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Paper recycling fluctuates



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Maumee, OH 43537

Hybrids trickle into auto recycling

American

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by MAURA KELLER mkeller@americanrecycler.com

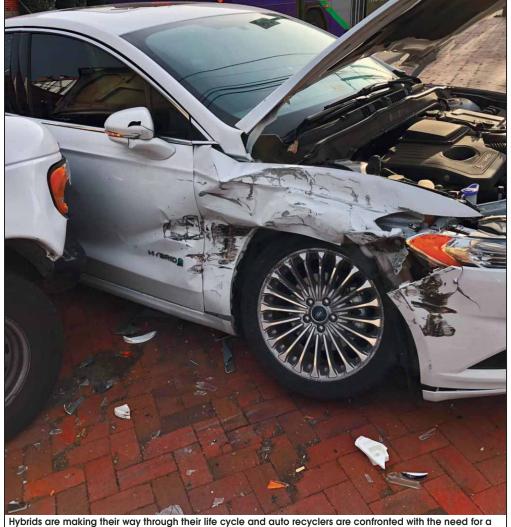
Surprisingly, hybrid vehicles only made up around two percent of total U.S. auto sales in 2017. According to Automoblog.net, this is down from a peak of 3.1 percent in 2013. Based on these facts, hybrid vehicles are not as popular as they were before, and this has a lot to do with cost, maintenance and lower fuel prices today. The hybrid market has evolved, but traditional hybrid buyers are gravitating more towards fully electric vehicles (EV). Total U.S. EV sales saw a 71 percent increase from 2016 to 2017. It is expected that 1.75 percent of total vehicle sales for 2018 will be electric vehicles, which represents a growth of 48 percent overall.

According to Gordon Heidacker, managing director and automotive sector group head with Great American Group, the current status of the hybrid vehicle market in the U.S. differs from that of the rest of the world, mostly due to the varied regulatory efforts of local, federal and state governments around the globe.

"In the U.S., hybrid vehicle uptake is growing slower than the rest of the world. The hybrid, fuel cell and battery electric portion of the market continues to hover around five percent of the total market despite becoming more crowded with new models each year," Heidacker said. Meanwhile, in total contrast, the Chinese market and government has declared its intention to go fully electric in all its city markets, driving innovation and transition for those automakers to compete in this region. Europe is not far behind China with the same mindset.

As Heidacker explained, in the last few years overall technology has improved in weight, power and cost. "Investments in this arena have yielded some positive results while being pushed by governmental decree, but not enough to make pure electrics profitable," Heidacker said. "Today, hybrids remain the best bang for the buck on partial electrification and CO2 savings."

Of course the role hybrid vehicles play within the recycling industry is also dependent on consumers' interest level in this technology. Consumers' desire for hybrid vehicles is continually years - and hybrids are a relatively new



Hybrids are making their way through their life cycle and auto recyclers are confronted with the need for a new process.

increasing in number and percentage due to market drivers that are regulated and incentivized pricing. However, in the U.S., while some customers may feel compelled to buy a hybrid, data shows that most consumers are voting with their dollars by buying a gasoline powered vehicle.

So how does this impact the recycling efforts surrounding hybrid technology? First and foremost, the electric drive portion of these cars is generally less complicated and thus breakdown less than an internal combustion engine (ICE).

'So recycling and remanufacturing of the base electrification hard parts is not yet at a level where there are high numbers of failures driving aftermarket need," Heidacker said. "Since the life of vehicles in the U.S. averages at 11.6

product - we don't see a substantial impact short term."

Stephen Voller is chief executive officer and founder of ZapGo, a hightechnology business founded in 2013 with the goal to develop the next generation of batteries beyond lithium. He explains that in a hybrid vehicle you have two of everything. You have an electric drive and also you have a combustion engine to either drive the vehicle or use as a generator to charge the batteries. This means that there is two of everything to recycle.

"Of course, the electric drives and the batteries are evolving and there are many different types," Voller said. The earlier Toyota Prius vehicles, for example, used nickel metal hydride batteries and the later ones now use lithium-ion batteries that contain cobalt.

"Neither battery is easy to recycle nor are they very different. Both nickel and lithium, when mixed into battery compounds, are highly toxic," Voller explained. "There is a myth that somehow these batteries are going to be reused by electrical utilities. But they are the same type of batteries used in mobile phones that wear out after time. No one wants your secondhand phone battery for that reason, and nobody is going to want a secondhand vehicle battery either.

See HYBRID AUTOS, Page 4

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American carpet industry must embrace recycling

As states struggle to address the nationwide waste crisis caused by China's recent refusal to accept and process American plastic waste, advocates and researchers are urging America's carpet manufacturers to improve the recyclability of their products and take responsibility for the waste that they create.

Despite the Carpet America Recovery Effort (CARE) being set up by the carpet industry over 15 years ago, only 5 percent of carpet is currently recycled with 90 percent going to landfills. Carpet is largely made of plastic from fossil fuels and it also contains a wide range of chemicals, used in adhesives and stain protectants, that, whether by affecting indoor air quality in homes or leaching into drinking water supplies, can be toxic to human health.

"We've known for years that carpets produced in the U.S. create problems for communities after they are thrown away. It's time for policymakers in every state to require carpet manufacturers to solve the problems created by their products," said Heidi Sanborn, executive director of National Stewardship Action Council and a key advocate for carpet recycling through a system growing in popularity across the United States known as Extended Producer Responsibility (EPR).

EPR programs are designed to ensure that producers take responsibility for the costs created by their products after consumers have finished using them. Such programs are designed to reduce the costs of managing bulky waste for local governments that are currently paid for by consumers through taxes and garbage collection rates.

New research, published by Eunomia Research & Consulting, outlines policy options for states to dramatically improve carpet reuse and recycling rates. The report commissioned by the Changing Markets Foundation, calls for state governments and manufacturers to adopt and develop effective take-back programs. By implementing proposals outlined in the Eunomia toolkit, policymakers can curb the use of fossil fuels, help resolve the carpet waste problem, reduce greenhouse gas emissions, and increase domestic jobs in the carpet reuse and recycling sectors.

As the state that purchases - and disposes of - the greatest amount of carpet, California has led the country in promoting carpet recycling. In 2010, the state passed the world's first carpet recycling law (AB 2398), which was updated in 2017 (AB 1158) to include a mandatory carpet recycling rate of 24 percent by 2020. To build upon this initial success, the Eunomia toolkit describes how lawmakers can strengthen the landmark California Stewardship Program, which will eventually become a critical component in the state's longstanding effort to address its affordable housing crisis through new construction and building renovation.

Beyond California, the report provides a blueprint for other states to implement their own producer responsibility programs for carpet. It outlines principles necessary for any U.S. carpet stewardship plan to succeed as part of the "circular economy," where old materials are recycled into new products for consumers to buy and use instead of being discarded. These include:

•Creating incentives for "ecodesign" – thoughtfully designed products that are more easily reusable and recyclable, without toxic chemicals or components that may go into landfills reused. Some of the most forwardthinking manufacturers in the U.S. and

•Increasing carpet reuse and recycling rates; and,

•Shifting the cost burden of disposal and recycling from taxpayers and municipalities to producers.

Mark Hilton, author of the report and Eunomia's Head of Sustainable Business, said:

"Carpet is a very traditional product that is difficult to recycle and rarely reused. Some of the most forwardthinking manufacturers in the U.S. and Europe are now tackling the design challenges and already making carpets with far fewer harmful chemicals, and using designs and business models that aid reuse and recycling. The policy makers are lagging behind, however, and this toolkit aims to provide a template that will progressively drive best practice into the mainstream at the state level."



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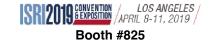
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Partners create comprehensive recycling plan

Recycle Track Systems, Inc. (RTS) announced a multi-year partnership with MLS' Philadelphia Union as the exclusive company to manage waste services for the 18,500 seat, Talen Energy Stadium. The collaboration will kick off with salvaging the existing soccer field's soil which will provide 93 tons of reuse for composting or fill for construction projects.

In addition to readying the stadium for a new field, RTS' LEED accredited team will work closely with the staff to support proper education and communica-

Hybrid autos

Continued from Page 1

As adoption rates increase, it will most likely revert to a remanufactured product base as the electric engines and the inverters can be rebuilt for more use.

"However on the battery side (lithium ion), more energy will need to be invested into the development of a process to truly recycle the spent batteries," Heidacker said. "To date, no one really does this as there is no market and the projected cost would be very high – higher than the cost of a newly produced battery. Until the production rate goes up and there is an environmental issue with old batteries, we won't see much in this arena. As of today, most recyclers are taking battery packs apart and restructuring the cells that still work into new packs, which is, in essence, repackaging and recertifying for use."

Heidacker predicted that as higher adoption of EVs, HEVs, and other derivatives in the alternative propulsion market happens, it will drive more vehicle volume. These hybrid vehicles would displace ICE powered vehicles and it will tion on waste separation and diversion practices. RTS will also support Philadelphia Union in fan engagement, including in-stadium signage, proper branding on all waste receptacles and an educational pregame video to encourage fan participation in recycling during events.

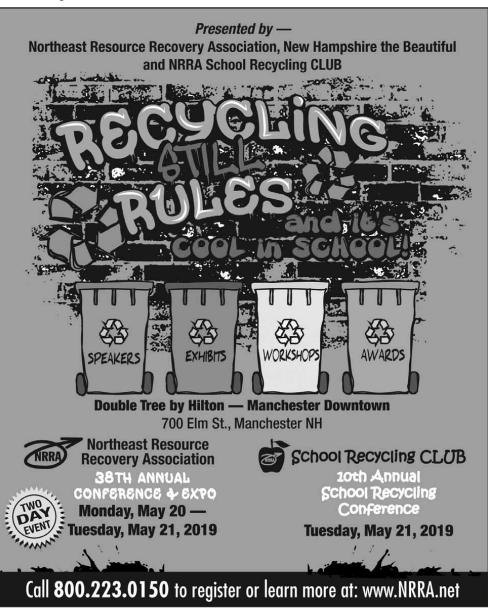
As part of the overall sustainability plan, RTS will also manage the waste streams at Philadelphia Union's state-ofthe-art indoor practice facility housed in the historic Annex building adjacent to Talen Energy Stadium. The 16,500 square

reduce the influx of vehicles into the recycling pipeline.

"However, accidents and general wear on the main mechanical parts would not change so expect failures on the other systems of the car to remain generally the same," Heidacker said. Overall this would reduce cars coming to the recycling yard – but only incrementally, as we do not foresee any dramatic or large shift to hybrid in the next several years. A major shift to the recycling activity surrounding hybrids would only occur naturally if an altogether new battery technology were to be developed that reduced cost dramatically from today's level."

Voller said that by definition, hybrid vehicles are considered an interim step toward full battery electric vehicles. In cities like London and Paris, where ICE vehicles will be totally banned by 2040, this will also include hybrid vehicles.

"Most analysts now believe there will be an inflexion point in 2025, when the large vehicle manufacturers begin to produce more electric drive vehicles than combustion engine vehicles," Voller said. "At this point, the demand for batteries will soar."



foot building includes a weight training area, physical therapy and sports science development area, nutrition center, locker rooms, and offices.

The wide-ranging recycling plan at Talen Energy Stadium to "go green' is a result of more sports stadiums addressing the enduring challenges of sustainability. Since 2017, the U.S. Green Building Council, identified at least 30 LEED-certified sports venues in use or underway in the U.S., and the organization said that number is growing.

This not only presents challenges to the supply chain, such as, "Is there enough lithium and cobalt on the planet?" but also, "What do the vehicle manufacturers do with it at the end of life?"

"This is because under European law, a consumer has the right to return a product to the manufacturer when they have finished with it, so it becomes the vehicle manufacturer's problem to recycle it," Voller said. "But who wants a worn-out battery? At the same time, the price of new batteries is likely to fall, and there will be technological improvements, so these old batteries are like saying I want a computer from 10 years ago. Nobody does."

Heidacker expects there will always be a need to purchase core product for remanufacturing in the hybrid side of the business for electric propulsion. This is no different than that of the current process for engines and transmissions, which are remanufactured by need and volume popularity.

"The largest challenge will be what to do with the spent batteries, and any mixed metal composites used for light weighting the vehicles," Heidacker said. "As in this case, there is not a mature recycling need, process or infrastructure."

Events Calendar

March 9th-12th

CDRA 2019. New York Marriott at the Brooklyn Bridge, Brooklyn, New York. 866-758-4721 | www.cdrecycling.org

March 11th-14th

Association of Plastic Recyclers Membership Meeting. Gaylord Resort and Convention Center, National Harbor, Maryland.

202-316-3046 | www.plasticsrecycling.org

March 20th-21st

Northeast Recycling Council Spring Workshop. Chase Center, Wilmington, Delaware.

802-254-3636 | www.nerc.org

April 1st-2nd

North American Waste-to-Energy Conference (NAWTEC). Hyatt Regency, Reston, Virginia.

888-744-1449 | www.swana.org

April 1st-3rd Aluminum Association Spring Meeting, Belmont Hotel. Charleston, South Carolina. 703-358-2960 | www.aluminum.org

April 8th-11th

ISRI Convention & Exposition. Los Angeles Convention Center, Los Angeles, California. 202-662-8500 | www.isri2019.org



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SSI constructs a building to aid in relief efforts by using recycled shipping containers

SnapSpace Solutions Inc. (SSI), a Brewer-based American manufacturer of fully customizable structures using recycled steel shipping containers, loaded an entire building onto a jumbo jet headed for the Pacific island of Saipan at the Bangor International Airport in January. The building is a portable, sanitary, disaster relief structure, commissioned by the Federal Emergency Management Agency (FEMA) to aid the victims of the deadly typhoon in Saipan and jumpstart the island's rebuilding process.

