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MSW facilities continue to struggle with contamination



Non-recyclable plastics are the biggest contamination problem that recyclers face.

PHOTO BY LINDA WILLIAMS | DREAMSTIME

by MAURA KELLER

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Consumers across the country have a hard time distinguishing between recyclable plastics and hard-to-recycle plastic counterparts that land in recycling containers and, ultimately, must be sorted at recycling facilities. To offset the difficulty emerging in properly deciphering the correct plastics to recycle, municipalities, recycling companies and companies are banding together to educate consumers and create new avenues of use for hard-to-recycle plastics.

Tony Perrotta, PA Consulting sustainability expert helps PA's U.S. consumer and manufacturing clients with growth strategy, sustainability and regenerative economy projects. He said there are a number of issues that impede municipalities in effectively and sustainably offering plastic recycling programs – and an equal number of ways to help combat these issues.

"One option in particular is critical and worthy of further exploration and consideration - consumer confusion. Given such varying regulations on what can or cannot be recycled by geographic location, anything municipalities can do to provide clarity would be welcomed," Perrotta said. "Yes, that means helping consumers understand what can and cannot go into curbside recycling. But it also means further pressure on producers to clearly and effectively label their products. By way of example, the "chasing arrows" logo has long been interpreted by consumers as a sign that an item is welcome in the recycling stream. Unfortunately, the symbol only denotes composition - not actual recyclability; let alone in your specific geography. Consumers want to do the right thing,

hence the 'wish-cycling' activity we see all too often – they just need a bit of clarity on what can and cannot be recycled effectively today."

Perrotta pointed to the importance of municipalities addressing the issue of hard-to-recycle plastics head on. That's exactly what Emmet County Recycling in Harbor Springs, Michigan did.

According to Kate Melby, communication and education coordinator of Emmet County Recycling in Harbor Springs, Michigan, the evolution of plastics recycling looks like chaos at the municipal level.

"People using our recycling collection systems have a very difficult time understanding what is and isn't recyclable. Many have a vague idea that 'all plastics are recyclable.' Some are frustrated when we tell them we can't recycle their foam items, CPAP tubing, sporks...the list is infinite," Melby said.

Emmet County went with the "all containers" approach, which was supposed to simplify the message, but customers are still confused. And, although their markets have use for 95 percent of the plastics Emmet County accept for recycling, the message has led local businesses, which are very committed to recycling, to accidentally choose non-recyclable packaging for their products.

Currently Emmet County operates a dual-stream system. "On the papers, boxes and bags side we see less than 2 percent contamination. On the containers side we see 20 percent contamination and plastics are by far the biggest culprits," Melby said. This past year Emmet County participated in a study the Recycling Partnership was conducting on how to reduce contamination coming into public recycling drop-off sites. Emmet

County has 13 drop sites and its MRF receives materials from two other counties with an additional 17 sites.

"As part of the study, we audited our container stream and the findings simply confirmed our impression that non-recyclable plastics are by far the biggest contamination problem we face," Melby said.

The confusion is not limited to customers however. As brands churn out more and more different packaging systems and products, it is hard for Emmet County staff – from education to customer service to collection and processing – to keep up with what is and isn't really recyclable.

"We regularly have to research the composition of new products and/or go back to our markets and ask whether they can use different materials," Melby said.

And then there is the issue of compostable plastics. While, in the long run, biobased plastics would probably be an improvement, they are mainly adding to the confusion.

"Compostable plastics are leading some of our most well intentioned businesses to choose packaging that will end up in the landfill. Carry-out containers are the classic example" Melby said. "Restaurants do not have the bigger picture – that, until composting collection mechanisms and composting facilities are able to capture the compostable wares, recyclables would be a better choice."

Emmet County Recycling current accepts all plastic containers under 2.5 gallons, excluding foam items, and plastic film curbside and at their drop-off

See STRUGGLE, Page A4

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Columbus pioneers waste water acid digestion project

Ohio, has engaged a team led by Brown and Caldwell to deliver professional design services for a new and improved acid phase digestion system at its Southerly Waste-Treatment (SWWTP).

