



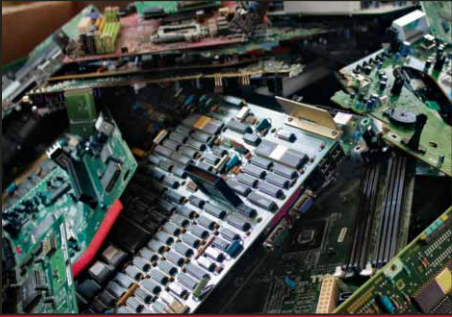
American Recycler

NewsVoice of Salvage, Waste and Recycling

AmericanRecycler.com

FOCUS: Electronics

Growth in recycling e-waste continues



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Hurricane impacts auto recycling



In North Carolina, to be considered totaled, a vehicle's damage must be estimated at over 75 percent of the fair market value.

by MAURA KELLER

mkeller@americanrecycler.com

As the hurricane season gets underway, all eyes turn to the recovery and cleanup within the North Carolina region. Recent Hurricane Florence's deadly destruction wreaked havoc on homes and autos alike. According to David Wu, chief executive officer of VinAudit.com, his company estimates that flooding from Hurricane Florence affected 7,000 to 14,000 vehicles in the North Carolina area, based on correlating satellite flood data from the Dartmouth Flood Observatory.

"In contrast, this same methodology yields an estimate of 400,000 to 800,000 vehicles damaged by Hurricane Harvey, so we estimate that Hurricane Harvey had around a 50 times greater impact on vehicle flooding than Hurricane Florence," Wu said.

Likewise, Anil Goyal, senior analyst at Black Book, a vehicle value tracking firm, said the company estimated Hurricane Florence wrecked about 20,000 vehicles, thanks in part to lower populated areas most affected by the hurricane. The vehicle density within the path of Florence, from Savannah, Georgia to Norfolk, Virginia is approximately half of that of Houston, which was drastically affected by Hurricane Harvey.

As Susanna Gotsch, director, industry analyst for CCC Information Services Inc., explained, the population of the affected areas was smaller than the areas impacted by other storms, which

were similar as it relates to extreme rainfall – i.e., Harvey (Houston) and Sandy (New York and New Jersey metro).

"Subsequently, from a vehicle perspective, we expect fewer overall totals since many people were able to evacuate and there are just fewer people and fewer vehicles in the affected areas," Gotsch said. "We estimate there may be about 15,000 to 20,000 insurance-paid, totaled vehicles from Florence, versus 160,000 from Hurricane Harvey."

CCC works with more than 350 insurance companies and more than 24,000 repair facilities. Consider that without the comprehensive total losses from Hurricane Sandy, the average total loss value for November 2012 was only \$8,279. With the Sandy losses included, the national average jumped to an average of over \$11K. This superstorm resulted in more than 160,000 auto losses.

However, as Gotsch explained, the vehicle mix within a given geographic area can lead to much higher or lower loss costs. For example, analysis of total loss vehicle valuations by CCC Information Services shows the mix of vehicles in the areas impacted by Sandy included more newer and non-Domestic vehicles. And, when compared to other events that occurred in Louisiana and Florida, the average comprehensive total loss valuation was over \$15,000 versus about \$9,000 to \$10,000 for the other major events.

Understanding what the likely market value of vehicles underwritten in a given zip or county impacted by the storm helps insurance carriers to quantify the likely loss costs of those claims.

For example, CCC Information Services' analysis of 2017 year-to-date losses in the areas that saw the most impact from Harvey revealed that values of vehicles are slightly less than those in the areas impacted by Sandy; however, not by much.

Generally speaking, as Wu explained, a vehicle is considered as a total loss if the insurance company determines that the damage on the vehicle prevents it from being safely or cost-effectively repaired, either independently or according to state regulations.

"North Carolina has a 75 percent damage threshold, meaning that vehicles which require over 75 percent of the vehicle's fair market value to be repaired are required to be considered as totaled by the state," Wu said. "The process typically depends on how quickly the insurance companies can assess claims related to the flood damage and update the vehicle's status with the state DMV."

As Gotsch explained, insurers and salvage companies have streamlined operations, especially for flood vehicles. "In the case of Harvey for example, many carriers were simply requesting the customer take pictures of their vehicle showing water above the rail line, and

See HURRICANE, Page 4

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EREF requests pre-proposals focused on recycling

The Environmental Research & Education (EREF) board of directors has identified a high priority research topic in the area of residential recycling and has issued a request for pre-proposals on the topic to support the long term needs and strategic direction of the solid waste field.

Residential recycling is an integral component of an integrated solid waste management system but there are still knowledge gaps revolving around this aspect of waste management. Recycling is significantly affected by human behavior, which is a driving factor in the recovery of materials and program performance. There is a need to understand how to optimize processing, enhance material recyclability, and develop adequate and durable end markets. Beyond these facets, the demonstration of the overall value of residential recycling in terms of sustainability and economics is not well documented.

For the purposes of this request for proposal (RFP), residential recycling is defined as materials (primarily commodity recyclables such as fiber, metal, plastic, glass) that would typically be collected by refuse collection vehicles and transported to material recovery facilities (MRFs) where the collected materials would be processed and sorted. The post-MRF materials would then be utilized by a secondary manufacturer to process them into useful materials of a similar make-up to that of the recycled material. In other words, recycled plastic is re-manufactured into a plastic material, recycled fiber is utilized for paper/cardboard

products, and so on. For this RFP, recycling does NOT include thermal or biological conversion of materials (e.g. waste-to-energy, composting, etc.) or wastes that would typically not go to MRFs (e.g. plastic film, food waste, e-waste).

Submissions of scientific research pre-proposals related to residential recycling are invited in the following areas:

Human Behavior

- Source separation
- Bin/signage design
- Consumption patterns
- Education and communications programs (e.g., which are most effective)

•Effectiveness of positive/negative incentives (e.g., rewards programs, competitions, fines, public notices of failure to comply)

Collection and Program Performance/Effectiveness

- On contamination
- Based on housing type (e.g. single family, multi-family, townhouse, mixed use)
- Based on container type/size, labeling, collection frequency
- Existing program track record and gap analysis
- Effects of changing waste streams, commerce, and new global markets

Definitions, Policies and Regulations

- Viability of single stream, source separation, and mixed waste processing
- Definitions of recycling and the effect on policy
- Mass versus LCA-based goals

•Existing policy, regulations, and government incentives effectiveness given changing global markets (focus on past, present, and future)

•Role of sustainable materials management

Reducing and Managing Contamination

- Human behavior impacts
- Expected contamination rate and how to minimize before getting to MRF
- Strategies to manage/minimize at MRFs and economic impacts
- Role of upstream manufacturing practices
- Min/max contamination based on end use/market

Technological Innovation and Processing Optimization

- Capture efficiency through entire chain – MRFs/secondary processors
- Mixed waste processing
- Sorting technology improvement
- Technological advancement and innovation to minimize contamination or convert low-value recyclables into useful products

Enhancing Material Recyclability

- Management of plastic bags (e.g., if they should they be banned, expand collection and communication, create new markets, cost of expanded management)
- Based on upstream product design/manufacturing

Development of End Markets

- Economically stable end markets
- Primarily for larger volume commodity recyclables (e.g., plastic, fiber, glass)

Recycling Value in terms of Economics and Sustainability

•True cost of recycling (including costs such as administrative overhead)

- Commodity price volatility
- Viability of single stream
- Effects of labor availability, safety, and container and behavior issues

•Comparison with dual/multi-stream/mixed waste systems

•Cost comparison of using virgin materials compared to recovered materials (accounting for differences in geography or other factors affecting costs)

Life-Cycle Assessment

- Demonstrate and rationalize goals, markets, and infrastructure needs
- Whether or not something should be recycled or not based on environmental burden

•Impact of inventory metrics on recyclability (e.g., transport, energy use)

Pre-proposals submitted in response to this RFP should consider the focus areas noted herein. Projects and research previously funded by the Foundation can be viewed on its website. Previously awarded grants have ranged from \$15,000 to over \$500,000 with the average grant amount in recent years being \$160,000. Typical project durations are about 2 years. Research proposals in excess of \$300,000 or longer than 3 years should provide sufficient detail to justify a larger budget or duration.

Submittal Deadline

The submittal deadline for this RFP is 5:00 PM EST, December 3, 2018. The full RFP can be downloaded at www.erefndn.org.

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Largest recycling campaign in U.S. history launched by RAA

The nonprofit organization Recycle Across America® (RAA) has launched the celebrity-led “Let’s recycle right!” (Let’s) Campaign, which is the largest recycling education campaign in U.S. history. Many of the TV, billboard, print and social media ads features simple tips for proper recycling and introduces the society-wide standardized labeling solution for recycling bins, which makes it possible for people everywhere to recycle right.

The “Let’s” Campaign features a cross-section of recognizable influencers and celebrities who have donated their time, likeness and influence to help resolve this crisis.

“Let’s” ads are playing on many national television stations in forty of the largest U.S. cities; are appearing on Lamar Advertising Company’s digital billboards coast-to-coast; are displayed in international airports; are featured in national and regional magazines and

newspapers; and are seen in other public spaces throughout the country.

RAA launched the campaign in response to the U.S. recycling crisis. In the state of California alone, 1,000 recycling centers and processing plants have recently shut down, and stories are frequently published about collected recyclables being sent to landfills due to contamination.

The chronic confusion at the bin has led people to throw millions of tons of garbage in recycling bins, and that contamination cripples the economics of recycling.

China, which used to purchase a third of U.S. recycling, enacted the Green Fence Policy in 2013 warning the U.S. to clean up the recyclables. Without seeing improvements with the contamination levels, in January 2018 China announced the Green Sword Policy banning the purchase of most U.S. recyclables due to the contamination.

The public confusion and apathy about recycling stems from a lack of national education about proper recycling and a lack of standardized labels.

Therefore, in addition to creating the most extensive recycling campaign in U.S. history, nonprofit RAA created the only standardized labels for society-wide use on recycling bins to make it easy for the public to begin recycling right wherever they might be.

To date, there are nearly nine-million standardized labels displayed on bins throughout the U.S. that have proven to double or triple recycling levels and significantly reduce or eliminate contamination.

In turn, the standardized labels help reduce the cost of processing recyclables and allow many manufacturers to have access to high quality recycled commodities at competitive prices, thereby preventing the depletion of finite natural resources.

Hurricane

■Continued from Page 1

they would arrange tow and start the total loss process,” Gotsch said.

Once a vehicle is considered totaled, the insurance companies typically have the vehicles towed to a salvage auction facility such as Copart or Insurance Auto Auctions (the two largest salvage auction companies), where the vehicles are auctioned off to the highest bidder.

“While many of the auctioned salvage vehicles are properly used for parts or scrap, some of those flooded vehicles end up being repaired and returned to the market,” Wu said. According to data compiled by VinAudit.com, over 16,000 vehicles that were likely impacted by Hurricane Harvey have been listed for sale in popular online marketplaces like Craigslist, eBay, and AutoTrader.

“In some cases, these vehicles are listed for sale with no disclosure of the previous flooding,” Wu said.

Generally speaking, Wu stressed the National Motor Vehicle Title Information System (NMVTIS), a federal data-

base administered by the US Department of Justice, is the best available database for monitoring vehicles affected by flood damage. It is the only nationwide database where state DMVs, insurance carriers, and salvage entities like Copart and Insurance Auto Auction are required by law to report.

“As DOJ enforces these reporting requirements with threats of fines of up to \$1,000 per VIN, NMVTIS has the most comprehensive coverage available for total loss and salvage vehicles with over 9,000 entities reporting over 15,000,000 records per year,” Wu said.

That said, the auto loss/salvage process as it relates to hurricanes is fairly complex. For instance, the claims process with insurance companies, where consumers and insurance companies need to settle on total loss value for the vehicle.

The reporting process with states varies from state to state and the liquidation process for the vehicles, where flood-damaged vehicles are being sold, repaired, and relisted online on a large scale.

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Events Calendar

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Automotive Recyclers Association (ARA) Annual Convention and Expo. Walt Disney World Dolphin Resort, Lake Buena Vista, Florida.
571-208-0428 | www.araexpo.org

November 7th-8th

The Tire and Rubber Association of Canada - Rubber Recycling Symposium. Sheraton on the Falls Hotel, Niagara Falls, Ontario Canada.
519-249-0366 | www.tracanada.ca

January 28th-31st, 2019

COMPOST2019 Conference & Tradeshow. Renaissance Phoenix Glendale Hotel & Spa, Phoenix, Arizona.
301-897-2715 | www.compostingcouncil.org

February 24th-27th

The 32nd Southeast Recycling Conference & Tradeshow (SERC). Rosen Centre Hotel, Orlando, Florida. 800-441-7949
www.southeastrecyclingtradeshow.com

February 25th-28th

SWANApalooza 2019. Hynes Convention Center, Boston, Massachusetts.
800-467-9262 | www.swana.org

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877-777-0043 Fax 419-931-0740

Owner, Publisher and Editor

ESTHER G. FOURNIER
news@AmericanRecycler.com

Production and Layout

MARY E. HILL
mary@AmericanRecycler.com

Editorial Focus Section Production and Layout

LINDSAY BROWN
lindsay@AmericanRecycler.com

Marketing Representatives

MARY M. COX
maryc@AmericanRecycler.com
MARY E. HILL
mary@AmericanRecycler.com

Circulation Manager

DONNA L. MCMANUS
donna@AmericanRecycler.com

Writers and Contributors

DONNA CURRIE
dcurrie@AmericanRecycler.com
MARK HENRICKS
mhenricks@AmericanRecycler.com
MAURA KELLER
mkeller@AmericanRecycler.com
RON STURGEON
rons@rdsinvestments.com