"These restroom units were specially constructed for the school system in Saipan. Children will finally be able to return to school in this devastated country," said Chad Walton, chief executive officer of SnapSpace Solutions, Inc. "I'm also excited because this is a milestone in our company's history. SnapSpace Solutions and our team were able to land our first FEMA contract after several years of hard work and this building is the culmination of our efforts."

This Brewer-based company has grown by over 550 percent in recent years. During the past year, SSI won a prestigious award for innovation and landed this FEMA contract.

"I was introduced to Chad and his team early in 2018, by an investor from Florida, who wanted me to evaluate their growth potential," said Dr. Brien Walton (no relation to Chad Walton). Brien is the director of Husson University's Center for Family Business and the chief executive officer of Acadia Capital Management II, Inc., a certified Community Development Entity that provides federal New Markets Tax Credits to investors in distressed communities and Opportunity Zones.

"SnapSpace is a true success story," continued Brien. "Their 550 percent increase in revenue for the 2018 fiscal year is nothing short of remarkable. Husson students are supporting SSI by creating adaptive and scalable business administration strategies that allow Chad's team to focus on customer acquisition. I'm honored to be working with this quiet company that's about to roar. Chad is currently negotiating a contract that could potentially triple his 2018 revenue in just three months."

In recent years, the company has transitioned from being a local family-owned business to becoming a leading contractor in affordable homes and commercial structures. SSI has already outgrown their current location due to increased demand and plans to double the size of their manufacturing plant.

In addition, SSI currently has manufacturing affiliates and capacity in Connecticut and South Carolina. A new factory planned for Florida will allow SSI to serve the East Coast.

SSI is quickly becoming a leading builder in the U.S. because creating spaces from recycled shipping containers enables the company to cut down the time it would take to create a traditional stick-built project. For example, SSI can build a three bedroom, two bath, 1,280 square-foot home in weeks rather than months - even in the middle of winter. As fully customizable structures, SnapSpace buildings are only limited by the boundaries of one's own imagination. The company can even put a pool inside one of their custom-built intermodal steel building unit (ISBU) homes.



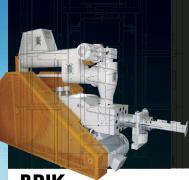
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Municipal Measurement Program launched

Re-TRAC Connect and The Recycling Partnership officially launched Municipal Measurement Program (MMP) to harmonize the measurement of material management programs and to provide municipalities with decisionmaking tools that can improve recycling program performance.

"Municipalities are faced with all kinds of challenges when it comes to reducing waste in their communities," says Rick Penner, president of Emerge Knowledge, the company that developed Re-TRAC Connect. "Their program managers rarely have enough staff, time or budget to effectively measure their community's waste diversion progress. The truth is that measurement takes time; you need to collect data, monitor program performance metrics, and then also find time to research strategies to improve waste and recycling programs. Municipalities need a better way to measure performance and make decisions that will improve recycling in their communities. And that's where the MMP comes in."

performance and discover opportunities to improve waste and recycling programs. The MMP uses standardized terminology ensuring that municipalities can benchmark performance metrics against national averages. The program also simplifies data management by centralizing all municipal waste and recycling program information. One feature included in the MMP is

the program recommendations report. The report analyzes the data submitted via the program assessment surveys and based on those responses, presents a set of program recommendations tailored specifically to the municipality. The recommendations report will introduce municipalities to a suite of effective tools and resources developed by The Recycling Partnership.

The MMP is a free Program Assessment and Planning Tool that delivers insights and actionable recommendations to municipal waste management agencies in the U.S. and Canada.

For a direct link to more information, view this article on www.AmericanRecycler.com.

Four are promoted at NWRA

National Waste and Recycling Association (NWRA) president Darrell Smith announced the promotion of Steve Changaris, LaWanda Jones, Peggy Macenas, and Brandon Wright.

By completing the program assess-

ment surveys, municipalities can gener-

ate reports to measure program

Steve Changaris was promoted to vice president, Northeast region; LaWanda Jones was promoted to director, internal operations; Peggy Macenas was promoted to vice president, Midwest region, and Brandon Wright was promoted to vice president, communications and media relations.

Changaris has worked for more than 25 years at NWRA. He covers the northeastern states of New York, New Jersey, Delaware, Maryland, Massachusetts, Rhode Island, Connecticut, New Hampshire, Vermont and Maine. He works with the region's NWRA recycling, organics and waste companies and interacts on their behalf at the state, local, regional, special authority and county level. He works with elected and legislative officials as well as administrative and regulatory officials in all solid waste and recycling areas.

Since 1998, Jones has worked for NWRA. In her current role as director, internal operations, Jones is in charge of all IT and database related issues and inquiries. Prior to her employment with NWRA, Jones was enlisted in the U.S. Army Reserves. Jones attended Strayer University, and has received multiple certifications from COMPTIA. Macenas is the vice president, Midwest region for the National Waste & Recycling Association. Since 1993, she served the member companies for NWRA initially as national membership director providing education programs and membership development. In 1998, she was named manager, Midwest region with the responsibility of managing legislative and regulatory affairs on behalf of the NWRA State Chapters in the Midwest.

Macenas serves an additional role with NWRA, that of director of the NWRA Women's Council. Prior to joining the association, she worked on the production side and in the regulatory arena of the cable television industry and, has served as the executive director for several non-profit associations before joining NWRA.

Wright serves as NWRA's vice president, communications and media relations.

He joined NWRA in October 2017. Before joining NWRA Wright was chief of staff at the Maryland Department of Planning and served in a senior leadership role at the Maryland Department of Health. Wright has also served as communications director at the Petroleum Marketers Association of America and led communications efforts on several successful advocacy initiatives in Annapolis, Maryland.



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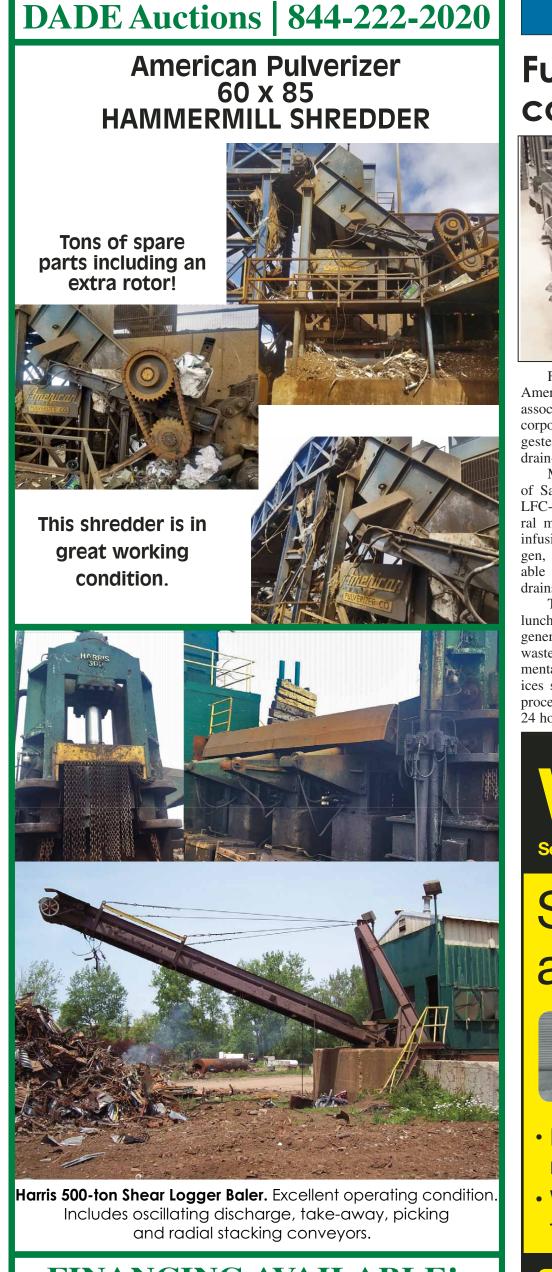




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WASTE

Fujitsu cuts waste disposal costs with liquid composting



Fujitsu Technology and Business of America reduced labor and carting costs associated with food waste disposal at its corporate cafeteria by installing a biodigester that converts food solids into drain-safe wastewater in 24 hours.

Manufactured by Power Knot LLC of San Jose, California, the cafeteria's LFC-70 biodigester uses a mix of natural microbes and enzymes, along with infusions of hot and cold water and oxygen, to aerobically convert biodegradable food waste into grey water that drains into municipal waste lines.

The facility serves breakfast and lunch to approximately 150 employees, generating about 110 pounds of food waste per day. Robert Curtis, environmental, health, safety and security services specialist, said the biodigester can process up to 280 pounds of waste every 24 hours. Employees separate packaging from the food, and load waste through a hinged lid on top of the stainless steel enclosure.

"The machine doesn't cycle, so we can keep adding waste," Curtis said. "Some employees wanted to accumulate food scraps, but it's better to keep adding waste as it's generated."

In addition to reducing disposal costs, diverting roughly 14 tons of food waste from landfills reduces CO2 emissions by about 51 tons per year.

Information on drum temperature, door openings, water volume, water temperature, CO2 emissions avoided, service reminders, and weight of the food waste digested by hour, day, week, month and year can be accessed on the unit's touch screen or a smart device, laptop or computer via the cloud.

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RUBBER

USTMA shares first industry sustainability report

The U.S. Tire Manufacturers Association (USTMA) released its first U.S. industry sustainability report presenting its members' collective progress and shared vision for a sustainable U.S. tire manufacturing industry.

"Sustainability drives our members' business practices and operating principles," said Anne Forristall Luke, president and chief executive officer of USTMA. "From engineering innovations that maximize tire longevity and performance, to ensuring driver and employee safety, to preserving the environment throughout the life cycle of a tire, our members are continually looking for ways to improve the societal contributions of their products and operations."

Tires are an indispensable part of our mobile society and an essential driver of our nation's commerce. USTMA's 12 member companies operate 56 tire related manufacturing facilities in 17 states and generate over \$27 billion in annual sales and \$11.3 billion in annual federal tax revenue. Tire manufacturing contributes to the lives of real American workers by directly supporting more than a quarter million U.S. jobs totaling almost \$20 billion in wages.

The report highlights industry accomplishments, including:

•81 percent of scrap tires went to beneficial end uses in 2017;

•Member facilities have made an almost 10 percent reduction in CO2 emissions since 2010;

•Nearly 90 percent of U.S. member facilities are certified under ISO 14001, the internationally recognized system for managing a facility's environmental footprint;

•50 percent reduction in injury and illness rates at member facilities since 2005;

•100 percent of USTMA member companies support philanthropic activities.

The report also notes areas in which the industry is working to drive progress, including;

•Advancing safety through innovation in the development of tire technologies such as run-flat, self-sealing, airless and self-inflating tires.

•The development of sensors, chips and tags that can be embedded in a tire's tread groove, enabling access to realtime information on tire temperature, pressure and tread wear.

•Ongoing research and development to expand the use of sustainable materials in tires, enhancing biodiversity and reducing dependence on non-renewable feedstocks. Several USTMA members are engaged in research on the commercial potential of guayule, a shrub that contains natural rubber, investigating alternative sources of domestic natural rubber from a type of Russian dandelion, and working to produce, test and develop tires with tread made from 100 percent dandelion-derived rubber. Soybean oil, rice husks and orange peels are also being used or tested.

•The implementation of technologies and practices that reduce manufacturing-related emissions, improve energy efficiency, minimize water use and reduce solid waste.

INDUSTRY PROFILE

A Closer Look

by Donna Currie

MSS Inc.

Felix Hottenstein • 615-781-2669

MSS Inc. got its start in 1974, when it was founded by two graduates from Vanderbilt University, according to Felix Hottenstein, the sales director for the company. The initial products focused on metal recovery, but in the late 1980s, they also started making optical sorting equipment that uses near-infrared and color spectroscopy and can sort a wide variety of materials.

Originally from Switzerland, Hottenstein got his start with the company shortly after he graduated from college with a degree in material science. Originally, he worked for a distributor of MSS products in Switzerland, then he joined the company itself in the U.S.

In 2003, the company was acquired by the CP Group, and operates as a subsidiary of that company. While CP Group is more focused on MRFs, MSS focuses on optical sorters that are designed for e-waste companies. However, MSS also makes sorters that are sent to the CP Group for use in their products. MSS remains a small company with about 25 employees, while the parent company employs about 200.

Hottenstein explained that the same optical sorters can be used in many different industries to sort a wide variety of materials, whether the customer needs to remove contaminants from paper streams or they're sorting metal from plastic and circuit boards.

For the e-waste industry, MSS offers two different types of sorter technology. Induction based sorters function like very sophisticated versions of the metal detectors that people use to find metal items on beaches, but in this case they're looking for metal in waste or recycling streams.

The camera based sorters can detect items based on color or shape, so specific items can be targeted, no matter what material they're made from.

While there are differences in how the materials are detected, the general process is the same. The material is usually shredded and sized, because it's easier to sort smaller pieces. Then, the material is spread out, thanks to a vibrating feeder, onto a wide conveyor that might be anywhere from 32 to 112 inches wide. Moving at 500 feet per minute or 100 inches per second, the camera or induction detector is at the very end of the conveyor, where material comes off the belt. The sensor identifies the material as it passes by, and air jets "know what particles have been targeted." The air jets move the unwanted materials out of the streams with no intervention by human hands.

In the 20 years Hottenstein has been with the company, he's seen a lot of changes. He said that "there are always two sides" that have driven improvements to the company's products. First, technology is always improving, with faster computers and better sensors that can be integrated into the equipment. That technology has helped improve the ability to sort materials for recycling.

The second side is the market side. "The recession made a dent for everybody," he said, but the last 18 months has driven U.S. recyclers to improve the sorting at their own facilities. "China closed the doors to contaminated products," Hottenstein explained, so "U.S. companies had to step up their game." Because of that, MSS saw a large increase in the sale of their equipment in the U.S.