The SWWTP is one of the largest facilities of its kind in the country, situated on 288 acres and serving over 530,000 residents. With an average flow of 120 million gallons per day, its two-phase digestion process consists of two sludge storage silos, six methane phase digesters, and three acid phase digesters (APDs) to produce a Class B biosolids product for land application and other beneficial uses.

The project, SWWTP Digester Process Expansion – Phase II, will rehabilitate the APDs and other aging ancillary equipment to create a robust and resilient acid phase digestion system with a multitude of capacity-enhancing, financial benefits.

"This important project will allow us to continue to improve reliability, increase efficiency, meet regulatory guidelines, and enhance service for a growing customer base.

The City of Columbus, We're evaluating several innovative processes to solidify the City's beneficial reuse and environmental goals," said Columbus SWWTP plant manager, Darin Wise.

> The project is considered a once-in-a-generation opportunity to plan and evaluate innovative digester processes, including Acid+ digestion, a cutting-edge project with the Water Research Foundation. Acid+ has the potential to revolutionize wastewater treatment by reducing operations and maintenance expenses, yielding higher quality biosolids (Class A) and biogas products, and achieving cost-effective nutrient recovery with simple retrofits to existing equipment.

> A phosphorous recovery study will evaluate options to produce high-quality, low phosphorus biosolids for agricultural use while addressing future nutrient load increases in line with national permit limits. Considerations will be included to identify, restrict or possibly destroy emerging contaminants loading in downstream biosolids before reuse.

> An investigation into the creation of a fats, oils and greases receiving station and feasibility analysis of

co-digestion - sludge with organics/food waste - to supercharge biogas production and create an alternative revenue stream, is part of the project. This includes an assessment on availability and providers of organic waste in the central Ohio region and any digestion system improvements required to incorporate co-digestion for beneficial reuse.

The Brown and Caldwell team will provide preliminary design, detailed design, and engineering services during construction. A critical design component includes the continual, safe, and efficient operation of the plant during construction in compliance with National Pollutant Discharge Elimination System requirements. As well as undertaking various condition assessments and feasibility studies, the team will prepare construction cost estimates, develop bid documentation, and help evaluate qualified firms.

With Acid+ digestion research and preliminary design recently underway, detailed design is scheduled for completion by the end of 2022, paving the way for construction-phase activities.

Nominations for 2022 Design for Recycling Award opened by ISRI

Recycling Industries (ISRI), the Voice of the Recycling Industry[™], is now accepting entries for the 2022 Design for Recycling® (DFR) Award. The DFR Award is ISRI's highest award given annually to the most outstanding contribution to products designed with recycling in mind. ISRI's Design for Recycling initiative encourages manufacturers to consider recyclability during product design in the same manner they consider cost, safety, and other factors.

"The role of recycling in manufacturing is perhaps more critical than ever," said ISRI president Robin Wiener. "As manufacturers work to ensure sustainability goals are met, and supply chains are not disrupted, incorporating recycling into a products design from the conception phase is the answer. Now is the time to applaud those manufacturers who factor in recyclability when designing their products."

The DFR Award recognizes proactive steps made by manufacturers who have actively incorporated DFR principles into products and processes. Previous winners

The Institute of Scrap include, Nestlé Waters North America, Lexmark, Cascades Fine Papers Group, Coca-Cola Recycling Company, LG Electronics, Samsung Electronics, EcoStrate SFS and 2021 winner Cascade Engineering.

