This technology is blazing a new frontier for the industry," Nelson said. "Other companies like Klean Industries are leading the way through the use of blockchain – creating greater visibility and accountability in the e-waste recycling and disposal process. Innovation and technology have the ability to act as a vaccine in solving the e-waste issues that are prevalent in society."

In addition, the resurgence of the "Secure E-Waste Export and Recycling Act (SEERA) (H.R. 3559), that was recently re-introduced in the U.S. House of Representatives will also be a determining factor for the future of e-waste recycling and disposal.

"If the bill is passed, recycling companies across the U.S. would need to reconsider the cost to change their practice of shipping e-waste overseas," Nelson said. "This could also be a key incentive to focus on R&D to come up with new ways to innovate in the industry. Right now, there is less incentive for many of the companies in the recycling industry to change their revenue model and cost allocations. If the bill passes, it will create a great incentive."

According to Newton, we not only need to rethink the way our programs and regulations look, but recyclers and the industry need to be poised to innovate to meet the constantly changing market conditions.

"Technologies that use robotics for sorting will help increase throughput while providing better accuracy," Newton said.

"Innovations such as BAN's Earth-Eye GPS service, which Samsung adopted, offers a global system for tracking electronic waste through to final disposition. Technologies that do a better job of extracting valuable commodities must be explored. Ultimately, the goal is to continue to advance to a circular economy, and to close the loop so that products being put to market are designed to retain value and ultimately to return to the market as a new product through recovery, remanufacturing and recycling processes."

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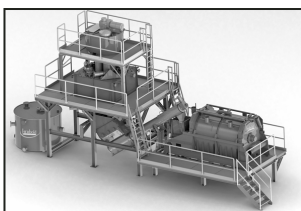
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www.atlascopco.us



HERBOLD MECKESHEIM CUSTOMIZES HOT WASH SYSTEMS

The Herbold Hot Wash System, initially designed for PET bottles, can also be used successfully to process a variety of other items including thermoformed foils, trays and foil used in the packaging industry, as well as PO foils. Fatty impurities from remnants of oily products are dissolved and washed away, as are residues from labels and adhesives.

Every Herbold Hot Wash System is custom configured to best suit the needs of the application using a variety of components. The systems are designed for continuously processing in-line systems and can be used offline to adjust dwell time.

Herbold Meckesheim USA
130 Industrial Drive
North Smithfield, RI 02896
888-612-7774
www.herboldusa.com



HITACHI COVERS ALL THE BASES FOR LOADER VERSATILITY

The ZW220-6 is the "do-it-all" loader of Hitachi's new mid-sized wheel loaders in the Dash-6 Series, fully equipped to excel in the full range of duties expected from the top tier in this class, delivering productivity and efficiency.

Hitachi's "do-it-all" loader is built to endure long shifts in demanding work environments. It ships at 38,910 lbs., powered by a highly efficient 200 HP Cummins Tier 4F engine and delivering 34,170 lbs. of breakout force. The heaped bucket capacity of 4.2 - 4.7 yd³ can reach loading heights up to 13.5 feet.

Hitachi Construction Machinery Loaders America Inc.
60 Amlajack Boulevard
Newnan, Georgia 30265
800-819-5770
www.hitachiwheelloaders.us



NEW PARIS SITE FURNISHINGS ANIMAL PROOF RECEPTACLES

Paris Site Furnishings introduces innovative animal proof waste or recycling containers. Constructed of galvanized steel, these durable receptacles will keep out wildlife, even bears, while dual streams allow for separation of waste. Available as single, 32-gallon units, or as doubles with 64-gallon capacity.

These proven receptacles are available in a variety of colors, with a textured powder coat to offer style and durability, with a mounting to secure to concrete pads. Paris Site Furnishings' BPLR models are an ideal waste storage solution for anywhere durable, wildlife resistant waste containers are needed.

Paris Site Furnishings
259 Third Concession Road, Princeton, Ontario, Canada, N0J 1V0
800-387-6318
www.peml.com



PHILIPPI-HAGENBUCH INNOVATES NEW TAILGATE STYLE

PHIL upgraded its Autogate[®] Tailgate for Komatsu rigid frame trucks, designed with a traditional outrigger that bolts to the undercarriage of the off-highway truck.

It is designed with a traditional outrigger that bolts to the undercarriage of the off-highway truck. This new design does not require any welding to the frame. It's "banana superstructure" provides quality and structural stability, without sacrificing opening clearance at full dump. Optional body seals, fluidic seals, cushion pads and sideboards are available to further customize PHIL's Autogate Tailgates for unique applications.

Philippi-Hagenbuch
7424 W Plank Road
Peoria, IL 61604
309-697-9200
www.philsystems.com

Records set at annual Comerica Shred Day

Residents participating in the annual Comerica Bank Shred Day in Southeast Michigan securely shredded approximately 111,000 pounds of documents, which was the largest total collected at a single site by Iron Mountain over the 12 year history of Comerica's metro Detroit Shred Day.