Looking to the future, Hottenstein said that the U.S. is far behind Europe when it comes to recycling and "the industry has a long way to go." Meanwhile, sorting equipment that was installed 5 to 10 years ago may be in need of upgrades. Companies that are using manual labor to sort materials are looking for automated systems, since it's getting difficult to find people to fill those jobs. Humans are not as reliable as machines when it comes to sorting, and there's always the concern about on-the-job injuries.

He feels that the future is bright when it comes to e-waste recycling, since people are buying more and more electronic gadgets that eventually will need to be recycled. "The driver is the metals," Hottenstein said. "That's where the value is." While many electronics are being recycled, "the problem is collection," and there are plenty of electronics that are never recycled.

Hottenstein particularly enjoys visiting customers to see what they do, and then finding ways to improve their processes. While the sensors that MSS makes are stock items, the entire build is "heavily customized" because of the conveyors and other required equipment that complete the system.

New customers often drive innovation, Hottenstein said, because they may have new materials that need to be sorted. Because of that, MSS spends a lot on R&D. A recent "new material" involved plastic packaging and labels that might not have seemed different to end users, but required innovation when it came to sorting. Hottenstein is sure the company will be ready to help customers with whatever new sorting challenges they bring.

"We've been at this a long time," Hottenstein said. "We know what we're doing."



—Paul Angel, LUMISTAR CORPORATION

American Recycler

RUBBER

Michigan DEQ awards scrap tire grants

The Michigan Department of Environmental Quality (DEQ) has awarded \$983,244 in grants to a total of 65 applicants. These grants will fund 62 community scrap tire drop-off events in both urban and rural communities across the state. Community events provide affordable, convenient tire recycling opportunities to residents, including creation of yearlong collections sites and roadside pickups. Additionally, three grant projects will support the removal of old tire piles at private properties.

Improperly dumped, scrap tires pose a fire hazard and create mosquito breeding grounds. Recycled scrap tires can be used in asphalt to pave roads, for energy recovery, as landscape mulch in gardens and on playgrounds, and in the manufacturing process as commodity material.

~Give me ambiguity or give me something else.

~Always remember that you're unique, just like everyone else.

~Consciousness: That annoying time between naps.

~Okay, who put a "stop payment" on my reality check?

~All generalizations are false.

~Change is inevitable, except from a vending machine.

Brehmer

GRANTEE	COUNTY	AMOUNT
Alcona County	Alcona	\$6,000
Cheshire Township	Allegan	\$2,000
Northeast Michigan Council of Governments	Alpena	\$6,240
Antrim Conservation District	Antrim	\$6,028
Banks Township	Antrim	\$2,029
Arenac Conservation District	Arenac	\$8,000
Orangeville Township	Barry	\$2,000
Bay County Mosquito Control	Bay	\$8,000
City of Bay City	Вау	\$4,000
Benzie County	Benzie	\$8,048
Bath - Clinton Townships	Clinton	\$2,000
Greater Detroit Resource Recovery	Detroit	\$150,000
Breitung Township	Dickinson	\$4,000
City of Iron Mountain	Dickinson	\$2,000
City of Kingsford	Dickinson	\$8,000
City of Norway	Dickinson	\$4,000
Norway Township	Dickinson	\$4,000
Eaton County	Eaton	\$36,000
Private - JMR Property II LLC	Genesee	\$95,000
Grand Traverse County	Grand Traverse	\$8,000
Jefferson Township	Hillsdale	\$20,000
Calumet Township	Houghton	\$4,054
Huron Conservation District	Huron	\$8,000
Bunker Hill Township	Ingham	\$4,000
Ingham Conservation District	Ingham	\$4,000
Ionia County	Ionia	\$2,000
Recycle Ionia Inc	Ionia	\$2,000
Burleigh Township	Iosco	\$2,000
Jackson Conservation District	Jackson	\$24,000
Kalkaska County	Kalkaska	\$4,000
Kent County	Kent	\$16,000
Private - Inman Property	Lake	\$6,000

GRANTEE	COUNTY	AMOUNT
Webber Township	Lake	\$2,000
Burnside Township	Lapeer	\$4,000
Lapeer Township	Lapeer	\$2,000
Marathon Township	Lapeer	\$2,000
Leelanau County	Leelanau	\$8,736
Lenawee County	Lenawee	\$6,000
Cohoctah Township	Livingston	\$2,000
Livingston County	Livingston	\$6,000
Manistee County	Manistee	\$16,000
Marquette County Solid Waste Management Authority	Marquette	\$40,000
Greendale Township	Midland	\$2,000
Midland County Mosquito Control	Midland	\$4,000
Missaukee Conservation District	Missaukee	\$6,000
Monroe County	Monroe	\$16,000
Reynolds Township	Montcalm	\$2,000
Richland Township	Montcalm	\$4,000
City of Muskegon Heights	Muskegon	\$6,000
Muskegon County	Muskegon	\$40,000
Ravenna Township	Muskegon	\$2,000
Sullivan Township	Muskegon	\$2,000
Springfield Township	Oakland	\$2,000
Oceana Conservation District	Oceana	\$6,009
Mills Township	Ogemaw	\$4,000
Superior Watershed Partnership	Ontonagon	\$117,600
Middle Branch Township	Osceola	\$12,000
Osceola-Lake Conservation District	Osceola-Lake	\$6,000
Otsego Conservation District	Otsego	\$4,000
Saginaw County Mosquito Control	Saginaw	\$10,000
Schoolcraft Conservation District	Schoolcraft	\$2,000
Private - Ron Tosch	St. Clair	\$87,500
St. Joseph County	St. Joseph	\$4,000
Washtenaw County	Washtenaw	\$4,000
Southwest Michigan Solid Waste Consortium	Seven Counties	\$90,000
	TOTAL	\$983,244

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- Mechanical Dryers
- Thermal Dryers
- Hydrocyclones
- PVC Label Removers



METALS

Nucor reports record annual earnings for 2018

2018 record earnings per diluted share is higher than previous record earnings from decade ago

Nucor Corporation announced record consolidated net earnings of \$2.36 billion, or \$7.42 per diluted share, for 2018 compared to \$1.32 billion, or \$4.10 per diluted share, for 2017. The new earnings record of \$7.42 per diluted share in 2018 is a 24 percent increase as compared to the company's previous record earnings of \$5.98 per diluted share reported in 2008.

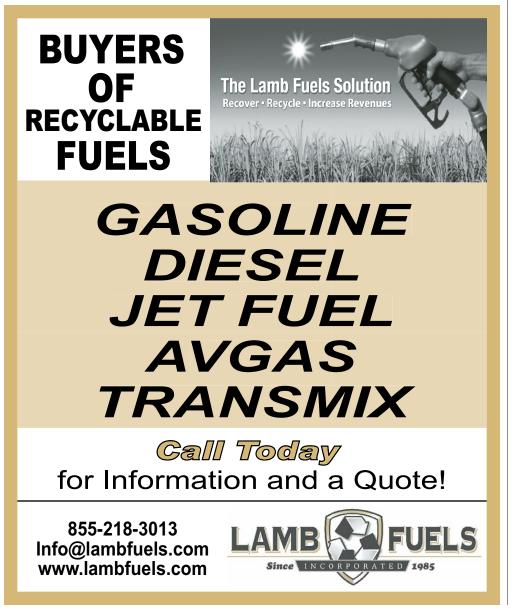
Nucor reported consolidated net earnings of \$646.8 million, or \$2.07 per diluted share, for the fourth quarter of 2018. By comparison, Nucor reported consolidated net earnings of \$676.7 million, or \$2.13 per diluted share, for the third quarter of 2018 and \$383.9 million, or \$1.20 per diluted share, for the fourth quarter of 2017.

Consolidated net earnings of \$646.8 million reported in the fourth quarter of 2018 represents the strongest fourth quarter performance in the company's history.

"The best way to sum up 2018 is this – it was a record year for Nucor. We posted record earnings per share and record revenue, and we shipped a record amount of steel," said John Ferriola, Nucor's chairman, chief executive officer and president. In November 2018, Nucor's board of directors declared a cash dividend of \$0.40 per share payable on February 11, 2019 to stockholders of record on December 31, 2018. This dividend is Nucor's 183rd consecutive quarterly cash dividend, and it marks 46 consecutive years of an increased base dividend.

Over the past 10 years, Nucor has returned more than \$5 billion in capital to its stockholders in the form of base dividends, supplemental dividends and share repurchases.

In January 2019, Nucor announced that it will build a state-of-the-art plate mill in the U.S. Midwest. Nucor's board of directors approved an investment of \$1.35 billion to build the mill, which is expected to be fully operational in 2022 and will be capable of producing approximately 1.2 million tons per year of steel plate products. This advanced mill will provide us enhanced ability to serve customers in the region, which is the largest plateconsuming area in the U.S., and to meet all the steel needs of customers around the country. The site for the new mill is anticipated to be selected early this year.



New Day Aluminum rebrands its specialty products business

New Day Aluminum Holdings LLC, the parent of Noranda Bauxite & Alumina, has rebranded its specialty products business as NICHE, a ready acronym for Noranda Industrial Chemicals. NICHE will include Noranda's Gramercy-based chemical grade alumina (CGA) business as well as ARC Fused Alumina, the company's white fused alumina manufacturing subsidiary in La Bâthie, France.

"We recently completed a significant expansion of our CGA capacity in Gramercy, so it made perfect sense to operate that part of our business as a separate entity," said company chairman David D'Addario. "It also made sense to include our other specialty products business, ARC Fused Alumina, under that same corporate umbrella. With additional acquisition activity on the horizon, we anticipate that NICHE will quickly rival in size our existing smelter grade alumina business."

In conjunction with its expanded corporate structure, the company announced the hiring of Scott Croft as its chief operating officer. Croft, who has 20 years of aluminum industry experience with recent executive positions at Granges NA and Kibar Americas, will be based at the company's Gramercy headquarters. He will be responsible for the operations of New Day's businesses worldwide,





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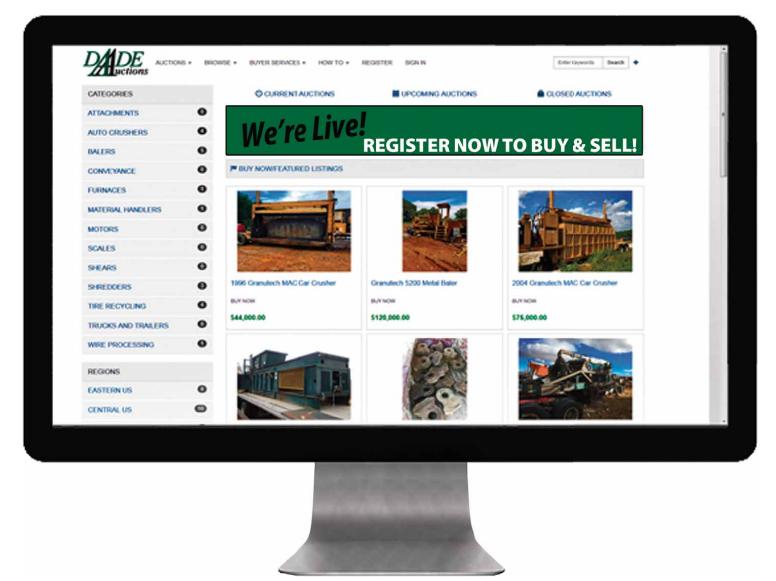


The drawing will take place in the first week of July 2019.

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844-222-2020 www.DADEAuctions.com All Others

TOTAL

METALS

Steel imports decreased AISI says steel tariffs are working

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons) OCT NOV 2017 2018 % Change 2018 Annual vs. 2017 2018 2018 **Full Year** Annualized 3,753 2,917 195 183 -22.3% SOUTH KOREA JAPAN 115 107 1,504 1,403 -6.7% 125 113 1,405 1,336 -4.9% GERMANY 68 1,200 -45.2% 59 2,191 TURKEY 100 1,245 1,109 -10.9% TAIWAN 71 VIETNAM 121 115 749 1,101 47.1% -13.0% 65 59 813 708 CHINA 658 **NETHERLANDS** 79 78 620 -5.8%

17,243

29,561

1,208

2,003

Based on final Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,385,000 net tons (NT) of steel in November 2018, including 1,921,000 NT of finished steel (down 27.2 percent and 4.1 percent, respectively, vs. October final data).

1,063

1,921

Through the first 11 months of 2018, total and finished steel imports are 31,834,000 and 24,016,000 net tons (NT), down 10.8 percent and 13.2 percent, respectively, vs. the same period in 2017. Finished steel import market share was an estimated 21 percent in November and is estimated at 23 percent over the first 11 months of 2018.

Key finished steel products with a significant import increase in November compared to October were heavy structural shapes (up 67 percent), wire rods (up 57 percent), sheets and strip all other

metallic coatings (up 24 percent), and mechanical tubing (up 12 percent). Major products with significant year-to-date (YTD) increases vs. the same period in 2017 include hot rolled sheets (up 22 percent) and plates in coils (up 16 percent).

15,805

26,199

-8.3%

-11.4%

In November the largest volumes of finished steel imports from offshore were from South Korea (195,000 NT, up 6 percent from October final), Germany (125,000 NT, up 10 percent), Vietnam (121,000 NT, up 5 percent), Japan (115,000 NT, up 8 percent) and Taiwan (100,000 NT, up 40 percent). For the first 11 months of 2018, the largest offshore suppliers were South Korea (2,674,000 NT, down 25 percent vs. the same period in 2017), Japan (1,286,000 NT, down 10 percent), Germany (1,225,000 NT, down 6 percent), Turkey (1,100,000 NT, down 48 percent) and Taiwan (1,016,000 NT, down 16 percent).

Thomas J. Gibson, president and chief executive officer of the American Iron and Steel Institute (AISI), reiterated the Institute's support of steel tariffs and opposition to congressional legislation introduced last week, called "The Bicameral Congressional Trade Authority Act," which would prematurely terminate the tariffs. Gibson said:

"The Administration's trade actions and tax and regulatory reform policies, in addition to the strong economic climate enabled by those policies, have allowed the American steel industry to begin to recover after more than a decade of low capacity utilization and weaker earnings due to repeated surges in imports fueled by global steel overcapacity. Capacity utilization at existing mills has increased in recent months to over 80 percent - levels not seen in the

last 10 years. Some shuttered plants are being re-opened, laid-off workers are going back to work and companies are making investments in new steel production facilities.