To be eligible for ISRI's Design for Recycling Award, a product must be designed/ redesigned and manufactured to be:

•Easily recycled through current or newly designed recycling processes and procedures;

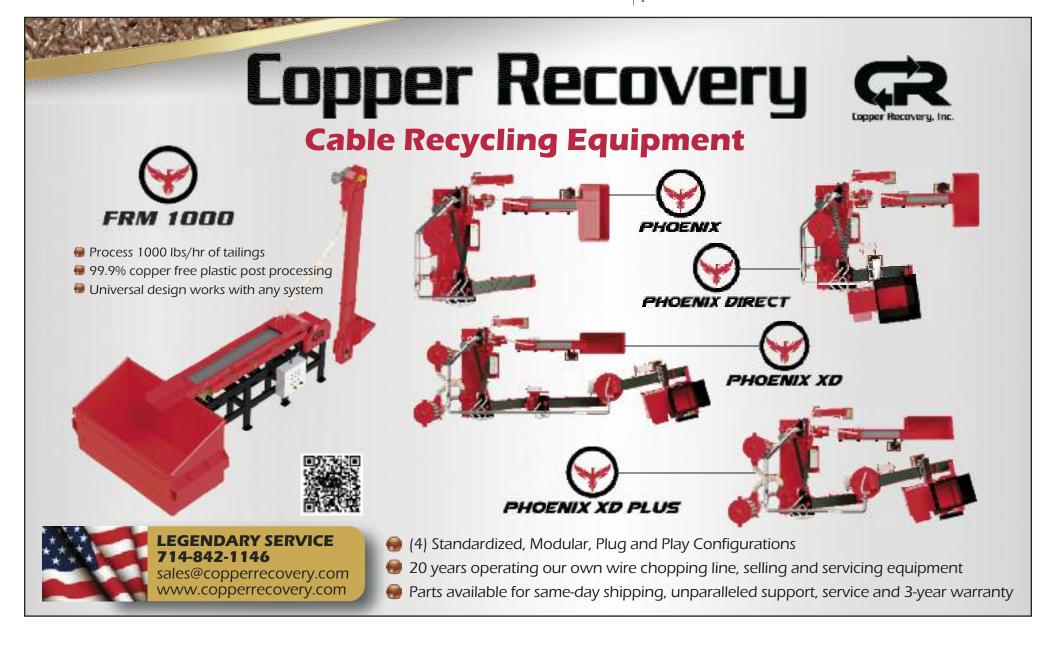
•Cost effective to recycle, whereby the cost to recycle does not exceed the value of its recycled materials;

•Free of hazardous materials that impede the recycling process;

•Maximizing the use of recycled materials and/or components within product manufacturing; and

•Having a net gain in the overall recyclability of the product while reducing its overall negative impact on the environment.

Interested parties can enter online before the January 21, 2022 deadline. Applicants will be notified by February 21,





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Struggles

■Continued from Page 1

sites. They also accept plant plastics and bulky rigid plastics by drop-off only.

"Our MRF sorts a 1-7 mix, HDPE Colored, HDPE Natura, and PET clear bottles," Melby said. "Plastic film is one of the materials that we frequently talk about. It is accepted curbside and at our drop-off sites. The bags have — no pun intended — been a mixed bag for us. We ask customers to bag them all up in one bag, but many people don't. It ends up being a lot of labor to sort them while resulting in very little volume."

In addition, while Emmet County asks that plastic bags be put in the papers, boxes and bags stream, many customers assume that plastic bags go in with the plastic containers in the containers stream. As such, they have engineered ways to capture bags from both lines to address this issue.

As Melby explained, for the most part, they see municipal recycling systems (and waste systems) bearing the brunt of the deluge of different plastic items as a huge labor and equipment issue.

"The Recycling Partnership is trying to address the problem of contamination generally through education and infrastructure improvements. They have shown success with using education to reduce contamination curbside," Melby said. "However, this does require unusual education spending to see results. Hopefully we will see recycling systems start to understand the critical

need to better fund education in order to achieve quality, efficient recycling."

Innovation At Its Best

Experts agree that in recent years, secondary markets for no/low-value, hard-to-recycle plastic have shrunk dramatically; this means that higher volumes of these materials end up in landfills. "This, coupled with the fact that more people have become aware of the adverse impact plastic waste has on our environment, means more people are asking tough questions about how their waste is being recycled," said Heidi Kujawa, chief executive officer of ByFusion, a company that developed its proprietary Blocker System. The system repurposes hard-to-recycle plastic, including marine debris and agricultural plastic, into an alternative, reusable building material called ByBlock.