Production Offices

6546 Weatherfield Court, Ste C-2
Maumee, OH 43537
877-777-0043 fax 419-931-0740
www.AmericanRecycler.com

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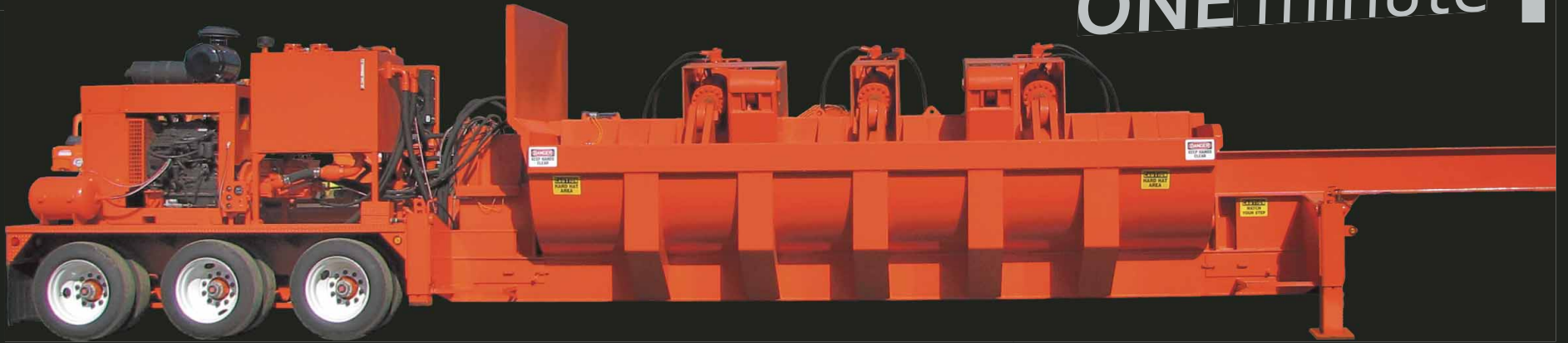
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Lead Batteries: The sustainable back-up power resource

by TOD A. LYONS

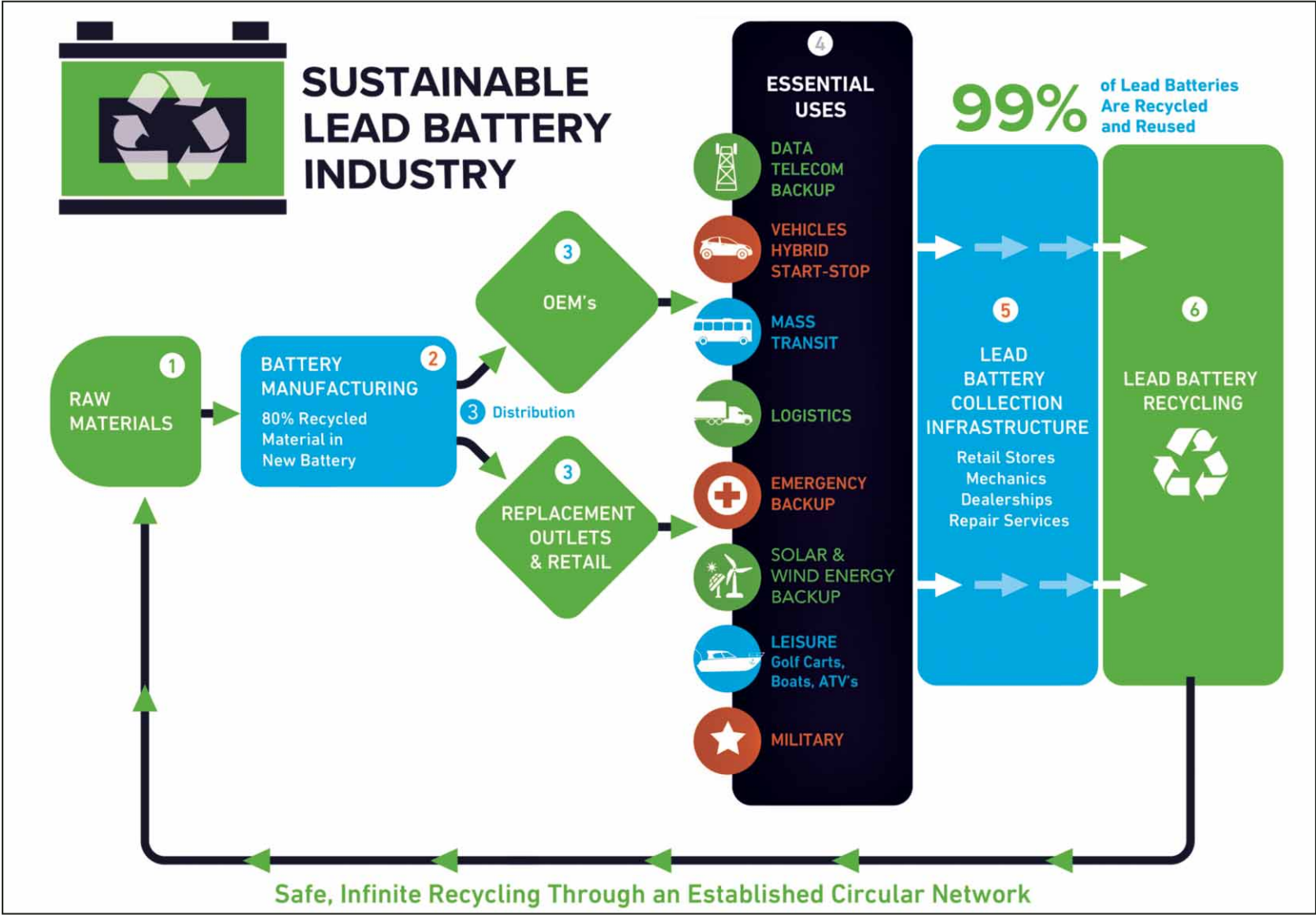
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History tells us the lead battery as we now know it was invented 1859 by French physicist Gaston Planté. As the oldest rechargeable power source, one of the first applications of Plante’s lead acid battery powered the lights in train cars while stopped at a station.

Since then other batteries and battery chemistries have come and gone and newer chemistries are trying to get to the same level of sustainability as lead batteries. But today, lead batteries still serve as the most sustainable back-up power source we use. You’ll find them in cars, boats, power stations, data centers, cell phone towers, children’s toys, emergency lighting and a myriad of other uses.

Lead batteries are sustainable because they are recyclable. In fact, the vast majority of new lead batteries are made with raw material from scrap lead batteries. According the Battery Council International (BCI), 99 percent of all lead batteries manufactured are recycled. In 2017, Interstate Batteries alone recycled more than 1 billion pounds of lead batteries, which will be used to make new batteries.

In an on-line brochure entitled, “The Facts About Lead, the Energy Solution” produced by the BCI, “Innovative recycling



facilities have been developed to recycle virtually 100 percent of a lead-acid battery’s components. Collection, transportation, and handling of spent lead-acid batteries are well defined and regu-

lated by the US government and by most states.” The same thing cannot be said about lithium batteries.

The LA Times published an article in March 2018 explaining

that less than three percent of lithium-ion batteries around the world are recycled according to Zheng Chen, a nanoengineer at the Sustainable Power and Energy Center at UC San Diego’s

Jacobs School of Engineering. Other industry articles suggest maybe up to five percent of lithium batteries being manufactured are recycled. Since only a
See BATTERIES, Page 10

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Colorado NextCycle
launched to fund recycling
end market development

The Colorado Department of Public Health and Environment is introducing Colorado NextCycle, a program that provides funding, expertise and economic data to Colorado businesses, communities, universities and startups interested in turning recovered materials into marketable products.

In August 2017, the department adopted statewide waste diversion goals aimed at doubling the state's current recycling rate to 45 percent by 2036. However, the state's geography and changes in international end markets pose significant challenges to meeting that goal through existing programs and efforts.

The Colorado NextCycle program will provide modest grants to selected teams to incubate their business ideas while receiving technical support, mentoring, and industry and economic data. The goal is to nurture viable ideas to fundable, shovel-ready status for submission to the 2019 department grant cycle. Business concepts may be focused on developing end markets for any recovered commodity or organic material, including secondary processing of recovered materials.

A technical advisory committee, including subject matter experts covering material processing, infrastructure, manufacturing, finance, risk assessment, partnerships and market development, will provide input and guidance to help teams create successful business plans. The department has contracted with RRS to support the development of the Colorado NextCycle program and assess potential project teams.

"We're proud to announce this refreshed approach to our end market development grant program," said Eric Heyboer, recycling grant program administrator at the department. "We hope to encourage a wide range of applicants, from industry to academia to the public, to form cross-sector teams and put forward their best ideas to support material diversion in the state."

Colorado NextCycle will accept letters of intent starting November 16 and ending December 14. For more information about the program and to apply, please visit the department's Colorado NextCycle web page or email nextcycle@recycle.com.

Colorado NextCycle is funded by the Colorado Department of Public Health and Environment and facilitated by RRS, a sustainability and recycling consulting firm with an office location in Boulder. Additional external financial partners and investors interested in supporting and extending the department's investment in NextCycle may e-mail nextcycle@recycle.com.

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Solvent recycling facility faces penalties

The U.S. Environmental Protection Agency (EPA) reached a settlement with Rho-Chem, LLC, a solvent recycling and storage facility in Inglewood, California for federal hazardous waste violations. Under the agreement, Rho-Chem will take specific steps to better track and more safely manage hazardous wastes at its Inglewood facility. Rho-Chem will also purchase more than \$353,000 in emergency response equipment for the Los Angeles County Fire Department and pay a \$120,527 penalty.

Rho-Chem is a fuel blending, solvent recycling and re-packaging distribution and storage facility. EPA's September 2015 inspection found that Rho-Chem was in violation of federal Resource Conservation and Recovery Act (RCRA) regulations. RCRA rules require the safe management of hazardous waste to protect public health and the environment and to prevent costly and extensive cleanups.

The company's violations included:

- Failure to make a hazardous waste determination for certain solid waste generated;
- Failure to maintain and inspect secondary containment areas to prevent leaks and spills;
- Failure to regularly inspect its hazardous waste operations area to detect discharges;
- Failure to inspect and properly maintain its closed ventilation monitoring systems;
- Failure to properly manage ignitable hazardous waste in certain areas of the facility;
- Failure to maintain adequate operating records; and
- Failure to obtain the proper permit to store and treat hazardous waste for longer than 90 days.

In addition to the penalty, Rho-Chem is required to complete a supplemental environmental project to purchase and provide at least \$352,992 worth of emergency response instruments, and communication and computing equipment to the Los Angeles County Fire Department's Homeland Security/Hazardous Materials Response Section. This equipment will improve the department's ability to identify and monitor chemicals and other hazardous materials in the field such as toxic and combustible gases, volatile organic compounds, radiation, and meteorological factors.

The settlement also requires Rho-Chem to implement an electronic system that will more accurately document the amounts and types of hazardous waste received, treated, stored or scheduled for off-site disposal. The company will complete an audit of hazardous air emissions and provide its audit report to EPA, along with corrective actions. As part of its renewal application for its hazardous waste permit, the company will submit a revised Waste Analysis Plan that outlines procedures for accurately determining the treatment standard for hazardous waste and debris and a revised Closure Plan to close certain units at its facility.

Aircraft recycling is creating a greener future

The aviation industry is in the middle of a global boom that doesn't show any signs of slowing down soon. Due in large part to the emerging Pacific Asia and Middle East markets (but also buoyed by low global interest rates, modest gas prices and continuing increases in global passenger numbers), aircraft manufacturers have made record numbers of aircraft deliveries and have received an unprecedented number of orders, with a combined backlog that amounts to more than a decade of production and over \$1 trillion in sales. In 2017, the global fleet of operational aircraft topped 31,000 for the first time ever.

A commercial plane typically flies for 20 to 25 years before being retired. In 2018, roughly 500 out of service airplanes will be disassembled. Over the next two decades, 12,000 aircraft are due to be retired, with the number of planes being disassembled annually expected to climb to 2,000 by the year 2030. This glut of retiring aircraft is forcing the aerospace sector to put more consideration into a plane's end of life – specifically how aircraft recycling can help to alleviate some of the environmental impacts of out-of-service airplanes.

In the not too distant past, retirement meant being shipped off to a storage facility (colloquially known as

"airplane boneyards") to be stripped for parts and materials that could be reused or resold and then scrapped. In 2006, however, with the founding of the Aircraft Fleet Recycling Association (AFRA), the thinking began to shift toward a greener view of end of service aircraft, with a focus on increasing the percentage of an aircraft that can be recycled or reused.

Currently, around 80 percent to 85 percent of an aircraft can be recycled. The remainder ends up in landfills. Two of the biggest challenges in aircraft recycling are plane interiors – which can often be worth less to recycle than it costs to dismantle and sort them – and the wider use of composite materials, such as carbon fiber, a combination of carbon and plastic that has become extremely popular in aerospace applications due to its lightweight strength.

In both cases, an effective, large-scale recycling solution doesn't currently exist, but one of the benefits of aircraft recycling gaining greater exposure is that it highlights the financial incentives for companies like the Aircraft Interior Recycling Association, a comprehensive resource for recycling aircraft interiors, to provide highly specialized services.

The 87 current members of AFRA come from all ends of the supply chain, from original equipment manufacturers

(OEMs) to airline operators to aircraft disassemblers and material recyclers. Working together, these varied stakeholders are pursuing two parallel goals: a standardized and streamlined system for recycling all parts of a plane, and more holistic design protocols to produce aircraft that are built to be recycled once they are out of service.

While aircraft recycling may be a new concept to some, the aviation industry is always looking for ways to lower its – admittedly significant – carbon footprint. In fact, the aerospace sector spends \$15 billion every year on its sustainability efforts and, in the historic 2016 CORSIA accord, 191 countries agreed to cap and offset international aviation-related carbon emissions from 2020 levels.

With the unprecedented number of planes being built and retired in the next few decades, aircraft recycling will necessarily become an ever more prominent aspect of aviation, both at the end of a plane's life and in the initial design and engineering phases. Aerospace has always been a champion of innovation and collaboration, and creating a greener future for aviation offers a compelling and critical challenge to the brilliant minds within the industry.

Contributed by: Annette O'Neal
VP Materials Management of Proponent

EPA honors former McClellan Air Force Base

The U.S. Environmental Protection Agency (EPA) presented its first annual "National Federal Facility Excellence in Site Reuse" award to the former McClellan Air Force Base, in Sacramento County, in recognition of exemplary work transforming the Superfund site into a successful business park. The 3,452 acre McClellan Business Park now supports more than 17,000 jobs and has generated \$580 million in public and private investment.

The award, which EPA is giving to four federal sites nationwide, recognizes the hard work, innovative thinking, and cooperation among federal agencies, states, tribes, local partners, and developers to encourage restoration of federal

sites for beneficial reuses. Awards were provided in four categories: National Priorities List (NPL) Base Realignment and Closure (BRAC) sites, NPL sites, non-NPL sites, and non-NPL BRAC sites. The McClellan site received the award in the NPL BRAC category.

EPA placed McClellan Air Force Base on the Superfund list in 1987. The base was established in 1936 and operated as an Air Force Logistics Command Base until 2001. Identified contaminants within the base include solvents, metals, and other hazardous wastes from aircraft maintenance and other industrial activities.

In 2007, Sacramento County and the U.S. Air Force signed a landmark agreement that paved the way for rapid cleanup and early land transfer at the McClellan site. The agreement transferred contaminated land, funds, and authority to perform cleanup at the National Priorities List site. The combined efforts of the Base Realignment and Closure Cleanup Team, McClellan Business Park, Sacramento County, and the community have transformed the McClellan Air Force Base site into a corporate community that has brought jobs and additional economic growth to the region.