"But this recent progress will disappear, and our steel industry will again suffer dire circumstances, if the tariffs are prematurely terminated. The massive overcapacity in steel still exists globally. And China in particular is producing steel at record levels - exceeding one billion net tons in 2018. This means there is plenty of excess supply that will flood into our market but for the continuation of the Section 232 tariffs. The Section 232 trade remedy is critical to ensuring steel remains a vital asset for our national and economic security."

United States Steel restarts pipe mill

United States Steel Corporation will restart the No. 1 Electric-Weld Pipe Mill at Lone Star Tubular Operations in Lone Star, Texas. The No. 1 Mill was permanently idled in 2016 due to challenging market conditions for tubular products created by fluctuating oil prices, reduced rig counts and high levels of unfairly traded imports.

The Lone Star No. 1 Mill will provide full-body normalized electricwelded pipe in size ranges 7" to 16" outside diameter for customers across the U. S., including the very active Permian Basin.

"We are encouraged by an improvement in market conditions and an increased customer demand for tubular products that are mined, melted and made in America," said president and chief executive officer David B. Burritt.

The Lone Star No. 1 Mill has an annual capacity of approximately 400,000 tons. U. S. Steel anticipates hiring 140 new employees. The restart process will begin immediately and will be completed in early third quarter 2019. Restart costs are not expected to be material.



AUTOMOTIVE

Fifteen millionth GM remarketed vehicle sells on OPENLANE

General Motors and GM Financial hosted the sale of the 15 millionth remarketed vehicle on GMF DealerSource[®], GM Financial's online auction platform, powered by OPENLANE, an upstream vehicle remarketing platform and subsidiary of KAR Auction Services, Inc.

"The remarketing industry is transforming rapidly, and GMF DealerSource has been a critical tool for GM to offer our used inventory to franchise dealers online," said Jennifer Costabile, general director rental sales, marketing, advertising and used vehicles, General Motors Fleet. "Offering our vehicles on an online platform has allowed us to speed up our goal of selling 15 million remarketed vehicles."

This milestone sale demonstrates the significant growth and increased utility of

GMF DealerSource, which allows GM dealers to purchase off lease, company car and rental vehicles before non-GM dealers, evolving into an integral source for premium pre-owned GM inventory.

GM's and GM Financial's Remarketing organizations began working more closely in 2015, including working to sell GM's company car and rental units on GMF DealerSource. Over the past five years, GM and GM Financial have grown annual sales volume on GMF Dealer-Source from approximately 2,000 vehicles to more than 250,000 vehicles in 2018. More than 97 percent of GM-franchise dealers are active on GMF Dealer-Source, with more than 75 percent purchasing vehicles within the past 12 months.

KAR finalizes acquisition of Europe based CarsOnTheWeb

KAR Auction Services, Inc., a global automotive remarketing and technology services company, has completed its acquisition of Belgium based CarsOn-TheWeb (COTW). The acquisition advances KAR's international strategy and extends its North American and UK based portfolio to Continental Europe. COTW provides a robust online wholesale vehicle auction marketplace that seamlessly connects OEMs, fleet owners, wholesalers and dealers in more than 50 countries.

With sales operations in Belgium, France, Germany, Italy, the Netherlands and Spain, COTW provides sellers in these countries and buyers across Europe with a wide range of vehicle auction, transportation and related support services. COTW provides comprehensive, VAT-compliant payment, document transfer and post-sale processes supporting the 97 percent of customer transactions that involve cross-border sales.

COTW will operate as a whollyowned subsidiary of KAR and will retain COTW's current operating locations, employees and key COTW leadership and management team members. The transaction is valued at approximately 91 million euros in cash and up to an additional 65 million euros over a specified period contingent on certain terms, conditions and COTW performance.

Sicon wins German 2019 Excellence Award for endof-life vehicle shredder

The award ceremony for the 2019 Excellence Award for outstanding business achievements was held in January in Frankfurt, Germany. The ceremony was attended by various top managers, start-up entrepreneurs as well as many other public figures from different industries. The German Institute for Service Quality, the manager journal "Dub Unternehmer" and the news agency "ntv" have awarded a total of 63 winners in 26 categories.

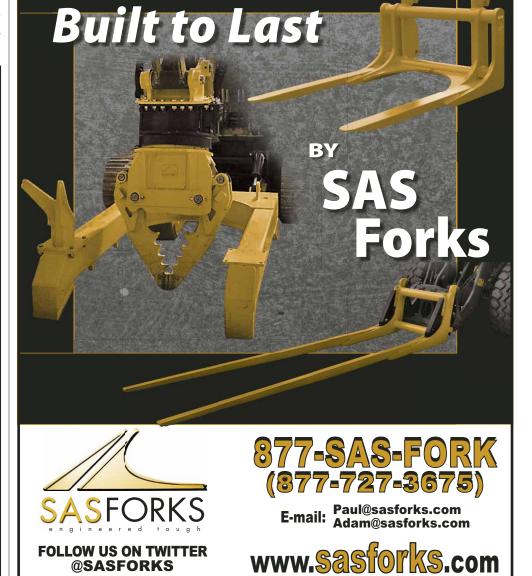
The award ceremony was attended by Sebastian Schuelke, managing director of the Hilchenbach based Sicon, an engineering and plant-building company engaged in environmentally efficient recycling plants for the scrap and steel industry. Sebastian accepted the award from jury member Dr. Birte Gall. The jury awarded Sicon with the excellence award for its end-of-life vehicle shredder EcoShred[®] Compact, currently the most efficient shredder of its kind in the world.

In his acceptance speech, Schuelke stressed the importance of this award to his company: "Mid-sized companies in Germany and especially in the area known as "Siegerland" contribute an

important part to the German economy. With current world population exceeding seven billion, recycling and recovery of materials from waste is one of the most important ecological challenges of our time. Facing this challenge head-on we offer an extremely efficient solution with our EcoShred Compact end-of-life vehicle shredder, a fully automated machine 100 percent made in Germany. We agree that this effort is truly worthy of an award such as the German Excellence Award and are tremendously proud and happy to have been chosen to receive this prize. This award confirms our continuous efforts and serves as a much appreciated signal to the entire team, the region as well as a valuable message to our partners and customers."

Awarded winners had been selected based on presented ideas by high ranking members of business, media and sciences from over 150 applicants. The award is endorsed by Wolfgang Clement, former minister president of the state of North Rhine-Westphalia and federal German minister who was also supported by Heiner Bremer and Peter Wippermann.

There are two ways to construct a software design. Make it so simple that there are obviously no deficiencies; or make it so complicated that there are no obvious deficiencies.



R Scra	ip Mei	tals		1 7 2	ĩ	
Ma	rket V	Nate	ch `		3	5
Commodity		Zone 1	Zone 2	Zone 3	Tone 4	Zone 5
#1 Bushelings	per gross ton	\$264.00	263.00	295.00	295.00	362.00
#1 Bundles	per gross ton	269.00	252.00	318.00	315.00	371.00
Plate and Structural	per gross ton	291.00	274.00	294.00	321.00	325.00
#1 & 2 Mixed Steel	per gross ton	223.00	256.00	292.00	245.00	300.00
Shredder Bundles (tin)	per gross ton	160.00	178.00	170.00	179.00	197.00
Crushed Auto Bodies	per gross ton	160.00	178.00	170.00	179.00	197.00
Steel Turnings	per gross ton	91.00	93.00	98.00	159.00	140.00
#1 Copper	per pound	2.68	2.64	2.55	2.62	2.69
#2 Copper	per pound	2.59	2.51	2.38	2.44	2.57
Aluminum Cans	per pound	0.71	0.71	0.68	0.68	0.54
Auto Radiators	per pound	1.68	1.59	1.63	1.63	1.60
Aluminum Core Radiators	per pound	0.65	0.70	0.49	0.48	0.42
Heater Cores	per pound	1.12	1.09	1.18	1.20	1.32
Stainless Steel	per pound	0.58	0.60	0.61	0.51	0.50
All prices are expressed in USD. Printed as a reader service only.						
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Salvaging Millions by Ron Sturgeon Autosalvageconsultant.com

You simply must have modern computer skills

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

I am always amazed at the quality of computer skills in those who are looking for work have. We use Excel a lot and test for it. Most applicants say their skills are rusty, but they can't create a simple cell spreadsheet. But even more amazing are the owners and their lack of computer skills. Granted many are older and have never learned the skills but they aren't interested in learning them. They don't even use email. I believe solid computer skills are absolutely required of anyone who wants to have a career in business or management. I recently changed banks because they assigned me to a new loan officer who didn't use email. Really? How is that even possible today?

No matter your age, you simply must have solid computer skills and keep them current to be effective.

When Ford bought my yard, they required almost all of my employees to use their computer systems. Since those days, back in the 1990s, we continue to struggle to find employees that have all the computer skills they should. If you can't use Power-Point and Excel, you will likely never be a manager who reports to a boss with responsibility for marketing, finance and budgeting.

There are lots of training courses you and your employees who need better computer skills should attend. Not only will they learn, but sending them for training makes them feel better about themselves and about you as a boss for investing in them.

These are common computerskill gaps:

Apple vs PC: I promise I am not discriminating against the younger crowd, and those of you that know me know that I am not afraid of innovation. But the reality is that the world still talks PC. I personally think the Apple tools are much more intuitive and powerful, especially for **folders for saving files:** You can't audio, video and graphic/photo have a folder for every person, and

works. The world talks Excel and Word, with all their tools and you have to be able to use them. Yes, Apple can use these, but I routinely get files created on Apples and they aren't compatible. You can be dismissive, and try to force others to accept your Apple work, but it's going to slow you down. Keep your Apple for creative tasks, but make a PC your workhorse. Also, you cannot do the required tasks on your cell phone.

E-mail Client: You must have an e-mail client; you can't manage email on a web based platform, saving attachments, if you are going to be effective and efficient. There are options, but overwhelmingly it's going to be Outlook on a PC.

Inability to use the internet effectively: They don't know how to do searches with quote marks, for instance. This is so basic, I could go on and on, but such simple lapses in knowledge indicate a need for training.

Poor file/folder structures for e-mails and documents: Most just use the ones furnished by their computer or they create a folder for every topic with no rhyme or reason or they save every folder and document onto their desktop screen. E-mail folders should resemble document folders.

Poor work habits concerning email: They scroll up and down looking for the e-mail they want and have no perception of what remains to be done. The inbox should be for items that aren't handled, period. After it's handled, it should be moved to a folder or deleted. And please delete things that just aren't important so the e-mail files don't get so bloated. It usually happens at about two months, when someone misses a deadline and I ask to see their inbox, and it has hundreds of e-mails in it. I love the look on their face when I empty their inbox by creating a folder titled "all e-mails before xx date," highlight and move everything from the inbox to there. Then I tell them they better handle e-mails as they come in and keep the inbox clean. Ten to 20 is a good goal for the inbox count.

Poor logic when creating the

also one for legal, and one for sales, and one for marketing. Some people are just more organized about the logic of such a system, but some can't work through it. We finally started furnishing a set of folders, and told employees they can't create one without asking. They will have a legitimate need to create a new folder, but this affords us an opportunity to train them to think strategically about how to do this, or point out why an existing folder is the right choice. I personally don't create five new folders per year. I was taught this at Ford, but I am sure there are courses or books about a topic. After 20 years using a computer, I have over 100,000 documents saved, and can find almost anything instantly by using the file structure, not the search function.

Saving everything in a printed file: Inability to scan and save a document.

Failure to save documents into folders: Just leaving them attached to e-mails.

Poor digital image and photo skills: No understanding of taking digital photos, saving them, reducing them in size for e-mail, using a thumb drive, or uploading to the cloud.

No system for naming and saveing files: They lose or overwrite files. My staff saves every document with a date in the name.

Inability to use "track changes" in Word: This is a big danger sign, as it takes two minutes to learn this.

Whose fault is it if you have an employee with bad computer skills? Look in the mirror. You hired them in all likelihood. Did you test? But after that, why haven't they been sent for training? Depending on what they need, send them for training weekly until they are up to speed. In my experience, you can train too fast. Excel is complex. Don't send them to basic class one day and an advanced course the next week; the training has to soak in.

As an owner, you should lead by example and know how to do what you expect employees to know how to do.

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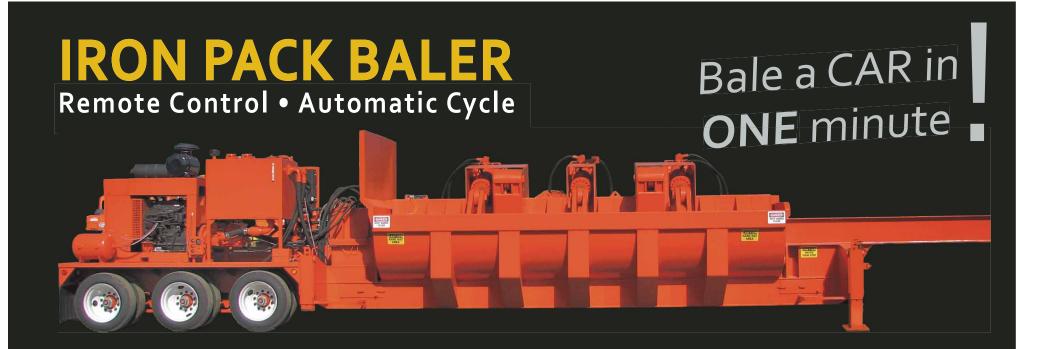
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ELECTRONICS

BAN finds illegal e-waste exports

The global environmental watchdog organization Basel Action Network (BAN) released the findings of a two year study in 10 EU countries that followed 314 old computers, printers and monitors in which GPS trackers had been secretly installed. This equipment was then delivered to places where consumers are expected to take their waste - most often governmentapproved takeback stations. They found that 19 (6 percent) of the tracked scrap equipment was exported, including 11 very likely illegal shipments to the countries of Ghana, Hong Kong, Nigeria, Pakistan, Tanzania, Thailand and Ukraine, outside of the EU.