Held at the bank's operations center in Livonia, approximately 1,200 vehicles proceeded through the line to take advantage of the free service during the five-hour event. For the first time, Detroit's Shred Day tallied over 100,000 pounds of documents at one location.

Electronic Recycling

Re-Source Partners, who has assisted Comerica Shred Day since 2015, recycled over 14,000 pounds of electronics and computer equipment, establishing a new record for the largest haul collected during the five year partnership. Re-Source Partners' semi-trailer truck reached maximum capacity as the event concluded.

Shredding Hunger

Shred Day not only provided identity protection and contributes to sustainability, it also produced extraordinary acts of kindness and giving throughout the community.

Residents donated over 3,300 pounds of food and approximately \$3,500 in cash donations to Gleaners Community Food Bank. Both totals are the highest amount collected since Shred Day began benefiting Gleaners in 2013.

Combined food and monetary contributions will generate over 13,000 meals for those in need, the highest total recorded over the past seven years and the first time surpassing 10,000 meals.

Shred Day has become a signature community event for Comerica since its launch in Michigan 12 years ago. Shred Days are also held in the Dallas, Houston and Phoenix markets, which play integral roles in Comerica's corporate sustainability initiatives.

Recycle My Cell celebrates 10th anniversary, nears 7 million recovered devices

Recycle My Cell, a free cell phone recycling program run by the Canadian Wireless Telecommunications Association (CWTA) that has diverted millions of devices from landfills, has celebrated its 10th anniversary.

To mark the occasion, CWTA released a new report showing that increased awareness among consumers continues to bolster recycling across the nation. CWTA says that 431,943 devices were recovered via the Recycle My Cell program in 2018, bringing the grand total of recycled or reused cell phones over the past decade to 6,985,325.

"The numbers clearly show consumers are interested in doing the right thing," said Robert Ghiz, president and chief executive officer of CWTA. "We're thrilled to have played such a significant part in encouraging more and more Canadians to recycle or reuse their old devices rather than throwing them in the trash or stuffing them in a drawer. Positive progress has been made over the past decade, and we're optimistic that trend will continue moving forward."

"Responsibly dealing with old cell phones is a very simple process and we hope Canadians will continue doing their part to make a positive and lasting impact on the environment," added Ghiz. "With more than 2,600 drop-off locations across the country, there are plenty of options for people no matter where they live to properly dispose of their unused devices."

Other findings from the 2018 Understanding Cell Phone Recycling Behaviors survey include:

- An overwhelming majority of Canadians (97 percent) support or some-

what support cell phone recycling programs in some form. Over 80 percent of Canadians are aware cell phones can be recycled and would consider recycling their cell phones if they knew where to recycle them.

- 51 percent of Canadians chose a form of either recycling or reuse for a previous device in 2018.

- 66 percent of Canadians say they have cell phones in their possession that they are not using and are being stored, compared to 33 percent who say they don't.

- Nearly 9 in 10 (90 percent) Canadians personally have one cell phone that they actively use, while 9 percent actively use two cell phones, 1 percent use three cell phones and 0.2 percent use four cell phones or more.

The 2018 Understanding Cell phone Recycling Behaviors survey, commissioned by the Canadian Wireless Telecommunications Association, was completed by Nanos Research from December 2 to 19, 2018. The survey was conducted online among 3,000 Canadians with a personal cell phone. Participants in PEI were interviewed by telephone. The margin of error for the survey is ± 1.8 percentage points, 19 times out of 20.

Canadian Cell Phone Recycling Facts:

- 431,943 wireless devices were recovered in 2018; of this, 304,027 were reused and 127,916 were recycled.

- 6,985,325 wireless devices have been recovered since 2009.

- 2,665 drop-off locations across Canada.

Global e-waste challenge web portal launches

The Global E-waste Statistics Partnership, of which the United Nations University (UNU) is a founding member, launched globalewaste.org, an open source portal that visualizes e-waste data and statistics globally, by region and by country.

This information will be useful for policymakers, industry, academia and the general public. Discarded equipment such as phones, laptops, refrigerators, sensors and TVs – collectively referred to as e-waste – contain substances that pose substantial environmental and health risks, especially if inadequately treated or improperly disposed of.

Properly handled through appropriate recycling chains and methods, however, e-waste presents an opportunity worth over \$62.5 billion per year, with the potential of creating millions of decent new jobs worldwide.

Globalewaste.org offers e-waste data from Global and Regional E-waste Monitors for most countries, including:

- The amount of e-waste generated in total and per capita and discarded prior to any collection, reuse, treatment or export;

- The amount of e-waste formally collected in total and per capita and regulated by environmental protection laws specifically designed for e-waste; and

- E-waste legislation by country, where applicable.