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INDUSTRY PROFILE

A Closer Look

by Donna Currie

Hosokawa Polymer System

Doug Ort • 860-828-0541

Hosokawa Polymer Systems, sometimes shortened to just Polymer Systems in conversation, is owned by Hosokawa Micron Group, headquartered in Osaka, Japan. The Polymer Systems division has approximately 750 of the 2,500 worldwide Hosokawa workforce.

Doug Ort, the division manager at Polymer Systems, got his start with the Hosokawa companies roughly 27 years ago, right out of college. First, he worked as a mechanical engineer, then started working in the lab. When his first day in the lab was spent scooping material into a pulverizer, he momentarily questioned how his degree got him that sort of work, but it was just the beginning of a long career. Later, he worked in the service department where he learned the importance of aftermarket service and taking care of customers even after the sale.

Meanwhile, Polymer Machining had been founded in 1964, building size reduction and other plastic-related equipment. They started growing the granulator business and developed new products for the industry.

Their products weren't just designed for post industrial waste and included products for recycling rejected parts from manufacturing. Then, in the 1970s, "post-consumer became popular," Ort said, expanding business opportunities for Polymer Machining.

In 1998, Polymer Machining was acquired by Hosokawa and became Hosokawa Polymer Systems, and Ort moved to his new position. At that time, Hosokawa Alpine in Germany was doing a lot in the recycling industry, so adding a company that serviced the plastic recycling industry made sense.

Polymer Systems builds and sells equipment for the plastic recycling industry, like granulators, separation and de-dusting machines that remove paper residue and dirt from the plastic, and washing lines for post-consumer products like PET containers.

Their customer base includes plastic processors who buy baled plastic and regrinds, plastic recyclers, and wire and cable recyclers who handle automotive and other wire harnesses.

While wire and cable recycling seems a little outside the main product line, that wire and cable has a plastic component that needs to be removed, and some of the purchasers of those machines are wire manufacturers who want to reclaim the insulation from the manufacturing process.

The systems that handle wire can open wire bales, shred the material to four inches long, break it apart, remove ferrous materials, and then move it to a granulator. Very fine insulated wire can be difficult to recycle cleanly since it's more difficult to get the insulation off the wires, and it's also difficult to separate, but the machines that Polymer Systems makes can handle it with ease.

Ort said that when he first arrived at Polymer Systems, business was good, and the plastics industry in the U.S. was strong. "We were selling a lot more single units and simple units," Ort said. There were a lot of repeat customers, and the company was consistently selling about 700 machines a year.

When the recession arrived in 2001, "the whole market for granulators in the U.S. was cut in half," Ort said. The company shifted its focus to whole systems rather than single units and began selling larger, more complicated systems.

While the overall volume of sales is lower today, revenue has increased because of the sales of complete systems. While they still sell standalone units, customers are buying many more systems that might include conveyors, size reduction equipment, shredders, de-dusting and air separating equipment, pneumatic transportation, and storage solutions and silos.

Ort said that the plastic recycling industry in China has impacted recycling in the U.S. "China used to be a big buyer of plastics, but now there is a buildup of this material in the U.S." In particular, China used to buy low grade wire that U.S. recyclers did not want. But now that the Chinese government is getting serious about pollution, many of the plants that handled the material have been shut down. The government is in the process of building new plants for more environmentally friendly plastic recycling.

Looking to the future, Ort expects Polymer Systems to continue its growth as more large companies become more environmentally responsible.

Working with customers is one of Ort's favorite parts of the job. "Having a customer come with a complicated job that no one has been able to help with, and coming up with a solution," is most satisfying, and he's particularly proud of the "uncompromising manner in which we put the customer first."

While business has been good, that growth has also created challenges. "The volume of inquiries is really high," he said, "exceeding every other year by a factor of two." That has resulted in more sales, and that can impact the manufacturing and delivery schedule. The challenge is to keep up with customer demand now, so they'll still come back when business is slow.

Meanwhile, past customers also need to be taken care of, as he learned when he worked in customer service. "I know how important it is to keep the customer happy," so it's a priority to have parts in stock for replacements and repairs after the sale. "It's great that we're all busy," Ort said, "but you can't disappoint the customer."

California senate passes statewide drug and needle take-back program

The California State Senate unanimously, on a vote of 39-0, passed SB 212 (Senator Jackson, Assemblymembers Ting and Gray), which will establish a comprehensive statewide take-back system for sharps and medications. If signed into law by Governor Jerry Brown, SB 212 will be the first in the nation to establish a producer-funded take-back program.

"The California Product Stewardship Council has worked tirelessly for the last eight years to get the pharmaceutical industry to work with us to put in place a statewide take-back program," said Heidi Sanborn, senior advisor and former executive director of the California Product Stewardship Council (CPSC).

SB 212 addresses the myriad of problems that exist due to the lack of a statewide system to manage these products at the end of their useful life. By requiring manufacturers of sharps and pharmaceutical drugs to create, fund and participate in a statewide take-back system, this bill will take a groundbreaking step to ensure that California residents throughout the state have access to safe, convenient disposal methods of sharps and drugs.

CalRecycle estimates 936 million sharps used by consumers in California each year, approximately 31 percent of those are thrown in the trash. Another study by University Mass Lowell in 2015 estimated 7 percent of needles are flushed, and needle stick injuries occur with unacceptable frequency. Improper disposal of sharps poses an unacceptable risk to many Californians, and the statewide sharps collection program contained in SB 212 will significantly reduce that risk.

Similarly, prescription and over the counter medications present significant problems when leftover, if not properly secured and disposed of.

SB 212 will establish comprehensive, producer-funded take-back programs, get excess drugs out of people's homes, protect solid waste, parks, hotel, wastewater, sanitation, and other workers, river and beach clean-up volunteers and the general public from needle stick injuries.

Batteries

■Continued from Page 6

small percentage of lithium and lithium batteries are being recycled, the batteries from used smartphones and laptops tossed in household garbage end up in trash trucks and landfills where if damaged, can create thermal runaways and fires.

Researchers are also questioning the longevity of lithium supplies as well as the sustainability of other minerals and metals needed to allow a lithium battery to work. Cathode materials such as cobalt are a concern.

Most of the world's Cobalt is mined out of the Democratic Republic of the Congo in Central Africa (DRC). In an 87 page report published by Amnesty International and African Resources Watch (Afrewatch) in 2016, they discovered children as young as seven years of age were working in cobalt mines. It is no secret that children mine cobalt in the DRC. The U.S. Department of Labor has listed it as a "good produced by child labor since at least 2009."

However, since cobalt prices have skyrocketed in the last few years, battery manufacturers are seeking less expensive materials to use with the lithium to make batteries. The lithium battery industry has not yet developed the same kind of recycling infrastructure as that of the long-serving lead battery industry.

Presentations at the annual Battery Show in Novi, Michigan in September 2018 emphasized that makers of lead batteries continue to refine the performance and design of their products. Lead batteries will continue to be an important part of newer, electronic vehicle operating systems. They will still be used to start the vehicle and they allow for regenerative braking, the process that gives these vehicles the ability to save their own energy to power the vehicle when idling or driving at low speeds.

The recycling process for lead batteries remains circular, or in a closed loop, therefore diverting virtually all lead batteries away from land-fills and improper disposal. The battery case is made of polypropylene; the plates are made of lead; water and acid is mixed to make electrolyte and it can all be recycled. The battery casing and plates are easily melted down and reformed and the electrolyte can be neutralized and reused. One use for the electrolyte is to convert it to sodium sulfate, an odorless white powder that's used in laundry detergent, glass and textile manufacturing.

As for the continued rhetoric about emissions related to lead battery recycling, an article published August 14 by TBS Engineering Group, a world leader in battery automation, explains what the lead battery industry is doing to improve the environment. "By 2020, it is predicted that start-stop technology utilizing lead batteries will help eliminate two million tons of vehicle greenhouse gas emissions annually in the U.S. alone. This is equivalent to the annual energy use of 211,000 average U.S. households." The ever-growing number of electric and hybrid vehicles being manufactured use an SLI (Starting, Lighting, Ignition) battery to start the car. "By 2035 there will be over 2 billion cars on the world's roads – the majority of which will include a lead battery," according to TBS Engineering.

For more information about lead battery sustainability or the circular economy/closed-loop process of lead battery recycling, please contact Interstate Batteries Recycling at 888-872-4001.

Contributed by Tod A Lyons, Communications and Sustainability Manger at Interstate Batteries Recycling, LLC

INTERNATIONAL

Collaboration to make green propulsion a reality

Three of the marine sector's major technology companies, WinGD, Wärtsilä and GTT, have agreed to collaborate in making use of LNG (liquified natural gas) fuel, a truly viable option for ship owners and operators. By combining their expertise and experience, the three companies deliver an effective, streamlined approach for achieving compliance with environmental legislation.

LNG fuel is considered a key enabler of 'green' propulsion for ships. It has virtually no sulphur content, produces 80 percent less nitrogen oxide (NOx) and 30 percent less CO2 emissions than conventional marine fuels, and is competitively priced. With LNG being more widely available and accessible, it is now a feasible green fuel option.

In 2017, a notable advance in the acceptance of LNG as a marine fuel was

recorded with an order by CMA CGM for nine 'mega' containerships, each with a record capacity of 22,000 TEU, to be built with LNG fuelled engines. These will be the first vessels of this type and size to operate on LNG. WinGD, Wärtsilä, and GTT cooperated closely in providing the required equipment for these vessels, and it was through this shared expertise that the industry-shaping collaboration was born.

"There is a wind of change blowing throughout the global marine industry. The conservative barriers that once resisted switching to a 'new' fuel are falling down, and LNG is now being accepted as a fuel for all types of ships. Through collaboration with other industry leaders, we aim to speed this process," says Timo Koponen, vice president, Processing Solutions, Wärtsilä.



LNG fuelled tank design equipped with GTT's membrane containment system.

PHOTO BY GTT/ROLAND MOURON

Novelis breaks ground in China

Novelis hosted members of the community, customers and government officials to break ground on the expansion of its automotive aluminum manufacturing facility in Changzhou, China. The \$180 million investment will double the facility's production capacity of heat-treated aluminum sheet by 100,000 metric tons in order to better meet the growing demand for automotive aluminum in Asia. The facility will also be equipped with a high-speed splitter, and a fully automated packaging line. The expansion is expected to create approximately 160 jobs.

The project is scheduled to be complete in 2020 in order to align with key customer's vehicle launch plans.

According to Ducker Worldwide, automakers are expected to increase the adoption of high-strength, lightweight aluminum over the next decade, specifically in light trucks, SUVs and electric vehicles.

Novelis' Changzhou plant is the company's first aluminum automotive sheet manufacturing facility in China. The wholly owned \$100 million plant first began commissioning in 2014 with an annual capacity of 100,000 metric tons.



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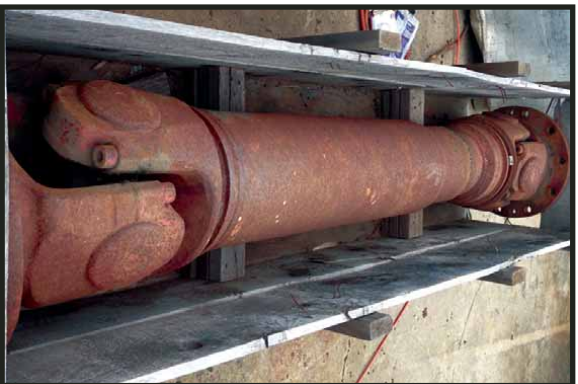
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METALS

Steel imports declined by one percent

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,966,000 net tons (NT) of steel in August 2018, including 2,010,000 NT of finished steel (down 0.8 percent and 8.1 percent, respectively, vs. July final data). Year-to-date (YTD) through 8 months of 2018, total and finished steel imports are 23,839,000 and 18,208,000 net tons (NT), down 10.4 percent and 11.0 percent, respectively, vs. the same period in 2017. Annualized total and finished steel imports in 2018 would be 35.8 and 27.3 million NT, down 6.2 percent and 7.6 percent, respectively, vs. 2017. Finished steel import market share was an estimated 21 percent in August and is estimated at 24 percent YTD.

Key finished steel products with a significant import increase in August compared to July were wire rods (up 30 percent) and cut lengths plates (up 13 percent). Major products with significant year-to-date (YTD) increases vs. the same period in 2017 include plates in coils (up

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)					
	AUG 2018	JULY 2018	2017 Full Year	2018 Annualized	% Change 2018 Annual vs. 2017
SOUTH KOREA	169	189	3,753	3,152	-16.0%
JAPAN	101	132	1,504	1,461	-2.9%
GERMANY	112	98	1,405	1,305	-7.1%
TURKEY	119	74	2,191	1,260	-42.5%
TAIWAN	81	99	1,245	1,110	-10.8%
VIETNAM	71	119	749	1,048	40.0%
CHINA	53	50	813	726	-10.8%
BRAZIL	4	8	987	645	-34.7%
All Others	1,299	1,418	16,914	16,605	-1.8%
TOTAL	2,010	2,187	29,561	27,312	-7.6%

21 percent) and hot rolled sheets (up 18 percent).

In August, the largest volumes of finished steel imports from offshore were from South Korea (169,000 NT, down 11 percent from July final), Turkey (119,000 NT, up 61 percent), Germany (112,000 NT, up 14 percent), Japan (101,000 NT, down 23 percent) and Taiwan (81,000 NT,

down 18 percent). For the first eight months of 2018, the largest offshore suppliers were South Korea (2,101,000 NT, down 20 percent vs. the same period in 2017), Japan (974,000 NT, down 9 percent), Germany (870,000 NT, up 2 percent), Turkey (840,000 NT, down 54 percent) and Taiwan (740,000 NT, down 18 percent).

Nucor plans to expand sheet mill in Kentucky

Nucor Corporation’s board of directors approved an investment of \$650 million to expand the production capability of Nucor Steel Gallatin, the company’s flat rolled sheet steel mill located in Ghent, Kentucky. This investment will increase the production capability from 1,600,000 tons to approximately 3,000,000 tons annually and will increase the maximum

coil width to approximately 73 inches. The project is expected to create 70 full time jobs.

This expansion complements the \$176 million investment currently underway to construct a hot band continuous pickle galvanizing line at Nucor Steel Gallatin. The pickle galvanizing line is expected to be operational in the first half

of 2019 and will produce approximately 500,000 tons per year of galvanized hot band steel. Nucor continues to evaluate additional expansion projects as part of the company’s initiative to further grow its sheet business.

Nucor acquired the former Gallatin Steel Company in late 2014 for a purchase price of approximately \$780 million.