As Kujawa further explained, hard-to-recycle plastics, such as films and flexible packaging, wreak havoc on waste management systems. They are difficult to sort, contaminate high-value loads, and jam systems, which leads to significant downtime. This downtime drives up operational costs and leads to higher service fees to municipalities.

"Sadly, the increased services fee coupled with the overall complexity of the problem often result in municipalities cutting curbside recycling programs altogether. It is difficult to grasp that multiple cities in states including Florida, Arizona, Alabama, Georgia, Kentucky, Ohio, Virginia, Texas and several others have eliminated or paused their recycling programs.

"In this moment of environmental crisis, we cannot afford to have any city

in the U.S. abandoning their recycling program," Kujawa said.

What makes ByBlocks unique is that no cleaning, sorting, or pre-processing is required - they are made using only plastic waste and are not dependent on other additives or fillers. The Blocker System, which is manufactured in the U.S., was designed to plug into existing waste management infrastructure; it can also be installed as a standalone system. Their modular nature allows ByFusion to configure each blocker to meet the volume demands of the waste management facility for maximum landfill diversion. ByFusion's zero waste Blocker Systems produce usable products on the spot while being repurposed into a building material that can be used to revitalize parks and neighborhoods, as well as for infrastructure projects.

"Unlike before, residents are now demanding more transparency from their government leaders and waste management service providers," Kujawa said. "They want to know where their waste is going and what is being done with it."

Continued Efforts

As part of Emmet County's educational efforts to reduce plastic contamination, the county now has a new website, a new guide, a social media campaign, repainted and re-labeled bins, purchased new signs for the drop sites, sent mailers to all households, created magnets for distribution and installed cameras at drop sites.

For plastics recycling to be more than a greenwashing mechanism, Emmet County sees three critical ways plastics must evolve:

•Switching away from fossil-fuel feed stocks. No amount of recycling will be meaningful if climate change is not contained and reversed.

•Developing products and systems that make refill/reuse a major part of the container space.

•Designing all single-use products to be made from single, highly recyclable resins and providing for the systems to collect and recycle nearly 100 percent of these products. This sounds ridiculous, but Michigan's bottle deposit system collects at these levels. Anything less is contributing to the plastics pollution problem.

"Municipalities can also work with industry groups such as TRP and Closed Loop Partners which may have leverage over brand owners to make substantial changes," Melby said. "It is hard not to foresee more of the same for plastics recycling: the plastics industry co-opting 'recycling' to deflect attention from the fundamental issues with plastics. The big brands in plastics make noise about doing the right thing, at the same time they lobby for limits on policy to address the issues with plastics."

Kujawa also pointed out that plastic is cheap to manufacture, strong and durable. "It was never designed to degrade or go away," she said. "This has created one of the most complex challenges of our time. We cannot rely on old recycling tactics for this new crisis – we need a fundamentally new model."



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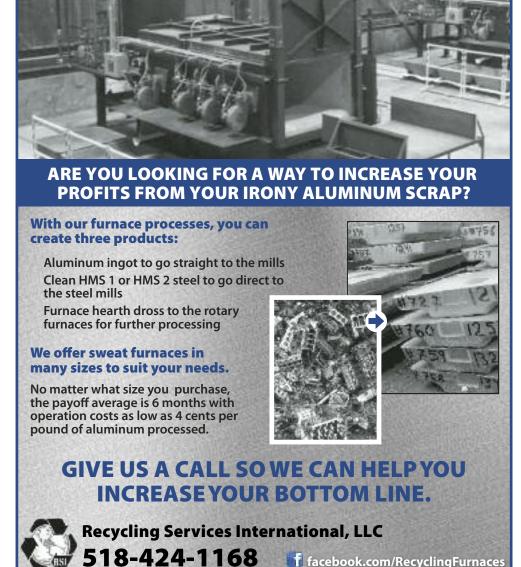
American Recycler is published 12 times per year, postage paid at Columbia, Missouri.