The report, Holes in the Circular Economy: WEEE Leakage from Europe, estimates that the flows discovered with figures regarding WEEE generation in Europe, if extrapolated, would total 352,474 metric tons per annum, moving from the EU to developing countries. This amount could fill 17,466 large size intermodal shipping containers.

"It appears that we have discovered a very significant stream of illegal shipments of hazardous consumer electronic scrap to vulnerable populations," said BAN director Jim Puckett. "This flies in the face of EU claims to make continuous efforts to implement a circular economy which can only responsibly exist by eliminating externalities and leakage from the system."

Of the 10 countries studied (Austria, Belgium, Denmark, Germany, Hungary,



Following GPS signals across the globe – here is the location where an LCD deployed in Germany ended up – in a equipment smashing operation outside of Bangkok in Thailand.

Ireland, Italy, Poland, Spain, and the UK), all countries excepting Hungary were involved in exports. The UK was clearly the worst violator with five, with most of those going to Africa. Italy, Germany, Spain, Ireland and Poland were also implicated in allowing shipments to developing countries. BAN subsequently visited some of the destinations.

In those locations BAN found that the WEEE (e-waste) was often subjected to substandard, dangerous recycling opera-

tions involving worker exposure and community pollution with smashing, burning, melting, or chemical acid stripping methods used to extract copper, gold, steel and aluminum. While some of the equipment was repaired for further use, even in these cases, toxic parts containing substances such as mercury, lead, and brominated flame retardants which could not be reused, were discarded or burned in local dumps.

Over 7 million pounds of batteries diverted

U.S. consumers recycled 7.2 million pounds of batteries in 2018 through the Call2Recycle[®] program, according to the organization. These outcomes underscore the program's mission to responsibly recycle consumer batteries while increasing consumer focus on battery safety. Since the program's inception in 1994, more than 115 million pounds of batteries have been collected and recycled in the U.S.

While overall collections dipped compared to previous years, 2018 marked several program enhancements, including an increase in the removal of damaged, defective and recalled batteries from the market along with a 22 percent increase in single-use battery collections. National retail network collections also maintained strong organic collection growth amidst market changes, collecting nearly 2.8 million pounds of batteries.

For Vermont – the first state in the U.S. requiring producers to finance a collection and recycling program for singleuse batteries – 2018 program efforts focused on awareness and engagement.

Consumers across the country can participate in the program by bringing their used batteries to a convenient dropoff location, which can be found via the Call2Recycle locator. In terms of accessibility, 86 percent of residents live within 10 miles of a Call2Recycle public drop-off location, making it an easy green habit to adopt.

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ELECTRONICS

ATR opens ITAD processing center in Las Vegas

Advanced Technology Recycling (ATR), a leader in information technology asset disposition (ITAD) and electronic recycling services, has opened a new state of the art processing facility in Las Vegas. The new facility will be located in Las Vegas, Nevada.

ATR also implemented a dedicated customer service department, which serves as a bridge between the customer and the continuously expanding network of operation hubs throughout the U.S.

The team facilitates collaboration between account managers, customer service, compliance, logistics and operations departments to ensure everything

Advanced Technology Recycling is being done efficiently and to singular R), a leader in information technol- customer specifications.

ATR fully certifies all their facilities within the first year of opening, which includes authorization by the U.S. State Department to provide Secure Destruction services, ITAR (International Traffic in Arms Regulations) disposal and recycling services to all Federal Agencies, including Military and Defense Departments.

ATR is currently hiring for a wide range of positions. ATR offers a generous employment package that includes paid vacations and holidays, 401K, profit sharing, health insurance and optional dental/optical and life insurance.

Sony Electronics receives e-Stewards Enterprise Designation

E-Stewards[®] announced that Sony Electronics has joined as a member of a growing number of e-Stewards Enterprise companies. These corporations and institutions are committed to using the most globally responsible recycling companies that are certified to the e-Stewards standard.

The e-Stewards standard disallows exporting hazardous electronic waste to developing countries and employs the most rigorous criteria to prevent data breaches from discarded hardware. Besides being a leading manufacturer of consumer electronic products, Sony Electronics is committed to designing with the environment in mind and helping to eliminate externalities throughout the supply and disposal chains. Beyond its efforts with regards to recycling, Sony's vision is to aim for a zero environmental footprint by 2050 to conserve resources and curb climate change.

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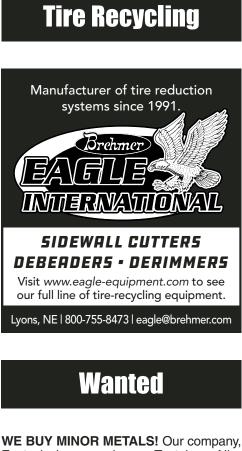
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BUSINESS BRIEFS

Copeland takes helm of asphalt association

■ Audrey Copeland, Ph.D., P.E., is the new president & chief executive officer of the National Asphalt Pavement Association. She took the association's helm during a ceremony at the NAPA's 64th Annual Meeting.

Copeland was named to succeed Mike Acott, who served as NAPA's president since 1992, in September 2018 and has served as NAPA's chief operating officer since then, working with Acott to ensure an orderly transition.

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. Copeland 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.

Morbark honors dealers with Gold Tier Status

■ Morbark, LLC, recognized seven tree care dealers and one industrial products dealer with Gold Tier status for 2019, based on their performance during 2018.

Tree Care Products:

•Alexander Equipment, Northern Illinois

•Bobcat of Buffalo, Western New York

•Commercial Outdoor Machinery, New Zealand

•Correlli Inc., Central Maryland and the District of Columbia

•ESSCO Distributors, Long Island, New York

•Marshall Machinery, Inc., Northeastern Pennsylvania

•Schmidt Equipment, Massachusetts, Rhode Island and Northern Connecticut

Industrial Products:

•L.C. Whitford Equipment, Western New York and Western Pennsylvania

Alexander Equipment earned Gold Tier status for the seventh consecutive year, Bobcat of Buffalo was honored for the fourth straight year, and Commercial Outdoor Machinery was awarded for a third straight year.

Murphy joins AF&PA as executive director

■ The American Forest & Paper Association (AF&PA) has selected Lindsay Murphy as its executive director, strategic communications. Murphy will be responsible for leading the development and execution of AF&PA's communications strategy in support of the association's policy objectives.

Murphy brings with her more than 15 years of strategic communications experience. Most recently, she worked for Racepoint Global where she served as a vice president focusing on earned media and digital advocacy for her clients. Having begun her career on Capitol Hill, she has held various positions directing public affairs strategy and outreach.

Murphy holds a master's degree in Strategic Public Relations from The George Washington University and currently serves on the National Press Club Board of Governors.

Hyde acquires slitting knives line from Thurston

■ Hyde Industrial Blade Solutions (IBS), a division of Hyde Tools, Inc., has acquired the square edge slitting knives line from Thurston Manufacturing of Smithfield, Rhode Island. The purchase covers the product line and machinery to service existing Thurston customers and provide Hyde customers with better access to this line of knives used for cutting of thin sheet metal, paper, cloth, fabric and rubber.

Hyde plans no outwardly apparent changes for Thurston customers as both companies are working to ensure a smooth and seamless transition. Production for this line will be moved to Hyde's ISO 9001:2015 certified facility in Southbridge. No purchase terms were disclosed.

Founded in 1883, Thurston Manufacturing specializes in the manufacturing and supplying of custom saw blades and circular cutting tool products.

As a wholly-owned division of the Hyde Group, Hyde Industrial Blade Solutions services a wide variety of markets including food processing, cloth, textile and leather, hose and tube, tire and rubber, plastics processing, paper converting, packaging and abrasives as well as for general industrial applications.

Wolfgang Schiller named CEO of ZenRobotics

■ The board of ZenRobotics Ltd. has appointed Wolfgang Schiller as the new chief executive officer of ZenRobotics, effective immediately.

Prior to ZenRobotics, Schiller was the vice president electronics industry at KUKA AG, one of the leading suppliers of intelligent automation solutions. As chief executive officer Schiller will be responsible for further developing Zen-Robotics' business and accelerating the uptake of intelligent robots in waste management.

BUSINESS BRIEFS

Tomra hires Sean Hyacinth and Kevin Montalvo

■ Tomra Sorting Recycling, a supplier of sensor based sorting equipment, added two to their North America product support team. Sean Hyacinth has been added as a field service engineer for Tomra optical sorting equipment, while Kevin Javier Montalvo assumes the newly created position of customer project manager, recycling. Both team members will work directly with Tomra dealers and customers to strengthen equipment service and project management throughout North America.

Hyacinth brings more than 20 years of field service and management experience. He has travelled globally, providing equipment installation, maintenance and repair services throughout his long career. He has also helped customers through providing remote diagnostics support to quickly address service issues. Most recently, Hyacinth served as a field service engineer for a pharmacy solutions provider, where he travelled to customer facilities to install packaging equipment and provide service support.

Montalvo's background includes working with several companies to bridge the connection between company representatives and customers and ensure clear project communication, so desired results are achieved. Montalvo previously worked in the quality department for a global infrastructure developer, where he managed weekly meetings with the customer on a \$750 million highway project.

Charlie Ingram promoted at Eriez Manufacturing

Charlie Ingram has been promoted to the newly created position of executive vice president and chief marketing officer of Eriez. Ingram served most recently as Eriez vice president of sales and marketing.

As executive vice president and chief marketing officer, Ingram will oversee global marketing operations and facilitate greater collaboration and standardization of marketing resources utilized by the company's 10 subsidiaries and 12 manufacturing locations. Ingram will champion the introduction of new Eriez products to target countries, as well as managing product line re-alignment and standardizing product designs based on market intelligence. Other duties include monitoring the professional growth of Eriez' sales and marketing team, enhancing customer satisfaction through improved sales processes and tracking global marketing performance.

Ingram joined Eriez in 1994 as national sales manager. Prior to that, he was manager of international marketing at Chicago Pneumatic Tool Company, also serving as general manager of the company's Canadian affiliate. His career also includes 10 years at Warner & Swasey, a machine tool manufacturer, where he rose to manager of product sales. He holds a bachelor's degree in political science and history from Denison University and received a certificate in advanced management from the University of Tennessee.



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Sierra acquires Wolf Pack Enterprises

■ Sierra International Machinery has acquired Wolf Pack Enterprises, a heavy equipment service provider based in New Jersey and the establishment of Sierra East Coast Service Center. Wolf Pack Enterprises has been the preferred contract service provider for Sierra equipment since 2012.

Wolf and his team will work in coordination with the Sierra Service department, overseen by Doug Barnett, general service manager. Wolf will manage the Sierra East Coast Service Center resources, training and dispatching of technicians for machine installations and support for Sierra customers.

ASV Holdings names dealer award winners

■ ASV Holdings Inc., a manufacturer of all purpose and all season compact track loaders and skid steers, recently announced its 2018 dealer award winners. The awards honored top-performing and loyal members of its growing list of dealers at the company's annual dealer meeting.

ASV named Ontario based Regional Tractor Sales as the 2018 Dealer of the Year due to the company's exceptional sales, performance and loyalty. The family owned dealer took on the ASV line in 2005 and has worked closely with the manufacturer ever since.

ASV also presented CSTK of Kansas and Missouri with the Rookie of the Year award. The new dealer has gone beyond expectations in its market, developing a market strategy, driving sales and brand name awareness.

ASV also presented awards for 20 year dealers. Recipients included Alberta based Barda Equipment and Wisconsin based Duffy's Sales & Rental.

Macquarie completes Wheelabrator acquisition

■ Macquarie Infrastructure Partners (MIP) and Wheelabrator Technologies Inc. announced that MIP, acting through one of its managed funds, has completed the purchase of Wheelabrator from funds managed by Energy Capital Partners. MIP operates within the Macquarie Infrastructure and Real Assets division of Macquarie Group.

Wheelabrator is a leading owner and operator of waste-to-energy (WtE) facilities. Wheelabrator provides critical waste disposal solutions for local communities and delivers baseload, renewable energy to residential and commercial customers. Wheelabrator currently has a platform of 25 strategically located assets located in the U.S. and the U.K, including 19 WtE facilities (3 under construction), 2 waste fuel facilities and 4 ash monofills.

The sale was approved by the Federal Energy Regulatory Commission, Committee on Foreign Investment in the United States, Department of Justice, Federal Trade Commission, Federal Communications Commission and the New Jersey Department of Environmental Protection.

John Harper named new NAPA chairman

■ John Harper was sworn in as the chairman of the National Asphalt Pavement Association (NAPA) during the association's 64th Annual Meeting. As chairman, Harper is responsible for guiding NAPA's efforts to support the asphalt pavement industry.

Harper is senior vice president of Construction Partners Inc., based in Dothan, Alabama Construction Partners Inc. is a fast-growing civil infrastructure company operating 30 asphalt plants and offers paving and related construction services across five southeastern states.

Harper will also work with NAPA's professional staff on the need for infrastructure investment and a stable funding stream for construction, maintenance, and improvement of the nation's infrastructure.

Harper has been an active member of NAPA, serving as the state director for Alabama for five years, as well as chairing the Asphalt Pavement Alliance Deployment Committee and serving on task groups focused on introducing warm-mix asphalt to the U.S. and increasing the use of reclaimed asphalt pavement.

NAPCOR hires new executive director

■ The National Association for PET Container Resources (NAPCOR) has recently hired Darrel Collier as its new executive director, effective April 1, 2019.

Darrel Collier replaces outgoing executive director Rick Moore, who has been in the role since October of 2013. Moore will stay on through the end of April to ensure a smooth transition for NAPCOR members.