EPA removes Recticon/Allied Steel Corp. from Superfund list

The U.S. Environmental Protection Agency (EPA) removed the Recticon/Allied Steel Corp. Superfund Site in East Coventry Township, Chester County, Pennsylvania from the Superfund National Priorities List. Since October 2017, EPA has deleted 12 sites and partially deleted three sites from the National Priorities List.

The five acre site, which was placed on the National Priorities List in 1989, consists of two properties: the former Recticon facility and the Allied Steel Products Corporation facility. Historical operations and spills at the site contaminated soil and groundwater with hazardous chemicals.

On December 15, 2017, EPA issued the Final Close Out Report for the site documenting that all performance standards at the site have been achieved and that no additional Superfund response actions are necessary to protect human help and the environment.

Clean up work included excavation and off-site disposal of contaminated soils, and installation of a groundwater extraction and treatment system in combination with bioremediation to address contaminated groundwater.

Both properties that comprise the site are currently being reused by commercial businesses.



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METALS

AISI releases September SIMA import data

Based on the Commerce Department's most recent Steel Import Monitoring and Analysis (SIMA) data, the American Iron and Steel Institute (AISI) reported that steel import permit applications for the month of September totaled 2,739,000 net tons (NT). This was an 8.7 percent decrease from the 3,002,000 permit tons recorded in August and a 7.6 percent decrease from the August preliminary imports total of 2,966,000 NT. Import permit tonnage for finished steel in September was 1,980,000, down 1.5 percent from the preliminary imports total of 2,010,000 in August. For the first nine months of 2018 (including September SIMA permits and August preliminary data), total and finished steel imports were 26,578,000 NT and 20,188,000 NT, down 10.6 percent and 12.1 percent, respectively, from the same period in 2017. The estimated finished steel import market share in September was 21 percent and is 24 percent year-to-date (YTD).

Finished steel imports with large increases in September permits vs. the August preliminary included light shapes bars (up 103 percent), hot rolled sheets (up 35 percent), plates in coils (up 24 percent), sheets and strip all other metallic coatings (up 22 percent), standard pipe (up 19 percent), and cold rolled sheets (up 12 percent). In September, the largest finished steel import permit applications for offshore countries were for South Korea (239,000 NT, up 41 percent from August preliminary), Turkey (167,000 NT, up 40 percent), Germany (120,000 NT, up 7 percent), Taiwan (103,000 NT, up 27 percent) and Japan (94,000 NT, down 8 percent). Through the first nine months of 2018, the largest offshore suppliers were South Korea (2,340,000 NT, down 21 percent from the same period last year), Japan (1,068,000 NT, down 14 percent) and Turkey (1,007,000 NT, down 49 percent).

Steel shipments up 6.5 percent in August 2018

The American Iron and Steel Institute (AISI) reported that for the month of August 2018, U.S. steel mills shipped 8,441,597 net tons, a 6.7 percent increase from the 7,911,228 net tons shipped in the previous month, July 2018, and a 6.5 percent increase from the 7,928,795 net tons shipped in August 2017. Shipments year-to-date in 2018 are 63,656,882 net tons, a 4.6 percent increase vs. 2017 shipments of 60,868,122 net tons for eight months. A comparison of August shipments to the previous month of July shows the following changes: hot dipped galvanized sheets and strip, up 11 percent, hot rolled sheets, up 3 percent, and cold rolled sheets, up 3 percent.

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#1 Bushelings	per gross ton	\$268.00	274.00	271.00	290.00	382.00
#1 Bundles	per gross ton	270.00	259.00	269.00	288.00	370.00
Plate and Structural	per gross ton	281.00	279.00	282.00	335.00	349.00
#1 & 2 Mixed Steel	per gross ton	221.00	265.00	240.00	310.00	315.00
Shredder Bundles (tin)	per gross ton	171.00	172.00	198.00	204.00	190.00
Crushed Auto Bodies	per gross ton	171.00	172.00	198.00	204.00	190.00
Steel Turnings	per gross ton	89.00	96.00	94.00	162.00	209.00
#1 Copper	per pound	2.76	2.65	2.81	2.49	2.52
#2 Copper	per pound	2.61	2.58	2.76	2.29	2.34
Aluminum Cans	per pound	0.70	0.75	0.72	0.70	0.60
Auto Radiators	per pound	1.79	1.74	1.82	1.58	1.59
Aluminum Core Radiators	per pound	0.70	0.80	0.64	0.50	0.42
Heater Cores	per pound	1.20	1.10	1.27	1.28	1.29
Stainless Steel	per pound	0.64	0.62	0.60	0.57	0.52

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

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CONSTRUCTION & DEMOLITION

Warm mix asphalt use grows; recycled materials hold steady

Asphalt pavement mixture producers continue to apply technologies and innovations to make long-lasting asphalt pavements more energy-efficient to produce and more resource responsible. Nearly 39 percent of asphalt pavement mixture produced in 2017 was produced as warm mix asphalt at reduced temperatures which decreases energy needs, reduces air emissions and improves compaction at lower temperatures. Of all the materials recycled in the U.S., nothing is recycled as consistently as asphalt pavement mixture. The latest survey of asphalt mix producers finds that more than 99 percent of the asphalt pavement material removed from roads and parking lots in 2017 was put back to productive use, primarily in new asphalt pavement mixtures. The survey of the U.S. asphalt pavement mixture production industry has been conducted for each construction season since 2009 by the National Asphalt Pavement Association (NAPA) in partnership with the Federal Highway Administration (FHWA). Over the years, the survey has documented increases in the use of recycled materials and warm-mix asphalt.

Asphalt mix producers continue to make significant use of energy-saving warm-mix asphalt technologies. In 2017, 147.4 million tons of warm mix asphalt was produced at reduced temperatures – nearly 39 percent of total asphalt pavement mix production, and a 777 percent increase since 2009. The use of warm-mix asphalt had tracked at about a third of all asphalt mixture production since 2013. The increase for 2017 is attributable to an increase in the tons of warm-mix asphalt used by state departments of transportation (DOT). Companies that produce warm-mix asphalt reported that about 42 percent of the asphalt pavement mixture produced for DOTs was produced at reduced temperatures using warm-mix technologies. Warm mix asphalt is produced using technologies and additives that reduce the production and placement temperature of asphalt pavement mixtures, reducing the amount of fuel used in the production process.

To read more, view this article on www.AmericanRecycler.com.

Copeland to lead National Asphalt Pavement Association

Audrey Copeland, Ph.D., P.E., has been named the next president and chief executive officer of the National Asphalt Pavement Association. She will assume the new role at the NAPA 2019 Annual Meeting in January. Copeland succeeds Mike Acott, who has served as NAPA's president since 1992. Over the coming months, Acott and Copeland will work together to ensure an orderly transition of the leadership of NAPA, which is the only national trade association focused exclusively on the interests of asphalt pavement mix producers and paving contractors. During the transition period, Copeland will serve as NAPA's chief operating officer. Copeland joined NAPA in 2012 as vice president for engineering, research, and technology. In that role, she has grown NAPA's engineering team and forged strong relationships with the State Asphalt Pavement Associations, Asphalt Pavement Alliance, National Center for Asphalt Technology at Auburn University, the Asphalt Institute, Federal Highway Administration, and other industry professionals and partners. She also served as technical lead for more than \$2 million in industry-funded research projects, and secured a cooperative agreement with the Federal Highway Administration that has invested more than \$2 million in government funding to advance asphalt technologies. Prior to NAPA, Copeland served as a highway and materials research engineer with FHWA. She earned her doctorate in Civil Engineering from Vanderbilt University, and holds master's and bachelor's degrees in Civil & Environmental Engineering from Tennessee Technological University. She is a licensed professional engineer in Maryland and Virginia.

Brayman Construction recognized

Saxonburg, Pennsylvania based Brayman Construction and its affiliate, Advanced Construction Robotics, were named as among the most innovative construction firms in the country for creating an autonomous rebar tying robot for bridge construction projects. Brayman Construction is a member of the Associated General Contractors of America (AGC), and along with Sundt Construction and the AGC Oregon-Columbia Chapter, was recognized as the first place winner of the AGC-Autodesk Innovation. The association also presented Brayman with a \$10,000 prize.

Salvaging Millions

by Ron Sturgeon
Autosalvageconsultant.com

Understanding your profit and loss statement

Most owners don't like financial statements, so they don't look at them. In today's fast world though, where it's harder than ever to make a buck, it's critical that you spend some time on the financial statement. As I discussed in an earlier article in this series about using your flashlight, you should be getting the financial statement by the 10th of the month in order to review and work on improving your bottom line during the month in progress.

The profit and loss statement needn't been intimidating. In fact, there aren't more than a half dozen numbers that deserve your maximum attention. Always review it in the context of the prior 12 months so that you are seeing the same month last year and every month up to the current month. Although all columns are needed, the most important places to compare are last year for the same month and the PL for the previous month.

There are usually less than a half dozen lines that you can control to a large degree. You should review those, comparing the current month, the prior month, and the same month last year. So, if you are reviewing March, you will be comparing the numbers to February, and to March in the prior year. If you prepare an annual budget, which you should, you would also be comparing to that number. The numbers needing the most attention, in order of importance, are likely to be these:

- Sales – Did you hit the sales you wanted? How did they compare to last month and last year? You will want to consider the number of working days in the month. When you sell, say, \$20,000 per day, a few days short or over can be material to results. If you didn't hit the goal, why not? The first culprit in many cases is purchasing – if you didn't buy enough product, you can't have enough sales. In the auto recycling business, we don't buy cars; we buy sales, as my good friend Jim Counts said. The next place to look, of course, is sales staff. In most cases, I find yards selling less than \$25,000 per month times the total number of employees aren't profitable; above \$30,000 per month per employee, the yards become quite profitable, above 10 percent net profit.

- Costs of Goods – Most of you treat your purchases as cost of goods sold (COGS). This paragraph is for you. You simply must understand what you need to spend on vehicles to hit the sales number you want based on previous data. If you don't buy enough, you won't hit the sales goals.

Also consider your year-to-date number, as buying does go up and down, but your purchases over 3 to 4 months must be at the historical percentage to maintain sales.

- If you want to increase sales, you must buy more. To do that, you will have profits and or increased capital or lending. I am always amazed at the yards that don't seem to understand that freight costs should be included with vehicle costs for this analysis. I see yards stop their buying out of town because the freight costs are too high, with no regard for what the cost of goods percentage is for the cars themselves. Why do you care if the freight costs from Seattle are \$1,000, and the car costs \$1,500 with a 33 percent cost of goods sold percentage? (Meaning it will produce \$4,500 in sales) so the car actually cost \$2,500, and produces sales of \$4,500, or a total COGS of 55 percent. But they will pay \$2,700 for the same car locally, and \$150 to haul it, for a 63 percent COGS. There are other advantages to buying out of your market because you are likely to see more cars and to be able to buy the ones you need the most.

- Cost of Goods Percentage Method – If you use a percentage method, based on actual history and algorithms, which is the best and most accurate method, then you must dig a little more to determine actual purchases, but its key to understanding your sales performance.

- Labor expenses – Compare to prior periods, to understand as a percentage of sales and total dollars. Months with five payroll periods instead of four will, of course, be higher. Also, how is it trending year to date, especially if you are working on reducing it? In the auto recycling business, I seldom see labor costs much below 20 percent of sales, but anything over 40 percent is a danger sign.

- Other expenses – Next review expense items that you have control over, those that are above three percent of sales; there's likely no need to look at depreciation, utilities, or rents, for instance, so this category of items to review is pretty small. It might include advertising or hauling. Auction buyer fees and transportation should generally be included with purchases for analysis, because you can't usually control them.

- Tow trucks – As an aside, I don't know anyone who still owns a tow truck and tows their own cars in, except in tiny rural markets.

Looking carefully at these larger items will give you control over your bottom line, while only reviewing a very few numbers.

Remember, only you can make BUSINESS GREAT!

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

WASTE

Final remedy decision for West Lake Landfill signed

The U.S. Environmental Protection Agency (EPA) acting administrator Andrew Wheeler signed the Record of Decision (ROD) Amendment for the West Lake Landfill Superfund Site in Bridgeton, Missouri. This document amends the 2008 ROD and finalizes the agency's cleanup decision for Operable Unit 1 at the site. EPA issued its proposed plan on February 6, 2018.

"EPA made a commitment to the people of Missouri to finalize a cleanup plan for the West Lake Landfill Superfund site, and we are delivering on that commitment," said EPA acting administrator Andrew Wheeler. "The improvements we've made in our final remedy will speed up construction time by a year and reduce exposure to the community and cleanup workers while still removing virtually the same total amount of radioactivity."

The Record of Decision Amendment requires excavation of radiologically impacted material (RIM) greater than 52.9 picocuries per gram generally down to a depth of 12 feet. The remedy also calls for an optimization during remedial design which will identify certain areas for continued excavation beyond 12 feet down to as deep as 20 feet. It also will identify limited instances of isolated pockets of RIM at concentrations greater than 52.9 picocuries per gram between 8 and 12 feet to remain in place.

The improvements made to the proposed plan will reduce exposure to the community and cleanup workers, shorten construction time by a year, and allow the flexibility to more efficiently remove contamination from the landfill.

By focusing on areas with higher radioactivity, virtually the same total amount of radioactivity as the preferred alternative in the proposed plan will be removed, while reducing the amount of material that has to be handled – roughly

61,000 cubic yards less of non-radioactive waste that has to be handled. Thanks to these improvements, EPA's final remedy will be completed a year sooner and for \$30 million less.

After completion of the excavation, an engineered cover will be installed over the landfill, consistent with landfill closure requirements and the Uranium Mill Tailings and Radiation Control Act (UMTRCA).

EPA expects the remedy to take approximately 3 years to complete after construction begins and cost \$205 million. The U.S. Department of Energy, Cotter Corporation, and Bridgeton Landfill LLC are the Potentially Responsible Parties who are responsible for paying costs for cleanup and EPA oversight.

The ROD Amendment paves the way to the remedial design phase. Once the design begins for OU-1, it will take about a year and a half to complete. EPA will make every effort to reach an enforceable agreement with the PRPs to perform the cleanup work.

The West Lake Landfill Superfund Site is an approximately 200 acre inactive solid waste disposal facility located in Bridgeton, Missouri. The site was used agriculturally prior to 1939 when a limestone quarrying and crushing operation began. Beginning in the early 1950s, the quarried areas and adjacent areas were used for landfill municipal refuse, industrial solid wastes, and construction/demolition debris. Two areas of the site were radiologically contaminated in 1973 when 39,000 tons of potentially contaminated surface soil mixed with 8,700 tons of radioactive leached barium sulfate residues were reportedly stockpiled at the site and use for landfilling operations. EPA placed the site on the National Priorities List in 1990.