SUBSCRIPTIONS: Call our offices at 877-777-0043 or visit www.AmericanRecycler.com. US 1 year \$48; 2 years \$72.

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California carpet recycling program beats the odds

At a time of immense strain on recycling efforts across the country, carpet recycling saw significant progress in 2020 in California, according to the California Carpet Stewardship Program 2020 Annual Report. The California Program achieved an all time high recycling rate of 23.2 percent in Q4 2020, with an overall annual recycling rate of 21 percent in 2020. While it did not meet the target 24 percent goal, the recycling rate for this fossil-fuel-based material is up 107 percent over 5 years.

Sixty-eight percent of the carpet collected in 2020 in California was recycled. This percentage, called the yield, has grown dramatically over the life of the program from just 28 percent nine years ago, thanks to expanded processing capacity, growing markets for post-consumer carpet materials and technological advances. Major market development efforts, particularly in the creation of a market for carpet backing material, also known as PC4, has led to this outstanding 68 percent yield rate.

According to the California Carpet Stewardship Program's 2020 Annual Report:

•The California Program achieved an all-time program high recycling rate of 23.2 percent in Q4, with an overall annual recycling rate of 21 percent in 2020. This is short of the Program's 24 percent goal but reflects steady year-over-year compounded growth of 20 percent per year, despite a global pandemic and other challenges, while other materials' recycling rates have declined.

•67 million pounds of post-consumer carpet was diverted from California landfills.

•Over 72 million tons of greenhouse gas emissions were saved.

•\$16.9 million in subsidies supported collectors, processors and manufacturers of recycled carpet material.

•Nearly \$1.1 million in grant funding was paid in 2020. Since 2017, CARE has paid over \$8 million to grow carpet recycling.



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AUTOMOTIVE

GM will boost EV and AV investments to \$35 billion

General Motors Co. will increase its electric vehicle (EV) and autonomous vehicle (AV) investments from 2020 through 2025 to \$35 billion, representing a 75 percent increase from its initial commitment announced prior to the pandemic.

The company's enhanced commitment will accelerate its transformative strategy to become the market leader in EVs in North America; a leader in battery and fuel cell technology through its Ultium battery platform and Hydrotec fuel cells; and through Cruise, be the first to safely commercialize self driving technology at scale.

"We are investing aggressively in a comprehensive and highly-integrated plan to make sure that GM leads in all aspects of the transformation to a more sustainable future," said GM chair and chief executive officer Mary Barra. "GM is targeting annual global EV sales of more than 1 million by 2025, and we are increasing our investment to scale faster because we see momentum building in the U.S. for electrification, along with customer demand for our product portfolio."

GM first shared its vision of a world with zero crashes, zero emissions and zero congestion nearly four years ago. Key factors changing the landscape include strong public reaction to the GMC Hummer EV and Hummer EV SUV, the Cadillac LYRIQ and the Chevrolet Silverado electric pickup; GM and dealer investments in the EV customer experience; public and private investment in EV charging infrastructure; and the global policy environment.

"There is a strong and growing conviction among our employees, customers, dealers, suppliers, unions and investors, as well as policymakers, that electric vehicles and self driving technology are the keys to a cleaner, safer world for all," Barra said.



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BELLEVUE, IOWA | 563.872.4112 SALFS@LISCHECKEL COM | LISCHECKEL COL This announcement builds on GM's initial commitment announced in March 2020 to invest \$20 billion from 2020 through 2025, including capital, engineering expenses and other development costs, to accelerate its transition to EVs and AVs. In November 2020, the company increased its planned investment over the same period to \$27 billion.

These investments are enabled by GM's strong underlying business, including record EBIT adjusted in the last three quarters. GM now expects to deliver better than expected results in the second quarter despite the industry-wide impact of the semiconductor shortage.

The company now expects its first-half EBIT adjusted will be between \$8.5 and \$9.5 billion due to continued strong demand, better than expected results at GM Financial, and improved near term production from the pull forward of semiconductors from the third quarter. GM expects the second half of 2021 will continue to be complex and fluid.