Collier comes to NAPCOR with 40 years' experience in the synthetic fibers and PET packaging industries, most recently covering global PET markets for London-based consulting firm Tecnon Orbichem. Collier is also a partner and managing director for International Market Solutions.

Prior to his consulting career, Collier worked 25 years for DuPont serving in various positions including global product director and regional sales director. Collier brings a global perspective to the organization with an understanding of all major PET markets.

Jim Umpleby named CAT's chairman of the board

■ The board of directors of Caterpillar Inc. elected Jim Umpleby, the company's chief executive officer, to the additional position of chairman of the board. Umpleby has been a member of the board and chief executive officer since January 1, 2017.

Dave Calhoun, who has served as non-executive chairman since April 1, 2017, will remain on the board as presiding director.

Both moves are effective immediately.

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FOCUS on PAPER/PLASTICS

Paper recycling fluctuates in today's market

by MAURA KELLER

mkeller@americanrecycler.com

Consider this - over 68 million tons of paper and paperboard products are recovered annually in the U.S., with a recycling rate reaching 64.7 percent. According to the American Forest & Paper Association, the paper recovery rate reached 65.8 percent in 2017, which was down slightly from 67.2 percent in 2016, with the reduction attributed to the strict import requirements imposed by China. In fact, exports of recovered paper dropped from 40 percent in 2016 to 37.7 percent in 2017.

According to Jon Schroeder, general site manager for Lakeshore Recycling Systems' Heartland Material Recovery Facility in Forest View, Illinois, paper volume in the recycling stream has declined over the past several years. It is also difficult to find markets for recycled papers today.

Lakeshore operates a total of 7 material recovery facilities (MRFs). LRS' Heartland MRF is a single stream plant processing approximately 95,000 to 100,000 tons per year of residential, commercial and industrial recycling.

"Paper has always been a major percentage of the recycling stream, it remains one of the highlighted items we promote for recycling," Schroeder said.

RoadRunner chief executive officer Graham Rihn said the global paper recycling market had grown significantly and consistently over the past decade up until 2016, when the market stabilized through early 2018.

In the first quarter of 2018, the market saw an abrupt and marked contraction of waste paper exports to China. As the founder and chief executive officer of RoadRunner, a recycling company founded in 2014, Rihn is working to move businesses away from outdated recycling practices with a unique approach.

As Rihn explained, the process begins by educating the business' staff on which items are eligible to be recycled and which are not. RoadRunner



then provides the business with proper receptacles and schedules appropriate pickup times to meet their needs.

The recyclables are then sorted into four different categories; cardboard, commingled (glass, aluminum, plastic), mixed paper, and compost. Products are then picked up from businesses by RoadRunner's FleetHaul vehicles, driven by local drivers who deliver the materials to local buyers. With this new technology, RoadRunner can recycle 99.9 percent of collected materials.

"A number of competing forces are impacting the paper industry right now," Rihn said. "On one hand, increasing concern towards environmental protection and government regulations has reduced the supply of raw materials for new paper, thereby fueling market appetite for recycled paper products. Further, consumer preferences across the globe have shifted over the last decade and align more with the sustainable attributes of recycled paper."

On the other hand, as Rihn explained, China's "National Sword" policy, put in place to "clean up" the raw material streams in China's economy, banned importation of recycled fiber into the country and had a dramatic effect on the U.S. domestic paper recycling industry.

'China was importing 400,000 tons of mixed paper on a monthly basis, but when the import bans went live in early 2018, the primary outlet for our country's paper recycling products was effectively eliminated," Rihn said. "This has resulted in a glut of mixed paper in the U.S. recycling facilities around the country. The U.S. is left stockpiling bales of mixed paper and scrambling to create alternate supply chains."

The ebb and flow of the paper recycling industry can be attributed to several factors, Rihn said. These include:

•The surge in literacy rates, along with an improved global economy, as drive increased demand for paper products.

•Growing concern over depleting environmental resources and government regulations to address them.

•Global consumer preference shift towards sustainable products.

•Lower manufacturing expense for recycled paper in comparison to making new paper.

Embracing Innovation

Like many areas of the recycling industry, the paper recycling industry

has experienced a wealth of changes. As Rihn explained, the largest change within the paper recycling industry, from a methodology perspective, has to be source segregation, or separating paper materials at the generation source.

For many years now, the 'go to' solution for hauling companies has been to toss waste paper into single stream containers - where paper, glass, plastic and metal is discarded into one container - and then those materials are hauled away to a materials recovery facility for sorting.

"The single stream recycling process has been proven ineffective with respect to cost economics, but even more so, because it leads to rampant material contamination," Rihn said. "When high value office paper is discarded with things like food containers and drink bottles, the value that existed for it in the first place is erased by contamination."

The industry as a whole needs to increase the education of the consumers on what is accepted in the recycling bin. The contamination rate is climbing which reduces what we can recycle and increases processing costs. With export markets See PAPER FLUCTUATES, Page B2



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Paper fluctuates

■Continued from Page B1

almost non-existent the ability to clean up your finished product is essential to being able to move your material.

"With the contamination of the recyclables climbing, we are seeing optical sorters utilized for cleaning up the fiber stream," Schroeder said. "If you are not using technology, you have to increase your labor to help clean up the fiber stream."

According to Schroeder, paper recycling will always be around in some form. "With new mills opening up and others retrofitting we should see movement get better," Schroeder said. "I wish I knew for sure what the future holds but with the percentage of news in the stream declining, I think you will see more mills processing a type of mix paper going forward."

As Rihn explained, new outlets for waste paper are emerging. Mexico and developing nations in Southeast Asia have begun importing recyclable paper wastes, and China has also increased investment in the U.S. to source material domestically. "Despite these efforts, minimal progress has been made," Rihn said.

Some strategies that Rihn believes will be effective in improving and increasing the paper recycling initiatives in the future include:

•Incentivizing recycling – Waste paper has reimbursement value when it is separated out at the source of generation and free of contamination. RoadRunner's model is built around educating customers and incentivizing them to separate valuable materials, to retain the value that existed for them in the first place – i.e. avoiding contamination – and maximizing reimbursement value for those materials by working with buyers directly.

•Education – This includes better process training, container signage and reporting. "Historically the hardest component of implementing a recycling program has been education. Developing scalable education programs yield significant returns," Rihn said.

•Simplify the process – Simplifying the process was the main selling point of single stream recycling. RoadRunner's thesis is educating generators and simplifying the process in a 'clean stream' context. It may not be as easy as single stream, but with appropriate education, it does not have to be difficult.

•**Transparency** – Recycling buy-in is possible at even the largest organizations, earned through simplicity, patience and transparency in economic benefits.

Rihn predicts source separation will continue growing and be viewed as the most efficient method for recycling paper. And those who can ensure low contamination and high purity paper have an opportunity to gain a significant competitive advantage in the market.

"It may take time, but alternative supply chains will be developed and China's import bans will end up leading to recycling innovation globally. The changing market conditions bring opportunity to build new technology and methodologies," Rihn said. "We've seen early indications of companies attempting to figure out new approaches to repurpose or recycle mixed paper streams. Those companies will make the biggest impact on the industry in the coming years."



A group of businesses and environmental leaders jointly launched the Plant Based Products Council (PBPC), a group of organizations working to guide the global economy toward more sustainable and responsible consumer products and packaging through greater use of plant based materials.

Recognizing that the ever growing global demand for consumer goods and convenient packaging poses a serious threat to the environment, the Plant Based Products Council promotes the adoption and use of products derived from renewable biomass.

The group will advocate for private sector programs and government policies to encourage use of renewable materials and feedstocks, including policies to reduce carbon emissions, improve water quality and soil health, and curtail solid waste destined for landfills by purposeful closed loop end-of-life strategies through recycling and composting.

"Businesses and consumers alike recognize the need to solve the problem of plastic pollution that harms our environment," said John Bode, president and chief executive officer of the Corn Refiners Association. "The PBPC will seek plantbased solutions, bringing together government, non-profit, and corporate entities to address environmental challenges while driving economic opportunity."

PBPC's membership includes businesses large and small, from across the U.S., that produce, distribute or sell products/packaging from renewable biomass inputs, as well as those organizations that have made related public commitments to build a more sustainable future. In addition to its membership, the PBPC features an Advisory Board consisting of leading environmental organizations and NGOs.

Today, nearly 80 percent of plastics are currently in a landfill or polluting the environment, and even among recyclables, most plastics never reach the intended facilities. Polling, conducted in August 2018 and released by the Plant Based Products Council, reinforces the notion that Millennial consumers are supportive of bioplastics and even willing to pay more for them. Findings in the polling include:

•48 percent of Millennials feel most guilty about their own plastic use compared to other resources, such as paper (33 percent), water (31 percent) or the amount they drive (19 percent).

•64 percent of Millennials are willing to use alternatives to plastic.

•60 percent of Millennials surprised by the lack of alternative options to plastic.

•While only 13 percent are "very familiar" with bioplastic, once described, 90 percent become favorable to bioplastics.

In addition to providing a platform for collaboration, the Plant Based Products Council also launched an extensive database, featuring over 480 plant based and biobased products currently on the market, with plans to continue to expand the database. The database showcases the versatility of plant-based materials and is designed to help guide businesses and consumers toward more sustainable decisions.

The following companies are founding members of the Plant Based Products Council: Georgia-Pacific, Archer Daniels Midland, Cargill, Tate & Lyle, Ingredion, WestRock-Multi Packaging Solutions, Stone Straw, Loliware, Visolis Biotechnology, Newtrient, Future iQ, Emerald Brands, Hemp Road Trip, Hemp Industries Association, and Tree Free Hemp.

The following organizations and individuals will serve on PBPC's Advisory Board: GreenBlue, Californians Against Waste, International Conservation Caucus Foundation, University of California Division of Agriculture and Natural Resources, and Professor Ramani Narayan, of Michigan State University's Department of Chemical Engineering & Materials Science.

Plastics Industry Association launches search for next chief executive officer

The Plastics Industry Association (PLASTICS) has engaged Heidrick & Struggles, an executive search firm, to lead the search for the association's next president and chief executive officer.

PLASTICS held their first officers retreat and strategy meeting without the presence of former president and chief executive officer Bill Carteaux, who passed away in December, to discuss the association's goals for 2019.

Wylie H. Royce, chairman of PLAS-TICS and partner at Royce Global, outlined the goals which include, first and foremost, identifying, hiring and if necessary, transitioning a worthy successor to Bill Carteaux. Other top goals include continuing to develop and promote outreach initiatives such as "This Is Plastics" to turn plastics employees into ambassadors for the material, and to dispel negative myths. Also high on the list came funding and participating in programs that aid in sustainability efforts and development, helping to educate key audiences about the sustainability and safety of plastics, and supporting and creating programs that help the industry promote employment and educational opportunities in the plastics industry.

Chairman Royce also reiterated the Officers' unanimous support of Interim president and chief executive officer Patty Long, and commended her, the executive leadership team and the entire staff at the association on the outstanding job they have been doing.

Interested candidates can find a direct link by viewing this article on www.AmericanRecycler.com.



Ben & Jerry's to eliminate single use plastic worldwide by 2020

Ben & Jerry's is moving away from single use plastic. As a first step, the company will no longer offer plastic straws and spoons in any of its more than 600 Scoop Shops worldwide in early 2019. The company also announced a plan to address plastic cups and lids used to serve ice cream by the end of 2020.

In 2018 Scoop Shops made plastic straws available by request only. This year Scoop Shops will complete the transition to wooden spoons. By the end of 2020 Ben & Jerry's will find an alternative to plastic cups, and plastic lids. The company has a history of striving for more sustainable packaging solutions. Pints and "tubs" (as Ben & Jerry's container is known in the UK and Europe) have been made with Forest Stewardship Council (FSC) Certified paperboard since 2009. But because they are coated with polyethylene to create a moisture barrier, they are difficult to recycle. Evans said Ben & Jerry's is looking at options. "Over the past year, we have begun an intensive effort to find a biodegradable and compostable coating that meets our product quality requirements," she said.

PLASTICS releases transportation report

The Plastics Market Watch Report – Watching: Transportation released by the Plastics Industry Association (PLASTICS) highlights an increased demand for plastics in a number of modes of transportation around the world.

According to the report, the recent trends in innovative transportation include: propulsion/electric vehicles (EV), autonomous or self-driving vehicles, connected vehicles and shared transportation. These overarching trends are interconnected by technology, investments and industry leaders.

"Due to current trends, we expect for plastics to become a solidified material in transportation vehicles and other technologies," said PLASTICS' chief economist, Perc Pineda, PhD. "Considering that demand for transportation is not going away anytime soon, plastics will remain a viable material in the transportation space," Pineda added.

The report highlights insights from industry innovators and thought leaders from companies including GM, Tesla and Audi. Plastics' role in the automotive and transportation sector has been growing for years, which was why PLASTICS created the Transportation and Industrial Plastics (TIP) committee in 2015," said PLAS-TICS' Interim president and chief executive officer Patty Long. "TIP has grown in membership and in stature to include some of the most important voices in this increasingly important sector for the plastics industry. Its contributions were vital to creating this most-recent Plastics Market Watch report, which shows the sky continues to be the limit for plastics in transportation."

Since 1970, the use of plastics in aviation has quadrupled which makes the airline industry a key market for plastic. Nylon will also play an important role with the electrification of vehicles because it is strong, lightweight, very durable and resistant to damage. It contributes to reducing the weight of a vehicle by 50 percent.

The report is available for download to members and non-members, accessible at: https://www.plasticsindustry.org/data/ plastics-market-watch

International Paper reports 2018 earnings

International Paper reported fourth quarter 2018 net earnings attributable to International Paper of \$316 million (\$0.78 per diluted share) compared with \$562 million (\$1.37 per diluted share) in the third quarter of 2018 and net earnings of \$1.5 billion (\$3.50 per diluted share) in the fourth quarter of 2017.