NYC Sanitation appoints chief supplier diversity officer

The New York City Department of Sanitation has appointed Kevin V.G. Wells, Esq. as chief supplier diversity officer. Wells will be responsible for directing policy and programs to increase opportunities for Minority and Women Owned Business Enterprises (M/WBE) in agency contracts.

Wells will be working to standardize and streamline the process of identifying and utilizing M/WBEs on agency contract opportunities; market the agency's M/WBE program in the private sector to identify diverse vendors in the waste disposal and organics recycling areas; and increase the utilization of certified M/WBEs for the agency by creating initiatives that are innovative and sustainable. The chief supplier diversity

officer will also work to continue to ensure that departmental programs and processes are in accordance with the city's policies and procedures and all applicable regulations.

Prior to joining the Department of Sanitation, Wells practiced as an environmental attorney and later focused on corporate social responsibility programs to include indigent businesses in global supply chains, then was director of responsible economic inclusion at the NYC Department of Housing Preservation & Development where he worked to ensure the agency's M/WBE compliance, and developed and implemented M/WBE outreach initiatives among other duties.

AUTOMOTIVE

Jaguar I-PACE uses Novelis aluminum

Novelis announced the supply of its Novelis Advanz™ aluminum to the recently launched all electric Jaguar I-PACE. This new addition to the Jaguar PACE family and the car maker's first all-electric vehicle features a strong and stiff lightweight aluminum construction to reduce weight and increase battery range up to 470km while delivering superior driving dynamics and safety.

The bespoke electric vehicle's aluminum architecture uses advanced riveting and bonding technology to deliver a light, stiff body structure comprising 94 per cent aluminum, enabling significant weight reduction and design requirements, such as purity of line, surface and proportion. The aluminum vehicle structure is combined with a battery module achieving an efficient mass of both, leading to the highest torsional rigidity of any Jaguar while delivering agile handling and outstanding ride comfort.

The all-electric I-PACE reflects Novelis' and Jaguar Land Rover's common vision of delivering a cleaner future and more sustainable vehicles. The companies hold a leading position in sustainability by using high recycled-content



alloys on all Jaguar Land Rover body structures that reduces the overall carbon footprint in their products. Since 2013, the Novelis recycling plant in Latchford, UK has provided the British car manufacturer with a closed-loop recycling solution by converting the car manufacturer's aluminum production scrap metal into new material for automotive sheet.

Electric vehicle growth is projected to increase significantly in the next decade leading to changes in physical and functional requirements in body-in-white impacting future vehicle design.

Aluminum helps achieve dramatic weight loss, increase fuel efficiency, reduce emissions and provides equal or better quality, strength and durability compared to other materials.

The I-PACE is designed and engineered by Jaguar Land Rover in the UK and is built in Austria as part of a manufacturing partnership with Magna Steyr. The Novelis aluminum products used in the I-PACE are sourced from plants in Sierre, Switzerland and Nachterstedt, Germany.

NY DEC provides \$300,000 in rebates for zero emission vehicles

State's continued investments in clean vehicles will advance New York State's goal of reducing greenhouse gas emissions 40 percent by 2030

The New York State Department of Environmental Conservation (DEC) commissioner Basil Seggos announced that \$300,000 is available from the State's Environmental Protection Fund in the form of rebates to municipalities for the purchase or lease of zero-emission vehicles (ZEVs).

The EV rebate program will be administered by DEC through the New York State Grants Gateway. DEC will accept applications from municipalities for rebates through July 26, 2019. Costs incurred by a municipality, on or after May 1, 2018, to purchase or lease, for at least 36 months, a new ZEV for its fleet are eligible for a rebate of \$2,500 for vehicles with a 10 to 50 mile electric range, and \$5,000 for vehicles with an electric range of more than 50 miles. Battery electric, plug-in hybrid, and hydrogen fuel cell vehicles are all eligible.

For more information about municipal clean vehicle rebates, view this article on www.AmericanRecycler.com.

Adesa names new executive sales director

Adesa, a business unit of KAR Auction Services, Inc., has named Rod Thompson as executive sales director.

In his new role, Thompson is responsible for managing Adesa commercial client relationships and leading commer-

cial client efforts for both physical auction and upstream remarketing services, as well as other related products and services.

Thompson brings more than 30 years of automotive, power sports and auction industry experience. He joined Adesa

Tulsa in 2015 as dealer sales and services manager. Thompson has grown as a leader, serving most recently as general manager at Adesa Tulsa.

He also spent more than 20 years in the powersports industry.

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PAPER

AF&PA releases updated paper reports for August

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

Containerboard

Containerboard production was up 2.2 percent compared to August 2017 and up 1.6 percent year-to-date. The month-over-month average daily production compared to July 2018 was 2.5 percent lower. The containerboard operating rate was 97.2 percent, 0.7 percentage points higher than the same month last year. Production for export reached its highest level for 2018 so far; it was 13.2 percent higher than August 2017 but 0.8 percent lower year-to-date.

Printing-Writing Paper Report

Total printing-writing paper shipments decreased 11 percent in August compared to August 2017. Total printing-writing paper inventory levels decreased three percent from July. Imports of printing-writing papers in July increased six percent compared to July 2017 imports, while exports declined 24 percent compared to July 2017.

•Shipments of coated mechanical (CM) paper decreased 11 percent year-over-year in August. Inventory levels decreased six percent. Exports of CM papers increased five percent in July compared to July 2017.

•Shipments of uncoated mechanical (UM) papers decreased 21 percent year-over-year in August. Import of UM

decreased two percent year-over-year in July. Export of UM decreased 70 percent year-over-year in July.

•Shipments of uncoated free sheet (UFS) paper and coated free sheet (CFS) papers both decreased year-over-year in August. July imports of UFS papers increased 37 percent compared to July 2017, while import of CFS papers increased 2 percent compared to last July.

Boxboard Report

Total boxboard production decreased 0.9 percent when compared to August 2017 and decreased 1.4 percent from July.

Unbleached Kraft Boxboard production increased over the same month a year ago and increased compared to July.

Total Solid Bleached Boxboard & Liner production decreased when compared to August 2017 and decreased compared to July.

The production of Recycled Boxboard decreased compared to August 2017 and decreased when compared to July.

U.S. Packaging Papers & Specialty Packaging

Total Packaging Papers shipments were up 7.1 percent compared to August 2017 and up 2.1 percent year-to-date.

Bag & Sack shipments were up 3.4 percent year-to-date; Multiwall shipments were flat; Converting shipments were up 1 percent; and Food Wrapping shipments were up 3.0 percent.

PLASTICS

New era in PET and polyester recycling introduced

Indorama Ventures Public Company Limited, one of the world's leading petrochemical companies, and Loop Industries, Inc., a technology innovator in sustainable plastic resin and polyester announced a joint venture to manufacture and commercialize sustainable polyester resin to meet the growing global demand from beverage and consumer packaged goods companies.

This partnership brings together Indorama Venture's manufacturing footprint and Loop's proprietary science and technology to become a reliable world leader in the circular economy for 100 percent sustainable and recycled PET resin and polyester fiber.

The Indorama Ventures/Loop Industries partnership launches a commercial solution for consumer packaged goods

companies in response to the rapid growth in global plastic consumption for which there is a great need to responsibly collect and reuse these materials. Through this joint venture, Indorama Ventures and Loop Industries will be able to perpetually recycle the ever increasing amounts of PET plastic and polyester fiber proving the promise of and encouraging the shift to a circular economy.

The 50/50 joint venture will have an exclusive worldwide license to use Loop's technology to produce 100 percent sustainably produced PET resin and polyester fiber with plans to begin commercial production in Q1 2020. The production from the facility will be fully subscribed by leading global consumer brands.

Danimer and PepsiCo win award

The Plastics Industry Association (PLASTICS) Bioplastics Division announced Danimer Scientific and PepsiCo as the joint winners of the 2018 Innovation in Bioplastics Award. The two companies developed the next generation of bio-based and compostable flexible packaging using Danimer 24365B & Danimer 01112 Resins. This new industrial compostable snack bag has the right balance of sustainability, performance and cost.

The annual Innovation in Bioplastics Award is an honor that goes to companies

applying bioplastics to innovative, purposeful product design.

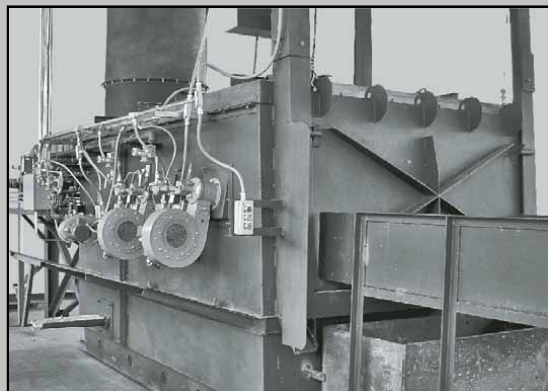
The industrial compostable snack bag is comparable in feel, noise and performance to PepsiCo's current bags and certified to be industrially compostable by TUV Austria. The new Danimer resins that are blends of biopolymers and mineral filler give the bag its white exterior and can be processed in blown film lines for improved economics. The new bio-based structures are currently being piloted in a limited test in the U.S. and Chile, with plans for a test in India later this year.

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SERVICE SPOTLIGHT

Equipment Transportation

by MARY M. COX

maryc@americanrecycler.com

Equipment acquisition can be a daunting task. When arranging for the transport of the equipment, the benefits of using an experienced and savvy vendor are obvious.

Dan Nester, president and chief executive officer, co-founded Polaris Logistics Group in 2013 after working 13 years at a large Third-Party Logistics company. "Our philosophy has always been focused on providing exceptional value to our customers. We offer technology when you want it and people when you need them. That means that not only does Polaris seek out the most cost effective supply chain solutions with its technology, but most of our employees are industry veterans that are creative in using technology to solve any logistics issue that comes up. With locations in Ohio, Utah, California, Texas and Louisiana, we're well positioned to serve our customers' freight needs; from dry van to flatbed to LTL to temperature-controlled freight and intermodal options. Also, we will add more locations over the next few years," Nester explained.

Polaris currently serves a wide variety of industries from machinery and machine parts to packaging, construction materials, and food products. Nester added that Polaris uses cutting edge technology from several top vendors in the industry, such as McLeod Software, Project 44, Carrier411, Trucker Tools, DAT and ITS, to ensure that your cargo arrives at the required destination on-time and within the parameters assigned.



The firm's team of experts keep clients informed with consistent communication, seven days a week –

so you're always informed as to the status of the order. Polaris customers are never left wondering about the location of a load. "We are always trying to improve ourselves and add value to the customer experience", Nester said.

The mission at UTC Overseas "is to anticipate customer needs, then evolve and adapt accordingly. Our client's vision is our vision and every action we take reflects that standard," Bryan Fathauer, vice president, Midwest region, noted. Established in 1925, UTC Overseas, is an global freight forwarder and logistics provider. The firm has a long history of professional performance in moving freight by ocean, air, rail or inland transport.

"UTC stays abreast of fast changing regulatory policies in the U.S. and globally. Our worldwide office network allows us to monitor changes and the impact on shipping cargo. For example, Section 301/232 increased duties on certain products from many countries, with emphasis on the Chinese-U.S. trade imbalance. Also, the 10 to 25 percent increase in duties on steel and aluminum will drastically impact the cost of raw materials used to manufacture OEM equipment. This also has a direct impact on manufacturing costs for the equipment maker. Finally, global supply chains are always moving to exploit inexpensive labor and production opportunities, and there are often ensuing trade, customs, and compliance issues to navigate," stated Fathauer.

He added, "We're globally committed to delivering customer focused services, enriched with the passion, dedication and knowledge of our logistics professionals. We make it our business to understand your business, and you can trust our team to chart a

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smart course of action with each and every transaction. We believe this approach places UTC above typical industry standards. You can trust in our excellence to pack, warehouse, route, transport, clear, insure or track your shipments. Rest assured that we will develop a tailored solution to meet your deadlines and expectations, yet executing it all within your economic means. Our pledge to you is to create more than just business together. We want to create a lasting partnership based on success."

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BUSINESS BRIEFS

Ruddell named retail sales manager at Dawes

■ Joe Ruddell has been promoted to retail sales manager at Dawes Rigging & Crane Rental, a member of the ALL Family of Companies. Ruddell is celebrating his 20th year with Dawes, the previous 19 serving as rental sales manager for south-eastern Wisconsin, where he and his staff were responsible for a nine-county area including Greater Milwaukee.

In his new role, Ruddell will oversee all retail representatives throughout the Dawes organization, while continuing to work with the rental sales team in south-east Wisconsin. His duties will include helping to promote all product lines in a region that is experiencing extensive growth.

Dawes Rigging & Crane Rental serves Wisconsin, Minnesota and the Upper Peninsula of Michigan.

The other day, my wife asked me to pass her lipstick but I accidentally passed her a glue stick. She still isn't talking to me.

Oro Loma Sanitary District appoints Glaze to board

■ The Oro Loma Sanitary District board voted to appoint Robert H. Glaze to fill the board vacancy generated by the retirement of director Roland J. Dias. Glaze, a longtime San Leandro resident and Marina High School and Chabot College graduate.

Glaze worked for the City of Oakland for 40 years, retiring as chief information officer in the department of information technology. He has been active in local politics for many years, having served on the San Leandro City Council for over 15 years, including 7 years as vice mayor.

Glaze brings an impressive list of qualifications, including a long association with Scouting (he has been an Eagle Scout since 1969), and memberships in the Washington Manor Homes Association, Washington Manor Lion's Club and the Optimist Club, and service on many county boards, committees and commissions. He has been an Alameda County Fire Commissioner for almost 20 years.

ASV adds new Maryland dealer to network

■ ASV Holdings Inc., a manufacturer of all purpose compact track loaders and skid steers, added Rippeon Equipment to its dealer network.

The Gaithersburg, Maryland based dealer will offer all ASV Posi-Track compact track loaders, featuring best-in-class rated operating capacity, cooling systems and hydraulic efficiency. This includes the new RT-40, a small frame CTL, the VT-70, ASV's first mid frame vertical lift model, and the RT-120 Forestry. The company will also carry ASV's full line of skid-steer loaders.

Family owned for more than 50 years, Rippeon Equipment serves customers in the construction, landscape, snow removal, agricultural and municipal industries. In addition to sales, the company also provides in-house maintenance services.

Rippeon Equipment works with ASV equipment in its Gaithersburg, Maryland location.

Dynamic Recycling changes company name

■ Dynamic Recycling, an electronics and materials lifecycle management corporation, has changed the company name to Dynamic Lifecycle Innovations.

The new brand will encompass all of the company's locations and divisions, including its flagship Dynamic Recycling; its IT asset disposition division (ITAD), Dynamic ITAD and the IT hardware sales corporation Minnesota Computers.