GM's additional investments and new collaborations are far reaching and designed to create even greater competitive advantages for the company. They include:

•Accelerating Ultium battery cell production in the U.S. GM is accelerating plans to build two new battery cell manufacturing plants in the U.S. by mid-decade to complement the Ultium Cells LLC plants under construction in Tennessee and Ohio. Further details about these new U.S. plants, including the locations, will be announced at a later date.

•Commercializing U.S. made Ultium batteries and Hydrotec fuel cells. In addition to collaborating with Honda to build two EVs using Ultium technology – one SUV for the Honda brand and one for the Acura brand – GM has signed a memorandum of understanding to supply Ultium batteries and Hydrotec fuel cells to Wabtec Corporation, which is developing the world's first 100 percent battery powered locomotive.

Separately, GM will supply Hydrotec to Navistar, Inc., which is developing hydrogen-powered heavy trucks to launch in 2024 and Liebherr-Aerospace, which is developing hydrogen-powered auxiliary power units for aircraft. Lockheed Martin and GM also are teaming up to develop the next generation of lunar vehicles to transport astronauts on the surface of the Moon, leveraging GM's expertise in electric propulsion and autonomous technology.

■ For more AUTOMOTIVE news, see Page B1

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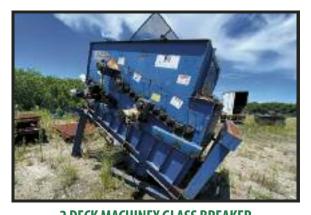
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METALS

Steel imports up 25.5 percent

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons) *Preliminary 2021 2020 % Change 2021 Annual vs. 2020 (12 months **SOUTH KOREA** 163 299 2,690 2,015 33.5% 67 1,001 767 30.5% JAPAN 77 840 725 15.9% **GERMANY** 80 72 56 835 562 48.5% **TURKEY** 105 **TAIWAN** 77 808 573 41.1% 73 101 611 314 94.4% **VIETNAM** 463 **NETHERLANDS** 51 506 9.3% 51 51 416 504 -17.4% **BRAZIL** 28 **All Others** 1,429 1,334 13,607 10,216 33.2% **TOTAL** 2,102 2,081 21,314 16,139 32.1%

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,767,000 net tons (NT) of steel in August 2021, including 2,102,000 net tons of finished steel (down 10.1 percent and up 1.0 percent, respectively, vs. July final data). Through the first 8 months of 2021, total and finished steel imports are 20,564,000 and 14,209,000 net tons, up 25.5 percent and 26.9 percent, respectively, vs. the same period in 2020.

Finished steel import market share was an estimated 21 percent in August and is estimated at 20 percent over the first eight months of 2021. Key finished steel products with a significant increase in imports in August compared to July are hot rolled sheets (up 22 percent), sheets and strip hot dipped galvanized (up 18 percent) and mechanical tubing (up 14 percent). Products with a significant year-to-date (YTD) increase vs. the

same period in 2020 were hot rolled sheets (up 94 percent), plates in coils (up 67 percent), sheets and strip all other metallic coatings (up 50 percent), wire rods (up 46 percent), cut lengths plates (up 45 percent), heavy structural shapes (up 27 percent), wire drawn (up 23 percent), hot rolled bars (up 22 percent), sheets and strip hot dipped galvanized (up 19 percent) and cold rolled sheets (up 18 percent).

In August, the largest volumes of finished steel imports from offshore were from South Korea (163,000 NT, down 45 percent from July final), Taiwan (105,000 NT, up 36 percent), Germany (80,000 NT, up 16 percent) and Japan (77,000 NT, up 16 percent). For the first 8 months of 2021, the largest offshore suppliers were South Korea (1,793,000 NT, up 29 percent vs. the same period in 2020), Japan (667,000 NT, up 26 percent) and Germany (560,000 NT, up 18 percent).