Full year 2018 net earnings were \$2.0 billion (\$4.85 per diluted share) compared with net earnings of \$2.1 billion (\$5.13 per diluted share) for full-year 2017. Fourth quarter and full-year 2017 net earnings included a provisional net tax benefit of \$1.2 billion (\$2.93 per diluted share) related to the U.S. enactment of the Tax Cuts and Jobs Act of 2017 reported as a special item. Net earnings in all periods include the impact of special items, if any, non-operating pension expense and discontinued operations.

Adjusted operating earnings in the fourth quarter of 2018 were \$670 million (\$1.65 per diluted share) compared with \$641 million (\$1.56 per diluted share) in the third quarter of 2018 and \$530 million (\$1.27 per diluted share) in the fourth quarter of 2017. Full-year 2018 adjusted operating earnings totaled \$2.2 billion (\$5.32 per diluted share) compared with \$1.5 billion (\$3.49 per diluted share) in 2017.

Net sales were \$6.0 billion in the fourth quarter of 2018 compared with \$5.9 billion in the third quarter of 2018 and \$5.7 billion in the fourth quarter of 2017. Annual net sales totaled \$23.3 billion in 2018 compared with \$21.7 billion in 2017.

Business segment operating profits were \$930 million in the fourth quarter of 2018 compared with \$738 million in the third quarter of 2018 and \$824 million in the fourth quarter of 2017. Full-year business segment operating profits were \$2.9 billion in 2018 compared with \$2.1 billion in 2017.

Cash provided by (used for) operations was \$3.2 billion for the full-year 2018 compared with \$1.8 billion in 2017. Cash provided by operations was \$821 million in the fourth quarter of 2018 compared with \$1.2 billion in the fourth quarter of 2017. Free cash flow (non-GAAP) was \$1.7 billion for the full-year 2018 and \$2.0 billion in 2017. Free cash flow (non-GAAP) was \$535 million in the fourth quarter of 2018 compared with \$732 million in the fourth quarter of 2017.

Global search launched for alternatives to single use plastics

National Geographic and Sky Ocean Ventures have launched a global search for innovative solutions to help tackle the world's single use plastic problem.

The Ocean Plastic Innovation Challenge, a one year competition, will focus on three strategic ways to address the growing issue of plastic pollution: designing alternatives to single-use plastics, identifying opportunities for industries to address plastic waste throughout supply chains, and communicating the breadth of the issue through data visualization. The Ocean Plastic Innovation Challenge is a key component of National Geographic and Sky Ocean Ventures' partnership to reduce plastic waste.

Teams or individuals interested in the Ocean Plastic Innovation Challenge must submit their solutions by June 11, 2019, for review by an expert judging panel. Selected teams will compete for a share of \$1.5 million in awards and investment. Winners will be announced in December 2019.

Commenting on the launch of the challenge, Frederic Michel, group director of impact and Sky Ocean Ventures, said: "In the last 60 seconds, another rubbish truck of plastic litter will have been dumped into our oceans, destroying the environment and killing wildlife. Sky and National Geographic have the very unique opportunity and resources to help reverse the damage that is being done and help accelerate and scale up ideas. By seeking out and supporting the innovators creating alternative and impactful solutions, we can champion the people who can potentially make a difference, beyond an equity investment. We will bring them into our unique ecosystem and provide them with support across critical areas for their very early growth."

"The Ocean Plastic Innovation Challenge is a tremendous opportunity to create a global community of problem solvers – innovators, scientists, researchers, storytellers and other creative minds – who are passionate about bringing their ideas to life in order to stem the tide of plastic pollution," said Dr. Jonathan Baillie, National Geographic Society executive vice president and chief scientist.

The Ocean Plastic Innovation Challenge is a key component of National Geographic's Planet or Plastic? initiative, a global effort to significantly reduce the amount of single-use plastic that reaches the ocean by raising awareness, elevating science and education, advancing innovation and inspiring action.

Sky Ocean Ventures was launched in March 2018 with a £25 million cornerstone commitment from Sky and the objective of seeking out investment opportunities in start-up innovation businesses that can help solve the ocean plastic waste crisis.

To register, and for more information about the challenge, please visit oceanplastic-challenge.org.



EQUIPMENT SPOTLIGHT

by MARY M. COX maryc@americanrecycler.com

The Environmental Protection Agency (EPA) reported that Americans generated over 262 million tons of municipal solid waste (MSW) in 2015. Over 25 percent of that waste was paper and paperboard, and over 13 percent of it was plastics. As the aim of both the waste and recycling industries is to further reduce those numbers, baling equipment is a key component in helping to make that happen.



Excel Manufacturing

Excel Manufacturing has over 5,000 balers in 70 countries. The firm's balers "complement individual facility requirements but all models offer simple, safe and effective operation," said Chancey Becnel, vice president. He described how the "rugged chassis design of Excel balers, with unparalleled power and reliability are exactly what customers depend on when purchasing our machines, which feature the most advanced and durable components in the industry."

"Our EX63 wide mouth baler was designed with smaller recyclers in mind. With high volume output, this baler is the perfect fit for paper and cardboard with a feed opening of 54 x 70". Excel's EX Series balers are designed not only with the largest feed opening in the industry, but to be the most durable, efficient and productive closed-end single ram baler available."

Excel's balers feature interlocking construction and "the most advanced control system in the industry, for an indestructible, automated two-ram baler. Our two-ram series balers can process up to 45 tons per hour. They are designed for mid to large size recyclers and high volume distribution centers. Our baler technology focuses on safety and maintenance and we offer the best expertise available for assisting clients in choosing the best baler for an operation. for high-capacity fiber processors and receive requests to replace equipment that Throughput is key to determining the "we also offer expertise in systems engi- is 20 to 40 years old. In some cases this is baler size and capacity required. Choos- neering, customer support services and because customers need equipment that

first requires an examination of the types of materials that must be processed, and at what frequency, while also considering future growth and acquisition cost. Using the ROI analysis offered by Excel before making a purchase can help ensure that your new baler effectively serves your facility now and for years to come," said Becnel.

He sees related markets leaning more toward cleaner operations and so a smaller carbon footprint. More recycled products are in production and there is an increase in diversion of recyclables from landfills. Becnel has also noticed how stringent laws and regulations imposed by local governments, especially in North America, are fueling demand for equipment, specifically balers. "With the changes regarding landfilling of plastic and the use of bioplastics, demand for our paper and plastic balers continues to rise. Several customers have seen tonnages increase for various recyclable materials received. Changes in container manufacturing practices, movement from glass containers to plastic and consumer spending habits continue to reduce newspaper and mixed paper content of recyclables, while increasing plastic and cardboard usage," he commented.

International Baler (IBC) has been a leader in design and manufacture of commercial and industrial recycling equipment since 1946. "We offer over 200 different standard models of vertical balers, closed-door horizontals, open-end auto-ties, and two-ram balers for paper, plastic, scrap metal, and specialty materials. We also custom configure units to fit applications with special requirements, allowing us to stay at the forefront of baler technology and new and emerging markets," explained Sean Usoff, sales and marketing director.



IBC is the first U.S. company to offer a 100 percent U.S. manufactured "euro-style" roller platen auto-tie baler source manufacturer, IBC is committed to providing leading edge technology, unsurpassed quality, and commitment to competitive prices, service and parts," stated Usoff.

He noted how fluctuations in commodities pricing and the global market, and continued uncertainty with overseas exports of recycle goods has placed recycling sectors into a somewhat stagnant phase over the last year. "A strong U.S. dollar has also hurt the market as overseas buyers can't buy what they could just a few years ago. With low commodity prices, buyers are somewhat leery of large capital investments in new equipment. Despite that, I think we'll see a relatively low but stable market through 2019, with markets rising near year's end then a positive 2020 for recycling in general and companies providing equipment and services in that sector," Usoff said.



Maren Balers & Shredders

Maren Engineering has been producing high quality production balers for over 55 years. "We manufacture a wide range of equipment to meet the needs of our customers - from two ram balers to high production horizontal single ram balers and closed door manual tie balers. Some of our customers may process one ton of material per day and others, over 20 tons per hour. Our two ram baler offers a large variety of horsepower options and feed opening sizes with main cylinders as large as 12". Our single ram, auto tie, horizontal open end balers have been placed in high production recycling centers, corrugated box plants and distribution centers. The balers are set up to operate at 42 to 4,500 psi, allowing for the use of smaller cylinders and more speed in overall user operation. We also produce shredders and floor sweep pickups for the corrugated and printing industry. The business climate for balers continues to be very active. We still See Balers, Page B7

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Unifi recycles 14 billion bottles with the help of REPREVE Champions of Sustainability



Now in its second year, Unifi, Inc.'s Champions of Sustainability awards continue to recognize brands, retailers and textile partners that demonstrate the shared goal of making our planet a better place to live.

This year, a total of 68 companies are being recognized as Champions of Sustainability – a 36 percent increase from last year's total. Thanks to help from partners like these, Unifi has now recycled more than 14 billion bottles that are used to make its REPREVE[®] performance fiber.

"The REPREVE Champions of Sustainability awards highlight our brand, retailer and textile partners that are committed to a better tomorrow through their use of REPREVE recycled performance fibers," said Kevin Hall, Unifi's chief executive officer.

"This year, Nike and Target join Polartec in the Billion Bottle Circle for recycling more than one billion bottles each. Ford and H&M have each recycled more than a quarter of a billion bottles. Additionally, adidas, Hanesbrands, Under Armour, Volcom, and Williams-Sonoma, Inc., are some of the brands that have reached new milestones. We're encouraged that so many major brands, retailers, and textile partners are increasing their commitment to sustainability and that consumers are continuing to choose more eco-friendly products," Hall elaborated.

Awards will be presented to 28 brand and retail partners that have each used the equivalent of 10 million or more bottles, and 29 textile partners that have each used the equivalent of 50 million or more bottles, through the inclusion of REPREVE performance fibers. Eight new brands and retailers join the list of winners this year, including Aeropostale, Patagonia and IKEA Range & Supply. In addition, 15 new textile partners have now each recycled 50 million or more bottles through their use of REPREVE in the fabrics they produce. "Together with our partners we can achieve our sustainability goals and make a real difference in the textile industry as a whole," Hall added. "We're on track to reach our goal of recycling 20 billion bottles by 2020 and 30 billion by 2022."

In addition to the bottle awards and those in the Billion Bottle Circle, Unifi is also recognizing eleven special category award winners:

•REPREVE Partners in Innovation recognizes companies using REPREVE in a way that's unique to the market. This year's winners are IKEA Range & Supply and KIPAS.

•REPREVE Circular Economy recognizes companies demonstrating best-inclass use of the closed loop concept, which aims to eliminate waste throughout the product life cycle. League Apparel and General Motors are being recognized as this year's winners.

•REPREVE Newcomer recognizes key companies that started using REPREVE in the past year. Unifi is proud to recognize INDITEX, Lovesac and New Balance for this award.

•REPREVE All-In recognizes companies that have integrated REPREVE into their entire product line from the beginning of the partnership. Sherpani and American Flora are winners for their commitment to using REPREVE.

A direct link to the list of award recipients can be found by visiting www.AmericanRecycler.com

Balcones Resources celebrates

Balcones Resources celebrated its 25th anniversary in business, growing from a small Austin based paper recycler to a comprehensive environmental services company with facilities in Austin, Dallas and Little Rock.

Balcones marked the milestone with a reception featuring a presentation of \$25,000 in total donations to five Austin area environmental organizations: EcoRise, Hill Country Conservancy, Keep Austin Beautiful, Shoal Creek Conservancy and Waller Creek Conservancy.

Balcones Resources was conceived in late 1993 and began operations in 1994. Since that day, Kerry Getter, the Balcones chief executive officer and the board of directors have grown Balcones into a nationally-recognized firm and one of the top 50 recyclers in North America.

Jay Shands, chairman of Balcones board of directors, joined Getter to present the \$5,000 gifts to each organization. Representatives accepting the donations included Gina LaMotte, founder and president of EcoRise; George Cofer, chief executive officer of Hill Country Conservancy; Rodney Ahart, executive director of Keep Austin Beautiful; Catlin Whitington, board member and Nina Rinaldi, director of development for Shoal Creek Conservancy; and Peter Mullen, chief executive officer of Waller Creek Conservancy.



NEW PRODUCT SHOWCASE



Boge America, Inc. 3414 Florence Circle Powder Springs, GA 30127 770-874-1570 www.boge.com

BOGE OFFERS ENERGY EFFICIENCY AT LOW OPERATING PRESSURE

With the new Low Pressure Turbo 150, Boge promises the best efficiency values at an operating pressure up to 4 bar. In contrast with oil-free screw compressors, low pressure turbo technology stands out due to its compact design and guiet operation

With 100 percent oil-free compressed air, the compressor is particularly suitable for sensitive areas of use such as glass production, fish farming and the chemical industry. Combined with the continuous improvement program service option, the machine is state-of-the-art. Boge is setting new standards for ongoing energy-efficient supply in the low pressure sector.



CATERPILLAR INTRODUCES 5-SEAT UTILITY VEHICLES

Caterpillar expanded their line of utility vehicles to include the gasoline-powered Cat CUV85 and dieselpowered CUV105 D. The CUV85 and CUV105 D both feature a spacious second row to accommodate a total of five people.

Caterpillar gathered extensive customer and dealer

Caterpillar 501 SW Jefferson Street Peoria, IL 61614 888-614-4328 www.caterpillar.com

input to build a UTV that delivers the unrivaled combination of durability, comfort and maintenance simplicity. Both vehicles have a 1,000 lb. rear cargo capacity and a 2,000 lb. towing capacity for outstanding performance in a variety of applications at a competitive price.