Dynamic's former divisions will now be under the Dynamic Lifecycle Innovations brand including e-recycling, ITAD, materials recovery, legislative recycling and program management, IT hardware sales, logistics and consumer returns/reverse logistics. With this centralized focus, Dynamic Lifecycle Innovations can design, implement and manage a wide variety of completely customized and compliant solutions for its customers, giving them confidence that their assets and data are handled responsibly and securely.



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BUSINESS BRIEFS

Robin Davidov joins GBB as principal associate

■ Gershman, Brickner & Bratton, Inc. (GBB) announced that sustainable projects advisor Robin Davidov has joined the firm as principal associate. A solid waste industry veteran, she has over 37 years of experience in sustainable waste management, renewable energy, recycling and organic waste. In addition to joining selected GBB Project Teams, providing senior-level advisory and leadership, she will make her depth of experience and expertise available to industry solid waste leaders through the GBB Access! program, a subscription service providing on-demand, as-needed, solid waste management advisory and information through direct access to GBB executives, analysts and professional staff.

Davidov is the former executive director of the Northeast Maryland Waste Disposal Authority, a regional multi-jurisdictional development and financing agency established to assist member jurisdictions in providing adequate solid waste disposal facilities.

During her 30 year tenure leading the authority, she was responsible for the procurement of long term contracts for the transportation and disposal of waste and recycling contracts. She also worked on the development, permitting, financing, construction and operation of three award winning waste-to-energy projects, as well as four landfill gas-to-energy projects, one sewage sludge composting facility and two solar projects, all nationally recognized for environmental performance and reliability.

For the past seven years, she has been an independent consultant, providing advisory services such as contract negotiations for the public-sector, project management, and professional coaching to U.S. based and international clients, with a specialty for island nations.

From 2008 to 2011, she served as a trustee, and in 2011 as the president, of the Municipal Waste Management Association, the environmental affiliate of the United States Conference of Mayors. She also served on the Maryland Governor's Task Forces on Solid Waste, Recycling and Dredge Spoil.

Bandit Industries reaches its 35th anniversary

■ More than 350 dealers, customers and special guests descended on Bandit Industries' world headquarters in Michigan to celebrate 35 years of continued success, and to check out what's in store for the coming years.

That celebration included tours of the facilities, a behind-the-scenes look at the process of building powerful wood processing equipment and demonstrations of more than two dozen machines, including some never-before-seen machines.

Nearly 800 guests dropped by for machine demonstrations, plant tours, food and fun.

Precision Husky adds new dealer to its community

■ Precision Husky Corporation has added Industrial Cutting Tools (ICT) to their dealer network. ICT will be promoting the Precision, Husky and Progrind complete line of equipment throughout the Southeast.

Industrial Cutting Tools, a division of The Langdale Company specializes in the design, manufacture and maintenance of cutting tools.

Vortex Global names new agent in Saudi Arabia

■ Vortex Global Limited, a solids and bulk handling components company, has appointed Eurotech International FZ, LLC as its new representative agent for Saudi Arabia.

Eurotech International FZ, LLC is a network of mechanical engineering product manufacturers and service providers, located in Ras Al Khaimah, United Arab Emirates. Eurotech services the cement, steel, mining, paper, chemical, and food industries through their manufacturing and engineering expertise.

Eurotech's product portfolio includes conveyor rollers, conveyor belts, head cleaning systems and other conveyor belt accessories, conveyor and elevator chains, gearboxes, industrial brake systems, drive components, rotary airlocks, industrial fans and ventilation systems, high-temperature castings, air pollution control systems and other baghouse accessories, hydraulic systems, centrifuges, and more.

Eurotech also partners with other engineering firms to provide system design consultation. Such consultation is often sought when designing overland conveyors, pipe conveyors, ship loading and unloading operations, yard machines, in-pit systems, and other systems for bulk material handling. With the addition of Vortex Global Limited's vast product portfolio, Eurotech can now offer slide gates, diverter valves, loading solutions, and engineered solutions for the dry solids handling industries.

Brokk hires Great Lakes region sales manager

■ Brokk, a leading manufacturer of remote-controlled demolition machines, hired Phil Gangluff as regional sales manager for the U.S. Great Lakes region. Gangluff manages sales for both Brokk robotic demolition machines and the company's Aquajet Systems hydrodemolition robots. He provides support to current customers and is working to bring the safety and efficiency that comes with the company's machines to more jobsites throughout Indiana, Kentucky, Michigan, Ohio, West Virginia and Western Pennsylvania.

Gangluff joins Brokk with 40 years of construction and industrial equipment sales experience. Prior to this position he was a regional sales manager at Kärcher North America for 16 years, which gave him experience in high-pressure cleaning. Before that he worked at Streacker Tractor Sales as an equipment sales specialist.

ALL Crane Rental of Tennessee wins award

■ ALL Crane Rental of Tennessee, located in Knoxville, has been honored with the Governor's Award of Excellence for Workplace Safety and Health. The branch has worked more than 107,000 hours without lost time or restricted duty due to workplace injury or illness.

Tennessee Department of Labor and Workforce Development Commissioner Burns Phillips presented the award during the Tennessee Safety and Health Conference in Nashville.

The Governor's Award of Excellence honors Tennessee employers and employees who meet a required number of hours without workplace injuries serious enough to cause an employee to miss work or restrict normal job activities.

Concord Resources acquires equity interest

■ Concord Resources Limited has acquired a minority equity position in New Day Aluminum Holdings LLC, the ultimate parent company of Noranda Bauxite and Alumina.

Concord's purchase coincides with New Day's completion of a \$110 million refinancing and the imminent conclusion of two major expansion projects at the Noranda Alumina facility.

Republic Services appoints Weymouth to its board

■ Republic Services, Inc. has appointed Katharine Weymouth to its board of directors. Weymouth is an accomplished executive with experience spanning several industries. Her appointment brings the board of directors to a total of 12. She will serve on the audit committee as well as the management development and compensation committee.

Weymouth is chief executive officer of dineXpert, a group buying organization working with independent restaurants. Previously, she held numerous leadership positions at The Washington Post, including publisher and chief executive officer from 2008 through 2014. Earlier at the Post she was involved in all elements of the advertising department, and served as vice president of advertising. She also worked in the company's legal office, handling digital and print responsibilities, after working as a litigator in private practice.

Weymouth earned a Bachelor of Arts degree magna cum laude from Harvard College and graduated from Stanford Law School. She currently serves on a number of public and private boards, including Graham Holdings, Cable One, the Philip L. Graham Fund, the Greater Washington Community Foundation and the DC Economic Club.

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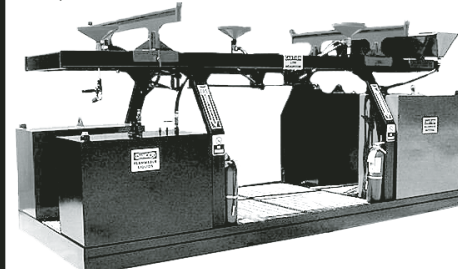


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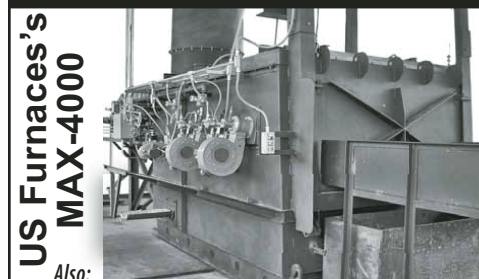
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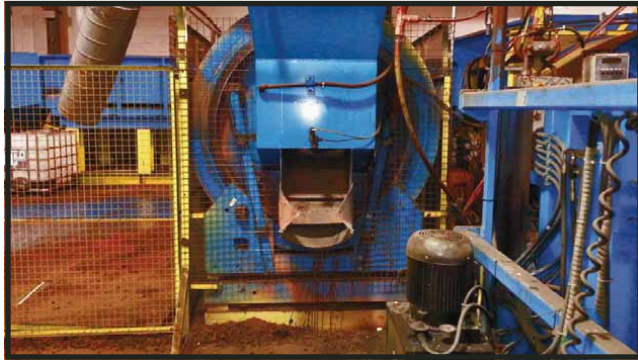
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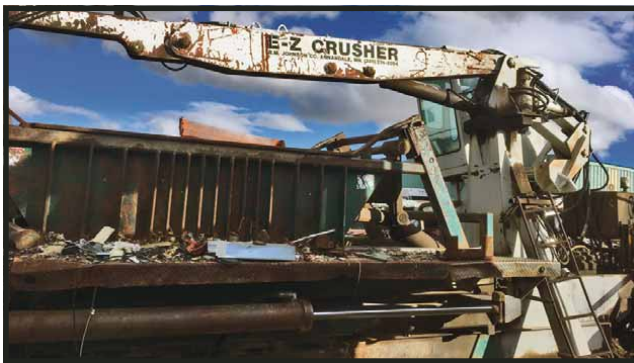
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Growth in recycling e-waste continues

by MAURA KELLER

mkeller@americanrecycler.com

The size of the e-waste trash stream continues to grow, according to the United Nations University, a global think tank that monitors the e-waste stream, more than 49.3 million tons of e-waste was discarded in 2016 and by 2021, the annual total is predicted to surpass 57 million tons. While e-waste is a consistent revenue stream for many recycling companies, the continuously evolving industry requires due diligence surrounding the proper handling of the latest electronic devices, while culling the most valuable components within.

Tony Perrotta, president and chief executive officer of GreenTec, an electronics recycling company, said the e-waste market continues to grow and evolve.

"The material stream is a challenge because it is mixed with all types of electronic devices and continues to change and evolve," Perrotta said. "We are seeing light weighting of electronic material with smaller, lighter items being returned for end-of-life recycling."

CRT monitors and TVs have always been a problem because of leaded glass content. A new problem is emerging with flat panel LCD monitors and TVs making their way into the waste stream because LCDs have CCFL mercury lamps for back lighting, so many processors need to manually remove lamps prior to mechanical processing.

"This process is slow, labor intensive, more costly and almost 50 percent of material is made up of plastics," Perrotta said. "Plastics recovered from electronics recycling continue to be a problem since China stopped accepting this material earlier this year. It's hard to find a local option that is economically viable and efficient."

According to Robin Ingenthron, owner of Good Point Recycling, the marketplace for used and waste electronics is similar to the used and scrap automobile market.

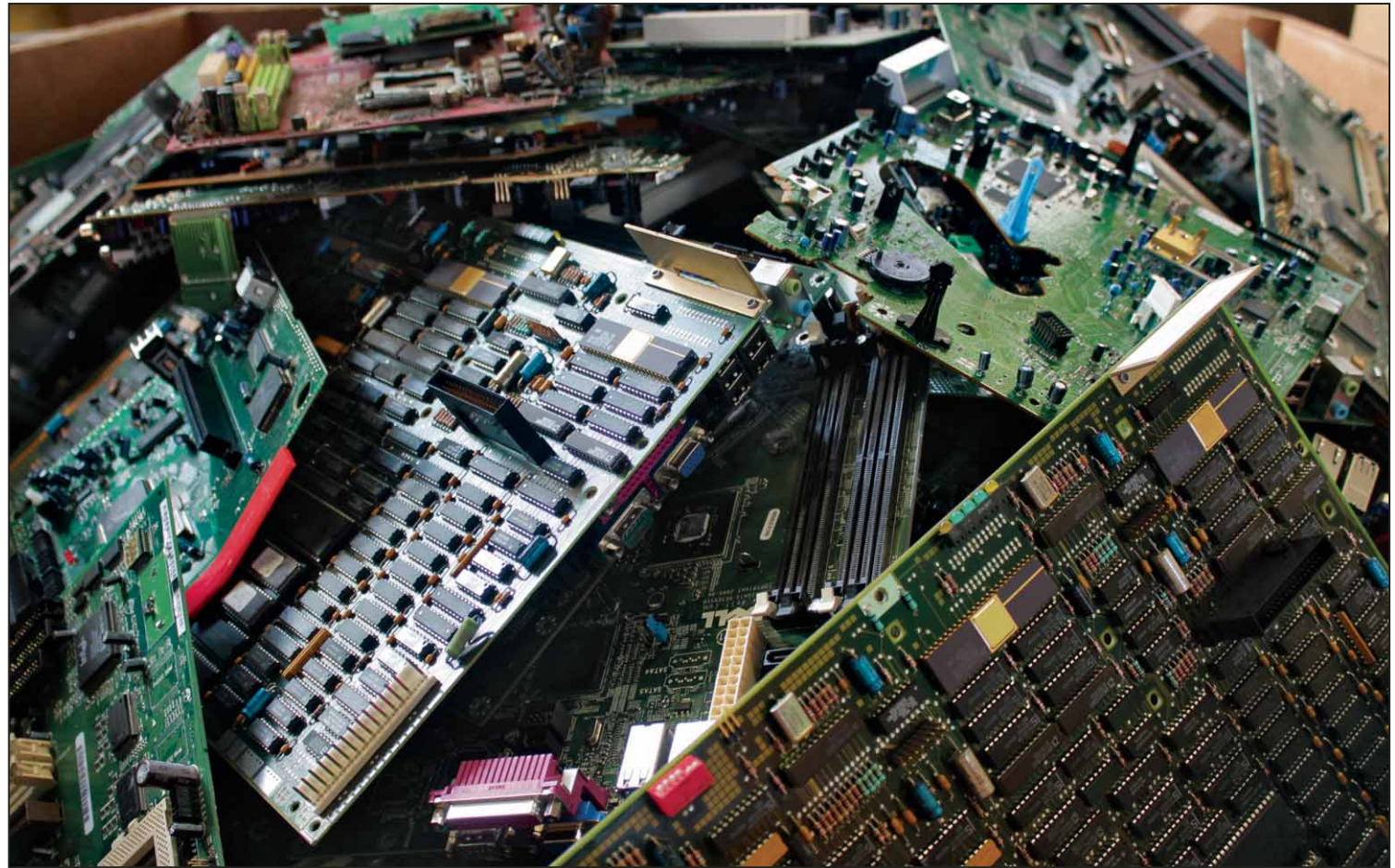


PHOTO COURTESY OF VALLEY CITY ELECTRONIC RECYCLING

"The roughly 20 percent that can be repaired and reused or parted out to chop shops is worth 80 percent of the value," Ingenthron said. "80 percent of buyers and processors are small shops that compete over the 20 percent which has reuse value. The main difference is that electronics reuse standards change more quickly than cars. There was a vibrant demand for used CRT tubes (from desktop monitors, not TVs) 10 years ago, but it collapsed as the price of LCDs dropped and emerging markets became richer. Demand for used CRTs still exists, but is met locally in those markets."