Latest estimates show that the world now discards approximately 50 million tons of e-waste per year, greater in weight than all of the commercial airliners ever made or enough Eiffel towers to fill Manhattan. Only 20 percent is formally recycled. As an example of the kind of comparative data available via the globalewaste.org interactive map – In 2016, Japan generated 2,139 kilo-

tonnes of e-waste, only 26 percent of which was formally collected. On a per capita average basis, each Japanese resident discarded 16.9 kilograms of e-waste – less than the U.S. and UK average levels (19.4 kg and 24.9 kg per person, respectively), but far above the Asian per capita average of 4.2 kg.

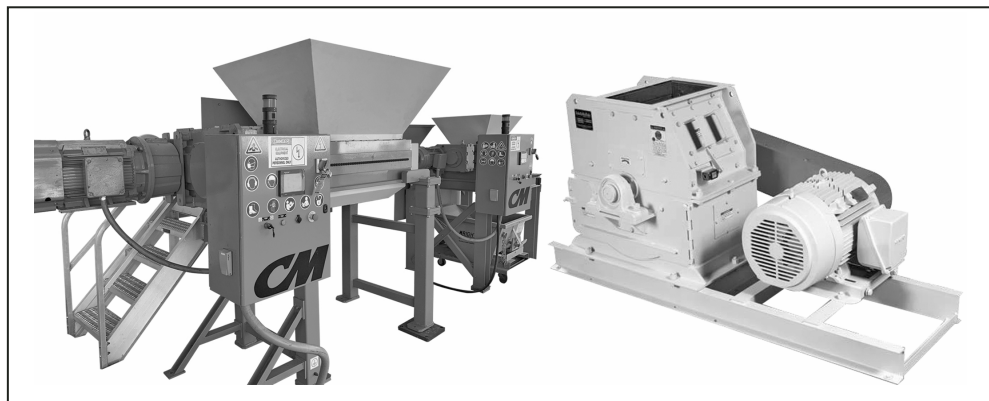
Globalewaste.org provides data on e-waste to help track progress towards global legislation and recycling goals

The portal also details how countries can be supported through capacity building activities of the Global E-waste Statistics Partnership to enhance e-waste data collection.

The Global E-waste Statistics Partnership was founded in 2017 by the International Telecommunication Union, United Nations University (represented by the UNU Vice-Rectorate in Europe Sustainable Cycles Programme), and International Solid Waste Association.

“Our research and advocacy on sustainable e-waste practices are helping to place this issue on the global political agenda, but more action is needed to stem the ever-increasing tide of e-waste,” said United Nations under-secretary-general David Malone, Rector of the United Nations University. “We need to develop innovative e-waste policies, establish and monitor waste-reduction targets, and forge new multi-stakeholder partnerships for action including with the private sector. We hope the Global E-waste Statistics Partnership and the new interactive online platform will support these needed next steps.”

Primary reduction ■Continued from Page B4



Bengal Machine/Schutte Hammermill

needs from primary shredding to fine grinding, and everything in between. Our systems are perfect for both ferrous and nonferrous metals recovery material separation and complete data destruction. We offer unique designs ideal for reducing large, bulky materials to a fine consistency, and grinding free flowing material to an ultra-fine finished particle size,” explained Bill Castine, sales director.

Castine suggested that for primary shredding, CM industrial shredders are perfect for high volume e-waste or electronics scrap shredding and processing, for materials destined for reuse, resale, salvage, recycling or disposal. CM Shredders feature patented knife technology which reduces cost and machine downtime. They are low noise, low dust, low heat, and highly precise.

The Schutte Hammermill brand offers a line of secondary fine-grinders

for electronics processing. The dual stage E-Destroyer Hammer Mill offers super-fine electronic scrap grinding, under 2mm, at very high production rates. The energy resulting from the dual revolving rotors produces a suspension zone that provides additional size reduction. As a result, a finer grind is achieved in one pass through the mill.

The E-Cycler hammer mill completely scours electronic media of data while simultaneously liberating the majority of components for easy separation and recycling. With the ability to process hard drives at a rate of one per second, the E-Cycler can also process cellular phones, printed circuit boards, semiconductors and more – all without any system reconfiguration. All equipment is available in a range of sizes, and is custom configured to meet the demands of specific applications.

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Nationwide Opportunities

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The DADE Auctions Territory Representative is an Independent Contractor position, working within an assigned geographic territory, usually a single state. There may be opportunities for a representative to cover more than one state.

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- 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.

Compensation:

- As a DADE Auctions Territory Representative, your compensation is based upon a listing commission, and when the equipment sells, a selling commission. Your total compensation will be based solely on your successful efforts. You will be responsible for your own expenses and taxes, however, DADE Auctions, Inc. will provide access to territory customers, technology tools and software to make your position more efficient.

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:

- The ideal candidate will 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.
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