Steel import permit applications increase

Based on the Commerce Department's most recent Steel Import Monitoring and Analysis (SIMA) data, the American Iron and Steel Institute (AISI) reported that steel import permit applications for the month of September totaled 2,865,000 net tons (NT). This was an 8.8 percent increase from the 2,633,000 permit tons recorded in August and a 3.3 percent increase from the August final imports total of 2,773,000.

Import permit tonnage for finished steel in September was 2,144,000, up 1.7 percent from the final imports total of 2,108,000 in August. For the first nine months of 2021 (including September SIMA permits and August final imports), total and finished steel imports were 23,434,000 NT and 16,358,000 NT, up 32.8 percent and 32.3 percent, respectively, from the same period in 2020. The estimated finished steel import market share in September was 22 percent and is 20 percent year-to-date (YTD).

Finished steel imports with large increases in September permits vs. the August final imports include line pipe (up 107 percent), oil country goods (up 94 percent), reinforcing bars (up 73 percent), tin free steel (up 59 percent), cut lengths plates (up 34 percent), wire

rods (up 21 percent) and standard pipe (up 17 percent). Products with significant year-to date (YTD) increases vs. the same period in 2020 include hot rolled sheets (up 93 percent), plates in coils (up 72 percent), light shapes bars (up 65 percent), wire rods (up 54 percent), sheets and strip all other metallic coatings (up 54 percent), cut lengths plates (up 51 percent), oil country goods (up 36 percent), heavy structural shapes (up 29 percent), hot rolled bars (up 25 percent), wire drawn (up 24 percent), cold rolled sheets (up 24 percent), sheets and strip hot dipped galvanized (up 20 percent), reinforcing bars (up 14 percent) and tin plate (up 12 percent).

In September, the largest finished steel import permit applications for off-shore countries were for South Korea (277,000 NT, up 67 percent from August final), Turkey (113,000 NT, up 57 percent), Vietnam (109,000 NT, up 50 percent), Taiwan (97,000 NT, down 7 percent) and Germany (96,000 NT, up 20 percent). Through the first nine months of 2021, the largest offshore suppliers were South Korea (2,073,000 NT, up 37 percent from the same period last year), Japan (741,000 NT, up 26 percent) and Turkey (669,000 NT, up 57 percent).



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

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METALS

Heavy metals shipping surges in August

Demand for construction and manufacturing materials both domestically and internationally continued on the Great Lakes-St. Lawrence Seaway through August as shipments of iron ore, steel, cement and stone surged through the region.

According to the latest figures, St. Lawrence Seaway cargo volumes from March 22 to August 31 totaled 20.7 million metric tons, up 5.2 percent over the same time period in 2020. One of the commodities leading the charge was iron ore tonnage, up nearly 30 percent compared to the same period in 2020. The significant rise was partly due to an increase in Minnesota Iron Range pellets being transported from the Port of Duluth-Superior and Silver Bay to Quebec ports and then loaded onto ocean carriers for export overseas.

Year-to-date general cargo shipments were up 60 percent, mainly due to steel imports from European countries to cities throughout Ontario and the U.S. Great Lakes states.

Year-to-date dry bulk shipments, including stone, cement, gypsum and other materials, were up 13 percent. These strong cargo categories were partly offset, however, by an 18 percent decline in grain shipments (including both Canadian and U.S. volumes).

'Great Lakes-St. Lawrence ships and ports specialize in efficiently transnow fueling North America's manufacturing rebound and general economic recovery. We expect this surge in materials through our trade corridor to continue in the coming months," said Bruce Burrows, president and chief executive officer of the Chamber of Marine Com-

Slowing slightly from a torrid July, total maritime tonnage through the Port of Duluth-Superior topped 3.8 million short tons in August 2021. For the season, more than 19.1 million short tons transited the port through Aug. 31, which ranks slightly ahead of the fiveseason average and more than 40 percent ahead of the 2020 pace.

"August serves as the unofficial halfway mark of the Great Lakes shipping season, and with total tonnage through Duluth-Superior closing the month almost 5 percent ahead of the five-season average, it certainly qualifies as a good first half," said Deb DeLuca, executive director of the Duluth Seaway Port Authority.