Prior to founding Good Point Recycling, which has electronics recycling facilities in Massachusetts, Vermont and Mexico, Ingenthron was a regulator for Massachusetts Department of Environmental Protection, where he designed the first infrastruc-

ture programs for CRT collection, as well as circuit boards, copper, and other material.

As Ingenthron explained, these changes caused a major problem for e-waste companies, which invested in "scaling up."

"The largest companies of 10 years ago – Intercon, ECS, Creative Recycling, CRTR, MPC, CLRR, and others – could not change their business model fast enough," Ingenthron said. "Companies survive by diversifying into reuse when metals and plastic markets drop, and into scrap when demand for reuse inventory disappears."

Petrika Peters, instructor of sustainability at Black Hills State University says that nation states in the Global South will often pay to take e-waste in hopes of dissecting it for usable parts that can be resold.

"There is an increase in the trade of e-waste to the Global South as environmental regulations in the Global North become more stringent," Peters says. "In order for countries to compete and 'win' this waste they must maintain low environmental and health standards. Adequate resources and technologies are channeled to industrial nations, while the Global South remains ill-equipped to manage the hazardous waste from electronics."

In attempts to extract valuable metals such as gold and silver, workers in the Global South face increased exposure to toxic chemicals such as lead and cadmium without the use of safety equipment.

"The most valuable metals we are able to recover are the precious metals found in higher grade circuit boards," Perrotta said. "There is also copper,

See E-WASTE, Page B2

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Proposed changes could be costly for ITAD processors

Proposed amendment F18-18 to the International Fire Code takes aim at “used and off-specification li-ion batteries.” If approved, electronic recyclers will be forced to reconfigure service, repair and transportation operations. Rather than focusing on the usability of used batteries, the ICC should instead, focus on better understanding the types of defects that can lead to thermal events in li-ion batteries.

Earlier this year the International Code Council (ICC) failed to add a new section, amendment F18-18, to the International Fire Code (IFC) to address storage of new or off-specification li-ion batteries that would also include storage areas as high-hazard group H-2.

The proposed amendment was rejected as the committee found issues with the package and container types, thermal runaway, ignition potential and unlimited area buildings. Currently, the amendment is under review and will be addressed at the ICC’s public comment hearing in Richmond, Virginia.

The proposed amendment imposes severe restrictions on how many used and off-specification batteries can be stored in a single indoor space. These restrictions would make the servicing, repairing and trans-

porting of li-ion batteries extremely expensive, if not impossible.

For electronic recycling firms, amendment F18-18 has the potential to be severely damaging. Recyclers process a wide variety of consumer electronics – many of which contain li-ion batteries. The growing prominence of IoT and mobile devices is yielding more rechargeable li-ion batteries powering more devices and connected gadgets.

In other words, electronic recycling firms are constantly housing upwards of tens of thousands of li-ion batteries. Amendment F18-18 would easily impact how electronic recyclers handle and store li-ion batteries, and if applied, would lead to major, and potentially costly, operational changes.

However, while the ICC has a legitimate interest in regulating thermal events in li-ion batteries, they should be less concerned with whether a used battery is no longer suitable for their original function, and focus on better understanding the types of defects that can lead to thermal events.


In an effort to begin the discussion of how to properly handle different types of li-ion batteries, ISRI

has conducted two sustainable materials management webinars to discuss collection strategies of li-ion batteries, testing for reuse for specific types of reusable batteries, and packing of batteries designed for recycling to meet Department of Transportation guidelines.

As the use of li-ion batteries grows, so will the thermal threat throughout the entire battery life cycle. Thermal event risks can be managed effectively through proper planning, risk assessment, storage methods, and response protocols.

If amendment F18-18 acknowledges differentiation between different types of li-ion batteries, used or not, and generates conversation to better understand how defects can lead to thermal events, the proposal could have the potential to advance safety standards for these devices. However, if F18-18 imposes restrictions on the handling, storage, and processing of these batteries that make the process uneconomical for electronics recycling firms, it could only serve to escalate the risk of processing these batteries as outlets for legitimate recycling processes are limited or non-existent.

*Contributed by: Craig Boswell, president
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E-waste

■Continued from Page B1

aluminum and steel that can be recovered from most electronic devices. However as the material stream changes with light weighing, so does the precious metal content in the consumer electronics.”

“Having a steady and reliable supply of materials to process and keep your lines optimized and operating at capacity is another big challenge,” Perrotta said. “There are also challenges with maintaining certifications and keeping operations clean and safe for employees. In addition, changing material streams and processing capabilities and risks with falling commodity prices can turn your business upside down.”

CRT or Cathode Ray Tubes typically have barium glass in the panel and leaded glass in the funnel (the part of the monitor or TV encased by plastic) which makes recycling more difficult.

“Those have two different melting points, and companies that shredded them together lost buyers,” Ingenthron commented. “Picture stubborn morsels of barium bobbing like stubborn ice cubes in molten leaded glass—people who know what ceramics do to a glass bottle maker stayed away from shredding CRTs.”

As Ingenthron explained, if you invested in “big shred” to reduce labor costs, you wound up with a mix of CRT glass chemistry that could not be recycled economically, and nightmares about battery fires.

“If you invested in labor, you can separate the glass and remove the batteries, but workers comp and other costs have gone way up. This year, the number of failed companies has led to both huge demand for higher environmental insurance among upstream clients, and doubling or tripling of the cost of that insurance by companies fleeing the NAICS sector,” Ingenthron said. “The cost of insurance for my company has grown even faster than raw materials prices have dropped.”

Good Point Recycling makes about half of its income on reuse and half from the combined revenues of circuit boards (gold, silver, palladium bearing), copper, plastic, steel, aluminum, etc.

“We are currently investing in more testing of units for reuse, as we see copper, plastic and steel threatened by trade disputes,” Ingenthron said.

Investment in processing technology, human resources and certifications is key to the recycling companies’ success in e-waste recycling. As Perrotta said, since e-waste materials are changing, this poses challenges to processors that run more manual operations and are invested in processing more traditional streams of materials.

“There is a requirement to partner with companies that specialize – and are more efficient – at processing more complex electronic devices like devices that contain LCD panels that are more labor intensive to process,” Perrotta said.

Of course, the e-waste recycling industry is not without additional challenges. Some of the largest include insurance tight labor, and trade disputes. There also is a requirement for recyclers and processors to have proper certifications to protect clients and employees from risks with data security, health and safety and environmental compliance.

“On the plus side, the biggest problem 15 years ago was low barrier to entry, and competition from people who were unrealistic or reckless – leading to the company closures and environmental abandonment disasters,” Ingenthron said. “Like shakeouts in steel, scrap paper, etc., there’s a lucrative horizon for survivors.”

Perrotta continued, “Many players will find it more challenging to operate electronic waste processing facilities as the material stream changes and the requirements with respects to data security, environmental health and safety continue to push for higher standards.”

GPS trackers reveal more Canadian waste exported

The global waste watchdog group Basel Action Network (BAN) released its findings of a year-long study that involved placing GPS trackers hidden inside of 43 pieces of computing equipment and then, mimicking the expected actions of Canadian consumers, handing them over to official collection depots and processors across Canada. BAN then monitored the devices, tracking some of them offshore to Asia.

The BAN study, entitled “Illegal Export of e-Waste from Canada: A Story as Told by GPS Trackers” found that 7 (16 percent) of the devices were exported in what are likely to be illegal shipments. Four of the devices were exported to developing countries (Pakistan and Hong Kong) in likely violation of the Basel Convention to which Canada is a party. Three of the exported devices were handled by one Canadian recycler, the Electronics Recycling Association (ERA).

“The exports we found should have never happened,” said Jim Puckett, BAN’s founder, and executive director. “This discovery could represent 116,000 metric tons per year if we extrapolate the results. It is imperative therefore that the Canadian Government conduct a full investigation based on our findings and begin to more credibly enforce the Basel Convention.”

BAN followed the GPS signals to Hong Kong and Pakistan. In the infamous Hong Kong New Territories, the trackers led the investigative team to areas where BAN had previously seen workers breaking the equipment down without protection to prevent toxic mercury from LCD backlights or toxic toner dust from being inhaled. This time the sites were not operational, and the few inside would not allow BAN’s team through their gates, but by putting drones aloft and by looking through gaps in the fence line, large amounts of e-waste was seen on-site. In Pakistan, the investigative team found a used computer market where smashed cathode ray tube glass, LCDs including mercury lamps and circuit boards were scattered in heaps – all evidencing crude and harmful dismantling releasing toxic materials, to harm human health and environment.

As a major step towards a solution, BAN urges adoption of the Basel Ban Amendment, which Canada has long opposed. This agreement, put in place by an initiative of the developing and European countries, forbids the export of hazardous waste for any reason from developed to developing countries. The Ban Amendment lacks but two countries before it enters into legal force. Canada could be one of those countries.

“We call on Canada to join the European Union in ratifying and implementing the Basel Ban Amendment,” said Puckett. “By doing this, Canada can stop using Asia as a dumping ground and instead become ambassadors of global environmental justice.”

Waste battery recyclers continue to be largely optimistic in EU

There is widespread confidence among battery recyclers that the volume of waste batteries will remain high in the coming months. After all, almost 70 percent of the congress participants surveyed at the International Congress for Battery Recycling ICBR 2018 rate the current development and forecast of future volume positively.

The result was almost identical to that determined one year ago, when the survey was conducted for the first time at the ICBR 2017. The optimism of the previous year therefore remains unbroken.

The opinion poll is based on a survey conducted by the ICBR Steering Committee among the participants of the annual ICBR industry meeting. The results are summarized in the “Industry Barometer ICBR 2018” for the battery recycling industry, which was conducted and published for the second time this year. Although the results are not representative, they do reflect a significant body of opinion within the industry.

In the survey, the participants were asked to assess the current and future business situation from a monetary point of view. The results show that their assessment is somewhat more subdued than one year earlier. Nevertheless, the majority of the participants surveyed are optimistic:

- Approximately 50 percent of participants have a positive opinion of the current business situation.

- A further 30 percent assess the current business situation as unchanged from the previous year.

- One in five is not satisfied with the current business situation.

The results are further dampened when the participants look to the future:

- Only 40 percent of the participants surveyed still have optimistic business expectations.

- The proportion of those who expect constant development has risen to just under 35 percent.

- The proportion of pessimists is higher than one in five.

When asked about the factors influencing business performance, the participants refer in particular to recycling costs and the volume of waste batteries. Other factors include the influence of transport costs, the market development for lithium-ion batteries and price fluctuations for raw materials.

Another important topic, however, is legislation, which is perceived as very different by various participants within the EU. This assessment has changed little compared to the previous year. More than 50 percent of the survey participants rate the legal framework as unchanged. One third of the participants stated that the legal framework has had a negative impact on their business this year.

As justification, the congress participants refer to the fact that the EU



The second annual survey at ICBR 2018 forecasted similar confidence in the EU battery recycling industry as in the 2017 survey results.

PHOTO COURTESY OF SPRING CREEK WATERSHED

Commission’s proposal for a revision of the EU Battery Directive is not due until 2020. They again call for an EU-wide harmonization of the classification of waste batteries and demand equal framework conditions in all member states. In addition, the revision of the Battery Directive should also take into account the increasing trend towards second-life applications for waste batteries.

“All in all, the survey shows that the majority of players in the battery recycling industry are confident,” said Jean-Pol Wiaux, chairman of the ICBR

Steering Committee, summing up the results. “However, the results should not obscure the fact that in many cases the flow of used batteries is sufficient but not abundant. Price fluctuations can quickly lead to a change in the volume flow. The greater the efficiency of collection and recycling, the greater the contribution that battery recycling can make to the circular economy. This in turn makes it necessary to harmonize existing EU-wide targets and definitions and their enforcement on a level playing field.”

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EQUIPMENT SPOTLIGHT

Shredders

by MARY M. COX

maryc@americanrecycler.com

As e-waste levels continue to rise at a rapid rate, recovery and recycling of the commodities they contain are likely to follow the same path.

All of the shredders BCA Industries designs and builds are capable of electronics destruction. "We specialize in building separation and conveyance systems as well. The shredding is relatively simple, especially with our patented single pass technology, which reduces material to a specified size without screening or multiple shredders. Separation and downstream systems get just as specialized with our air handling systems, magnetic, eddy current and density separation systems. Conveyance can include barrel or box dumpers, enclosed belt, chain link, auger or air systems," stated John Neuens, marketing and sales director.



BCA Industries

"We've designed and built various battery recycling systems from nickel cadmium to lithium ion – including the largest processor in the U.S., which handles 20 tons per hour. These projects require us to deal with the VOC gases, fire suppression needs and electrolyte treatments needed to meet permit and OSHA standards. New material uses enter these technologies often and systems must include comprehensive design factors, not merely reduction capabilities," Neuens said.

He believes that excellent separation generally can only be successful when shredding .5" to .0125" sizes. Neuens added, "We're able to design machines to those specifications, while also going lean on the processes and equipment involved. We build 4 major size classes of shredders, each with dozens of variables, processing 1 to 20 tons per hour.

"Designs involve criteria such as type of feed-stock, the nature of the most valuable recoverables, tons per hour required, feed and outfeed needs that are in sync with recyclables received and ship final commodities involved. We offer specific systems for copper wire and copper recovery processors as well. Export restrictions and new opportunities to resell in North America are a couple of the challenges we now face in this industry. So they can remain profitable, our customers now often require us to build a more complete process separation than was needed prior to these market changes."

Processing electronic scrap (e-scrap or WEEE) presents special challenges not only because recyclable material must be extracted but also, for some items, to ensure the security and complete

destruction of the product. For items such as hard drives or other data storage devices, separation and recovery are critical. Greg Wright, sales director, explained how Granutech Saturn shredders provide the precise size reduction required for this type of e-waste. "Fully integrated separators allow for efficient sorting and reclamation of marketable materials. Whether you're processing consumer electronics, commercial e-scrap or prototypes, our shredders are designed to produce the size reduction you require while seamlessly integrating material separation and recovery for marketable materials."

Wright reports that Saturn's products are low to mid-range speed, high-torque shredders designed for high volume processing. Integrated separation systems can provide primary and secondary separation and size reduction to prepare materials for sale or disposal. Granutech machines can process up to 100 tons per hour and provide a wide array of volume reduction requirements. Additionally, grinders are available to handle variable requirements and multi-stage systems. Primary shredders include the Saturn Single, Dual, or Quad-Shaft models (with standard or hybrid drive) and the multi-stage shredder is the Saturn Grizzly M80 or Saturn Grizzly Super 80. Shredder features include: cutter options for size, shape, quantity and material, providing custom shredding for high security applications; custom blades; drives from 50 hp to 1,250 hp; screens or magnets can be used to separate materials after shredding; grinders and granulators can be integrated if further sizing is needed and ancillary equipment, such as infeed and discharge conveyors, vibration, or rotary screen classifiers and other separation equipment, can be integrated into system design.