Liftomatic Material

700 Dartmouth Lane

www.liftomatic.com

Buffalo Grove, IL 60089

Handling

847-325-2930

PARROT-BEAK DRUM TRUCK FOR HANDLING ALL RIMMED DRUMS

Liftomatic Material Handling, Inc. recently introduced a new 4-wheel hand truck, the Liftomatic 10HT-4W. The Model 10HT-4W is a 4-wheel hand truck

designed to handle all rimmed steel, fiber and plastic drums weighing up to 1,000 lbs. Designed with safety in mind, the operator need not bear the weight of the load. The drum truck has two 10" main wheels with full

roller bearings, and two 4" swivel casters to support the drum while moving, in addition to Liftomatic's exclusive "Parrot-Beak[®]" clamping mechanism. Other features include a clamping mechanism that can be adjusted to handle all drum sizes from 10 to 85 gallons.



Sicon America 11390 Old Roswell Road Alpharetta, GA 30009 866-356-7586 www.sicontechnology.com

HEAVY-MELT-SCRAP HMS-CLEANING FOR BEST EFFICIENCY

Scrap metal is the most important resource of the electric-arc-furnace (EAF) steel production process More than 70 percent of total cost in EAF-steel production can be directly accounted to scrap purchases.

If the scrap used in steel production was pure ferrous material, rates would be significantly higher. To ensure scrap quality, Sicon is providing field-tested and proven mechanical cleaning of HMS and sheared scrap at the steel plant.

With throughput of more than 200 tons per hour without efficiency loss, the system has exceeded all expectations, offering increased yield to melt shops.



Wika Mobile Control LP 1540 Orchard Drive Chambersburg, PA 17201 717-217-2255 www.wika.com

WIKA OFFERS DS350 MODULAR **BOOM CONTROL UPGRADE**

WIKA Mobile Control recently released an upgrade solution for the DS350 modular boom control systems currently in the field. It converts existing DS350 modular systems to the iFLEX5 graphic boom control system. and is applicable to the DS350 modular systems that are installed on Grove TM9100, AT9120 and RT9130 machines equipped with two cable reels.

The iFLEX5 boom control system replaces all existing components including console, central unit, cable reels, pressure transducers and cable assemblies. Crane owners can benefit from this upgrade as the system replaces (4) 20 MA sensors with CANbus sensors.

Plastics Recycling Awards Europe 2019 names finalists

The shortlist for the Plastics Recycling Awards Europe 2019 has been published. The winners will be announced on April 11, during the Plastics Recycling Show Europe taking place at the RAI Amsterdam.

The seven different award categories this year are: Building & Construction Product of the Year, Automotive, Electrical or Electronic Product of the Year, Household & Leisure Product of the Year, Plastic Packaging Product of the Year, Product Technology Innovation of the Year, Recycling Machinery Innovation of the Year and Plastics Recycling Ambassador of the Year.

"With an extended number of categories and 40 finalists confirmed, the second edition of the awards is a perfect illustration of the continuous technological development and growing innovation in the sector. This year's finalists demonstrate not only their goal to improve the efficiency and quality of plastics recycling processes but also the goal of making plastic products more circular," said Ton Emans, president.

Plastics Recycling Awards Europe Finalists:

Building & Construction Product of the Year - interior and exterior construction products of all types

•MPO Easy Channel drainage system by Multiport GmbH made from recycled HDPE and PP packaging waste •CREATION 55 PVC wood effect

flooring from GERFLOR •DAN-Board color LDPE construction and flooring plates from Danrec A/S

•iD Revolution flooring by Tarkett

featuring backing layer made from recycled polyvinyl butyral (PVB) from laminated glass car windshields

Other nominees can be found by viewing this

Florida joins WRAP Initiative to boost plastic film recycling

The Flexible Film Recycling Group (FFRG) of the American Chemistry Council (ACC) joined the Florida Department of Environmental Protection (DEP) and other State officials to announce a statewide campaign to increase recycling of plastic wraps, bags, and film (collectively "plastic film packaging").

Additional partners in this new Wrap Action Recycling Program (WRAP) campaign include Publix Super Markets, Waste Management, Inc. of Florida, Florida Recycling Partnership, municipalities, recycling processors, haulers, and the Florida Retail Federation. Initial campaign activities are expected to reach more than eight million people in ten counties and municipalities.

The Florida WRAP campaign will grow greater public awareness and participation in plastic film packaging recy-

Automotive, Electrical or Electronic Product of the Year - plastic parts used in automotive and electrical products

•Luxus 16623-210 polypropylene material for car interiors for Group Renault Nissan Mitsubishi, as used in the Nissan Micra

•The recycled plastics demo car which kick-starts Volvo Cars new plastics strategy, featuring more than 170 different parts made from recycled plastics

•Grundig Oven by Arçelik featuring high performance plastic parts made with recycled polyamides from ghost (abandoned) fishing nets and waste yarn

•DellEMC Closed Loop Plastic Recycling, a plastic bezel made from recycled ABS from free takeback end of life electronic products

•Grundig Tumble Dryer Bottom BaseBoard by Arcelik made from 100 percent recycled post-consumer ABS

Household & Leisure Product of the Year - covering all types of domestic and leisure goods (excluding electricals)

•BMA Axia® Vision 24/7 office chair by Flokk AS containing 57 percent recycled plastic materials

•PBD drawstring collection bag by Cedo Folien- und Haushaltsprodukte GmbH containing 90 percent post-consumer recycled plastic

•Plaswood Edge Bench from Plaswood - part of RPC bpi Recycled Products made from 100 percent recycled plastics

•Odyssey Innovation Paradise Marine Plastic Kayak made from 100 percent recycled HDPE from consumer and industrial sources including plastic recycled from the marine environment.

article on www.AmericanRecycler.com.

cling at grocery stores and other retail locations, while also reducing the amount of film packaging inappropriately placed in curbside recycling bins. It builds on Florida's "Rethink. Reset. Recycle." campaign and reminds residents to bring back plastic bags and other film packaging to participating retailers, which have established collection programs for film packaging

cling. In addition to expanding collection of plastic film packaging for recycling, the WRAP campaign will raise awareness and promote use of products made with recycled film to help expand domestic markets of the material. Recycled plastic film can be used to make products such as durable outdoor lumber for decks, fences, benches and playground equipment, gardening products, and new packaging.

AF&PA releases updated paper reports

The American Forest & Paper Association released its December 2018 U.S. paper reports.

Printing-Writing Paper Report

According to the December 2018 Printing-Writing Monthly report from the American Forest & Paper Association, total printing-writing paper shipments decreased seven percent in December compared to December 2017, which matches the total decrease for the year. Total printing-writing paper inventory levels increased seven percent from November.

•U.S. purchases of uncoated free sheet (UFS) paper decreased six percent in December from the same month one year ago. The inventory level of UFS papers increased eight percent in December compared to November.

•Shipments of coated free sheet (CFS) papers decreased six percent in 2018 when compared to 2017. Purchases decreased three percent for the year.

•U.S. purchases of uncoated mechanical (UM) papers increased three percent year-over-year in December. Shipments of coated mechanical (CM) paper decreased four percent in December. Inventory levels at the end of December when compared to November increased seven percent and remained essentially flat for UM paper and CM paper, respectively.

Boxboard Report

Total boxboard monthly production increased 0.6 percent when compared to December 2017 and increased 0.7 percent year to date. The total boxboard operating rate was 93.8 percent for December.

The year to date production for Solid Bleached Boxboard and Liner was up 2.1; Recycled Boxboard declined 1.8; and Unbleached Kraft and Gypsum rose 1.7.

U.S. Packaging Papers & Specialty Packaging

Total Packaging Papers shipments were down 7.9 percent from December 2017 but up 1.8 percent year-to-date.

Bag and Sack shipments were up 4.4 percent year-to-date; Multiwall shipments were down 1.4 percent; Converting shipments were up 0.5 percent; and Food Wrapping shipments were up 1.9 percent.

The operating rate for December dropped to 87.0 percent compared to 89.5 percent in November. Inventories increased 2.2 percent since November and were 4.9 percent higher than the same month last year.



donna@americanrecycler.com or call us at 877-777-0043.

Recycled plastics market to reach \$54.57 billion The global recycled plastics market is recycled, if the current flow of landfill and Packaging is expected to reach 34.0

its incineration is managed, re-directed

nated the market with more than 29.0 per-

cent volume share in 2017. PE is widely

used in manufacturing reusable bags, toys,

trays, agriculture films, food packaging

films, milk bottles, shampoo bottles, con-

tainers and housewares. Increasing collec-

tion volume coupled with the increasing

adoption of automation in the sorting and

processing of waste plastic in countries

including the U.S. and Germany has led to

bottles are 100 percent recyclable and are

considered an attractive material for recy-

cling owing to low recycling cost. Increas-

ing adoption of plastics including PET as

a lightweight material is expected to have

a positive impact on the market.

Polyethylene Terephthalate (PET)

the growth in PE recycling.

Recycled polyethylene (PE) domi-

and well captured.

The global recycled plastics market is expected to reach USD 54.57 billion by 2025. Rising environmental concerns coupled with a stringent framework to reduce carbon footprint and conserve energy, as recycling consumes around 80.0 percent less energy than producing new plastic, are expected to drive the market in the near future. Its usage is expected to increase in multiple sectors, including packaging and automotive.

Multiple companies including Nestlé' and Volvo plan to use recycled plastic. Nestlé' plans to make 100 percent of its packaging reusable by 2025, while Volvo plans to have recycled plastics account for around 25 percent of all plastics used in its new vehicles from 2025.

The plastic recycling rate is expected to witness growth over the next few years. By the end of 2030, it is expected that around 300 million tons of plastic will be

Balers •Continued from Page B4

is more productive, while others merely need to ensure that their equipment up to current safety standards," Roger Williams, regional sales manager, commented.

He noted how it has become more difficult to find qualified candidates in the industry, for the jobs that are available. Williams also discussed how China's recent decision to limit incoming recycled products has affected the industry, stating, "Of course, this opens up opportunities in the domestic market for entrepreneurs who discover new ways to use recycled materials."

Sierra manufactures heavy duty high quality two-ram balers and conveyors for MRFs, recycling centers, waste processors, and scrap metal recyclers. Sierra tworam balers handle between 200 to over 6,000 tons of material per month, depending on the model and other factors such as the type of material involved and hours baling per day. Sierra two-ram balers have standard features such as energy efficient flooded suction power units with standard kidney loop filtration, fully lined with .5" AR 450 liners with a tongue and groove floor, 1.5" thick tool steel shear blades



Sierra International Machinery, LLC

with four cutting edges, shimless "hold down" adjustments, bale separation/oversize bale release door, operator's platform, bale eject table, "and many other standard features that are options on other balers," said Brian Mihm, director of sales.

"Sierra balers and conveyors are fully tested before shipment, to speed up the installation and start-up process. Other features that expedite the installation process are hard piping along the baler with flexible hosing between the baler and power unit, a bolt on ejector assembly, plug and play electrical connections, and conveyors shipped pre-wired with the belt installed," stated Mihm.

He expressed how he believes "this industry is trending toward cost savings with items such as power units that are more energy efficient, machines that run



Manufacturers are to contact American Recycler to ensure their company is listed in the Equipment Spotlight.

Packaging is expected to reach 34.67 million tons by the end of 2025. Increasing consumption of packed food coupled with the trend of food take away and delivery services is expected to remain one of the key factors adding to market growth.

Electrical & electronics market is also among the key contributors to the growth of the market. Some of the key products that present a promising growth opportunity for the market include digital cameras, computers, video game consoles, and mobile phones.

Replicating the efforts to reduce carbon footprint, Samsung plans to use recycled plastics and paper for packaging its mobile phones and home appliances from the first half of 2019. The company also plans to use 500 thousand tons of recycled plastic by 2030.

without an operator, programs that allow users to track electrical consumption, and materials that are baled per shift and average tons per hour per material, downtime, wire consumption, etc."

"One of the most important things a potential buyer needs to look at when purchasing equipment is the company's commitment to parts and service. We stock parts for all equipment and our service technicians are located throughout America. This allows Sierra to reduce customer downtime when problems arise," he concluded.

Sierra provides material handlers for the waste, recycling and scrap metal industries, baler/loggers and shear/baler/loggers for the scrap metal industries, and is the exclusive North American distributor for Macpresse, high volume auto-tie balers, shredders and conveyors.

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Marathon Equipment Jim Loeffler 814-450-4981 www.marathonequipment.com

Maren Balers & Shredders Roger Williams 708-333-6250 www.marenengineering.com

Orwak North America Mark Lanning 800-747-0449 www.orwak.us

PTR Baler and Compactor Co. Eric Reithmiller 800-523-3654 www.ptrco.com

Quality Bilt Equipment Max Chiera 905-857-0330 www.bilt-riteequipment.com

Sierra International Machinery, LLC Jose Pereyra 800-343-8503

www.sierraintl.com

Waste Processing Equipment Mike Smith 800-225-6458 www.maspakbalers.com

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Wolverine Automatic Tire Debeader Light truck and passenger tires.



1996 Granutech MAC Car Crusher Includes a remote!



2004 Columbus McKinnon Liberator 4R Tire wire cleaner.



2006 Sierra S5250G Metal Baler Bale cars, white goods, and loose tin!



2006 Case 721E XT w/Scorpion Engine Puller.



New Amsco Hammers and Pin Protectors For 60x104 hammermill shredders.



1990 Mosley Car Flattener New floor installed prior to decommissioning!



Al-Jon Model 200 Metal Baler Recently rebuilt! Runs like new!



2006 MAC 5200 Metal Baler 16"x16" variable bale size.



Strip-Tec Model 400 Wire Granulator Includes pre-chopper. Great condition!



2016 Wolverine Tire Debeader NEW! NEVER USED!



Al-Jon/United F-466 Aluminum Furnace Mid 1980's aluminum smelter.



2007 Granutech MAC Car Crusher Model QS w/automation. Only 930 hours!



Jefferies 62 x 90 Shredder. Rebuilt, disassembled hammermill, and ready to ship!



2014 Eldan Tire Rasper System. w/magnets, baghouse & deluge system.

Visit www.DADEAuctions.com for more equipment!