Granutech-Saturn Systems

According to Jason Silvey, U.S. sales manager, "Sicon's EcoShred Vertec, a versatile shredder with a wide range of applications, is the 'big boy' in e-scrap processing. Either as a stand-alone machine or included with a processing system, the Vertec fully liberates metals from electric motors, meatballs and e-scrap." By using hammers in a vertical configuration, the Vertec liberates individual components and significantly reduces the need for hand separation

See SHREDDERS, Page B7

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SungEel MCC Americas unveils battery recycling plant location

SungEel MCC Americas (SMCC) unveiled New York as the location of its first plant, which will redefine the North American lithium-ion battery, e-waste recycling, energy and metals markets.

The Endicott, New York plant will be located in the Huron Campus, formerly the IBM-Endicott facility. SMCC will leverage over \$1.75MM in incentives from New York State and create over 100 research, engineering, and manufacturing jobs.

The joint venture between New York based Metallica Commodities Corp. and South Korea based SungEel HiTech will commence operations in January 2019, creating over 100 hi-tech jobs and recycling over 5,000 MT of spent lithium-ion batteries.

Approximately 50 percent of LIBs are recovered and recycled in the European Union and some Asian countries, whereas less than 5 percent of all LIBs are recycled in the U.S.

Cobalt and lithium are the two most valuable metals found in LIBs, with consumption of both outpacing

supplies in recent years. The U.S. lacks the domestic supply of both strategic metals. SMCC will recover these valuable metals through an efficient and environmentally friendly process. The recovered metals can be used in the manufacture of new lithium-ion batteries as well as multiple industrial applications.

"We are excited to be at the forefront of lithium-ion battery recycling in the U.S. and to create quality, hi-tech, green jobs in our home state of New York. The State's energy storage initiative makes the Southern Tier an obvious choice," said Danish Mir, chief operating officer of Metallica Commodities Corp. and SMCC president.

"Throughout the Southern Tier, companies are finding innovative new uses for existing facilities. This international partnership recycling lithium batteries will foster the supply of a product in high demand and expand the thriving energy storage industry in the region," said Howard Zemsky, president, chief executive officer, and commissioner of Empire State Development.

Vegas attraction recycles second ton of e-waste

Sin City Smash, a recreational rage room facility in Las Vegas announced that they recycled their second ton of metals and plastics last month, which equates to over 4,000 pounds of e-waste.

Many corporations around the world have yet to develop a fun, safe and environmentally friendly way to dispose of e-waste, which has created a hazard for cities like Las Vegas.

Every day, thousands of pounds of e-waste are dumped in landfills. According to DoSomething.org, e-waste represents 2 percent of America's trash in landfills, but it equals 70 percent of overall toxic waste. At Sin City Smash, they help diminish the toxic waste, one printer at a time. Patrons from around the world visit the rage room to help reduce, reuse

and recycle through destruction therapy at Sin City Smash. Items that would typically end up in landfills are repurposed for breaking and stress relief. After this unique Las Vegas experience, customers decompress and relax in the rage room facilities VIP lounge. Crew members painstakingly sort and separate recyclable items left behind from the destruction sessions. Once separated, items are sent to the proper recycling facilities.

With recycling initiatives becoming more critical for customers, Sin City Smash does an excellent job adding value to the overall destruction therapy experience. Not only do patrons get to release their anger and experience an exhilarating activity, they also get to help the environment as well.

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CAT GSH420/GSH520 GRAPPLES FEATURE DESIGN REFINEMENTS

The new Cat® GSH420 and GSH520 orange-peel grapples, replacing the GSH15B Series grapples, are designed for a wide range of applications, including handling shredded scrap, such as long structural beams and car bodies.

The design enhances the strength, reliability, and durability of the new grapples, which are available in four-tine and five-tine shell configurations and in closed or semi-open versions. In addition, the GSH420 and GSH520 feature a redesigned rotation system. The new grapples are designed to work with the Cat MH3022, MH3024, and MH3026 material handlers.

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KINSHOFER INTRODUCES WS-SERIES DRUM CUTTERS

Kinshofer, a global manufacturer of high-quality excavator and loader crane attachments, introduced the WS Drum Cutter Series. The drum cutters feature an exclusive pick angle and optimal chisel arrangement for high performance and minimal wear. Based on the application, there are four chisel tips that attach to the wear pick: standard, heavy duty, wear protected and wood.

The attachment's heavy-duty sealing system enables underwater operation as deep as 25 meters.

WS-Series Drum Cutters are available in 7 models for 2 to 60 ton excavators.

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MCCLOSKEY NEW STACKERS BOAST STABILITY AND MOBILITY

McCloskey adds new All-Terrain Stackers to its lineup. Blending the benefits of on-site track mobility with the high productivity of a radial conveyor, the All-Terrain Stackers allow the conveyor to switch from track mode to radial in seconds.

Designed for use in any terrain, the stackers, ranging from 60' to 150', are easily moved site to site without the need to remove the wheels for transport. Built-in leveling indicators allow best positioning regardless of ground evenness. The design allows for the wheels to be folded for transport, delivering true portability for operators moving from site to site.

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www.mccloskeyinternational.com



SOLESBEE'S STUMP PULLER SPORTS REPLACEABLE WEAR TIPS

Solesbee's offers its excavator Stump Puller for efficient stump removal and land clearing. Solesbee's manufactures the attachment with high-strength alloy steel and replaceable wear tips for extended service life.

The powerful attachment, known as the "Stumper," fits 15 to 40 ton excavators and can increase production by as much as 30 percent compared to other land-clearing methods, such as bucket attachments, bulldozing and forestry mowing. This speed allows contractors to complete jobs in less time and generate fast ROI.

The Stumper can be paired with Solesbee's excavator thumbs to lift and stack stumps, limbs and debris.

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www.solesbees.com



TOMRA OFFERS NEW SHARP EYE SORTING TECHNOLOGY

Tomra Sorting Recycling introduces the new Tomra Sharp Eye technology, which makes it possible to separate single-layer PET trays from PET bottles. This enhances the previous capability of Tomra's Autosort machine to separate multilayer trays.

This breakthrough is commercially significant because small but critical differences in the chemical properties of PET food trays and PET bottles mean that they must be separated for equivalent-product recycling. Additionally, artificial intelligence embedded in Tomra systems also enables seamless analysis of sorted products, making the future plants even smarter.

Tomra
1 Corporate Drive
Shelton, CT 06484
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ERI partners with CyberPolicy to provide e-recycling solutions for small businesses

ERI, a fully integrated electronics and IT asset disposition (ITAD) provider and cybersecurity-focused hardware destruction company, has formed a new partnership with CyberPolicy, an online cyber insurance marketplace that helps small businesses plan, prevent and insure against cyberattacks. The two organizations have joined together to pool their respective expertise and offer business customers comprehensive insurance solutions in the electronic recycling space.

The collaboration broadens ERI's suite of offered services to clients and positions the groundbreaking ITAD company as the first recycling organization to offer a cyber insurance solution

for its small business customers, while simultaneously managing the data destruction of discarded devices. In addition, the partnership helps to ensure that CyberPolicy customers are minimizing their exposure to cyber-attacks and data breaches by mitigating the risks associated with the handling of electronics.

The two companies' complimentary areas of excellence sets up a symbiotic relationship where CyberPolicy's customers can benefit from ERI's guaranteed data destruction system for all forms of discarded hardware; while ERI's customers can achieve peace of mind for active systems, as well as discarded technologies.

NY DEC launches fourth round of e-waste recycling grants

New York State Department of Environmental Conservation (DEC) commissioner Basil Seggos announced that the fourth round of grant funding from the Environmental Protection Fund (EPF) is being made available to help municipalities across the state address costs associated with the collection and recycling of eligible electronic wastes (e-waste). DEC will accept applications for these grants in January 2019.

Since Governor Cuomo announced in 2016 that \$3 million was available from the EPF to help municipalities collect and recycle e-waste, slightly more than \$2 million in grant funding has been dispersed to cities, towns, and villages across the state to help them mitigate expenses. Approximately \$900,000 is available for the 2018 funding period (January 1, 2018 – December 31, 2018). DEC will accept applications for this funding opportunity beginning January 1, 2019, and no later than February 28, 2019.

New York's Electronic Equipment Recycling and Reuse Act, requires elec-

tronic equipment manufacturers to offer consumers programs to collect and recycle e-waste such as computers, laptops, printers, monitors, keyboards, video game consoles, keyboards, televisions and other small electronic equipment. The act has diverted more than 520 million pounds of e-waste from landfills for reuse and recycling between 2011 and 2016. As technology advances, the amount of e-waste consumers generate continues to grow. These grants will help mitigate financial pressures some local governments face in collecting and properly managing e-waste.

DEC's Household Hazardous Waste Assistance Program will continue to administer the grant application process. Municipalities may receive reimbursement of up to 50 percent of eligible expenses incurred for recycling of e-waste between January 1, 2018 through December 31, 2018. Application materials, guidance documents, and important information for Electronic Waste Assistance Grants are available on DEC's website.

AR EQUIPMENT SPOTLIGHT

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

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

UPCOMING TOPICS

DEC	Sweat Furnaces/ Incinerators
JAN	Chippers/Grinders
FEB	Compactors
MAR	Shredders
APR	Attachments

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

ERA works with recyclers on non-reusable e-waste

The Electronic Recycling Association (ERA) celebrated a five year anniversary in its e-waste recycling efforts. The ERA has been working to reduce unnecessary electronic waste since 2004 throughout Canada.

ERA worked with Alberta Recycling (ARMA) certified recycler, Hi Tech Recyclers creating a more sustainable environment. Both parties have one goal: to ensure that electronic waste is properly taken care of through processes put in place by them directly.

“Working with a recycling company that truly cares about our environment is not only great but it is also satisfying to see that people still care” said Bojan Paduh, founder of the Electronic Recycling Association. “We are looking forward to working with Hi Tech Recyclers for the foreseen future, building a strong relationship and a better environment. Our aim throughout the next five years is to increase the quantity of e-waste we currently divert from landfills, not only in Alberta but Canada wide.”

Over the past five years the ERA has worked with Hi Tech Recyclers to dispose of 700 tons of e-waste from Alberta alone. The e-waste that was safely recycled within province comprised of unusable TV's, printers and electronics that could not be reused.

Established in 2004, ERA is a non-profit organization directed to reduce the environmental impact of improperly discarded toxic electronic waste by offering accessible services to help corporations and individuals manage their retiring IT assets.

Through industry leading pickup, data removal and reporting/certification services, ERA provides a full-circle solution for e-waste management. With reuse being ERA's top priority, every item that is received is examined for any remaining productive life and refurbished for reuse. True end of life items are transferred to accredited Canadian recyclers where a nil landfill contribution can be assured. ERA is committed to supporting local charities and individuals in need through the provision of electronic equipment to charities and individuals alike.

Green Tech launches new recycling plant

Green Tech Solution, Inc. plans to locate new recycling operations in Cherokee County, South Carolina. The company's \$75 million investment is projected to create approximately 200 new jobs.

Green Tech Solution, Inc. will establish a new recycling operation to collect and process a variety of materials and is expected to come online in the second quarter of 2019.

Shredders ■Continued from Page B4

within the e-scrap line. In contrast to similar machinery on the market, the Vertec uses hammers instead of rings, yielding a much better liberation of contained metals than conventional shredders that tend to crush and ball the material. First, the breakers in the upper chamber smash material until it is small enough to enter the gap between the hammers and chamber liners. Second, material is impacted by the hammers, fully liberating individual metals. Last, as the liberated material is compacted into a dense fraction, it passes down the chamber.

Due to variation in materials that may need processing, the Vertec is designed with multi-point adjustability – including rotor speed, stator lines and hammer distances. Reversible rotor direction, oversized bearings including advanced seal protection – and wear resistant chamber liners help to keep maintenance to a bare minimum. The two-piece annealed and CNC bored chamber allows quick access for routine maintenance. “As an ‘all-rounder’ the Vertec can handle larger pre-sized material, as with material from a rotorshear, which makes it a smart capital investment,” Silvey stated. The Sicon e-scrap line also includes: the MagSpin series, with permanent magnets for ferrous removal; the EddyPro series eddy currents, for complete nonferrous recovery; WetFloat separators, to remove plastic particles; and the Varisort series sensor sorters for insulated



Sicon America



swissRTec

copper wire (ICW) and PC board recovery. De-dusting options can be added to any Vertec machine to comply with local regulations. Available in different sizes and drive power options, Sicon's Vertec can accommodate throughput ranging from 1 to 10 tph, depending on infeed material type, volume and density.

swissRTec's core focus is the shredding, delamination and separation of valuable raw materials from waste compound materials such as electronic scrap, cables, printed circuit boards, mixed scrap metal, aluminum composites and other items. “Our mighty Kubota Vertical Shredder has been an industry leader for decades. It breaks down and grinds up e-waste and materials of all kinds, down to one inch or less in size in a single pass. The shredder also processes large and small appliances, metal scrap and other bulky items,” Bernhard Mueggler, president and chief executive officer, said. He added, “The technology available with this shredder meets the operating needs of today's companies. It provides optimal flexibility for serving various industries, which allows companies to process waste more efficiently. When you recycle, you cannot control your intake – you have to deal with the materials that come your way. Our shredder allows you to better adapt to what comes in, so processing is more productive and economical. This shredder can also be used as a stand-alone unit, or in combination with other processing technology.”

E-scrap compliance larger than margins in EU

A study commissioned by the European Electronics Recyclers Association (EERA) has concluded that compliance requirements are substantial.

The research looked at the current e-scrap business model in Europe and focused specifically on operational costs. Findings were explained at the latest meeting of the BIR E-Scrap Committee by Federico Magalini, managing director of Sofies UK. It was found that, for example, avoiding some quality and service requirements – such as reporting to authorities/compliance schemes, waste characterization and audits – could cut costs by around 20 percent in the case of cooling and freezing equipment and CRTs. “The effect of avoided compliance costs is much larger than margins,” he informed delegates in London.

Also at the meeting, which was chaired by Thomas Papageorgiou of Greece-based Anamet SA, it was

reported that China's plastics import ban has led to significant volumes heading instead to countries such as Malaysia and Vietnam where infrastructures cannot cope with the increased volumes. Recyclers in these countries often employ the cheapest methods which result in a more significant environmental impact, according to Steve Wong, executive president of

the China Scrap Plastics Association. “The solution for the future,” he said, “will be technology and recycling at source.”

Surendra Borad Patawari of Gemini Corporation NV in Belgium informed the meeting that e-waste in India is expected to grow at an annual rate of 10 percent from 2017 to 2020.

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