Registering at 6,159,559 short tons, cargo through the Port of Toledo remained strong through August 2021 exceeding 2020 totals by over 25 per-

"Looking back, we have not surpassed 6 million tons through August since 2011," said Joseph Cappel, vice president of business development at the Toledo-Lucas County Port Authority.

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Doherty Steel receives pollution prevention award

Doherty Steel Inc., a steel fabricating company located in Paola, Kansas, was recently selected to receive an EPA Region 7 2021 Pollution Prevention Award.

Pollution Prevention (P2) is any practice that reduces, eliminates or prevents pollution at its source. The EPA Region

7 P2 Awards celebrate organizations across the Midwest who have successfully implemented pollution prevention projects.

Doherty Steel Inc. was selected for the award for pollution prevention efforts, which included purchasing an aerosol can puncture system to capture fumes and remaining liquid paint, leading to significant cost savings and hazardous waste reductions. Additionally, they installed solar panels and replaced fluorescent light bulbs with LEDs, producing and conserving energy, and stopped purchasing bottled water and installed a water cooler for employees. The company is also committed to fixing all air and gas leaks, per the recommendations of a K-State Pollution Prevention Institute intern.

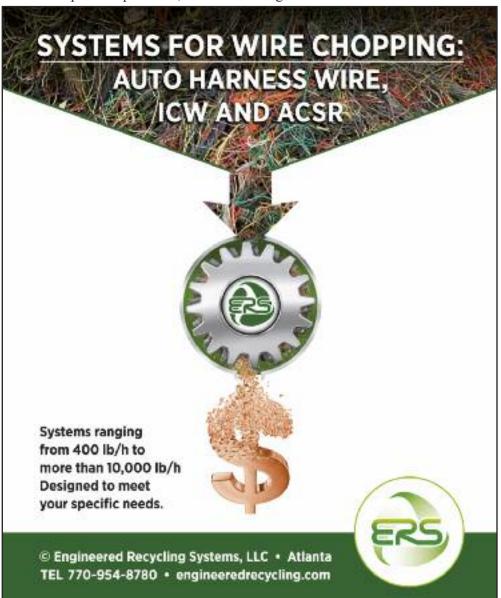
"Doherty Steel Inc. has built a culture of pollution prevention, and I commend them on their commitment. They have taken a holistic view of their operations and looked for opportunities to reduce or prevent pollution, from the



solar panels to the water cooler," said acting EPA administrator Edward H. Chu. "I'm pleased to recognize their hard work with this P2 Award."

Doherty Steel Inc. started in 1959 with the name Doherty Ornamental Iron Inc. and in a small barn where the owner primarily made handrail. Within the first 15 to 20 years, structural steel became the company's focus. A brand change in 2006 renamed the company Doherty Steel Inc. Today, Doherty Steel Inc. is still owned by the same family and continues to grow. The company's focus is fabricating and erecting data centers, health and educational buildings, churches, mixed-use development, and office buildings. Doherty Steel Inc. currently employs approximately 50 people in the shop, 35 in the office and 50 to 60 people on field crews, which are solely made up of Local 10 Ironworkers.

In addition to Doherty Steel Inc., two other entities have received EPA Region 7 2021 P2 Awards.



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Key steps to improve your equipment stability

Contributed by Josh Swank, vice president of sales and marketing, Philippi-Hagenbuch Inc.

Equipment stability is one of the key safety and productivity challenges waste operations must address for drivers to effectively navigate through unstable land-scapes of refuse. Even the most experienced waste management operators need reliable equipment that allows them to focus on the job rather than the risk of a rollover.

Here are three factors to consider when upgrading hauling and dumping equipment for increased stability, safety and efficiency in your operation.

Equipment Stability

Traditional dump trucks are one of the primary pieces of equipment used to navigate the uneven terrain of waste facilities. Unfortunately, they also often succumb to instability. Due to the high center of gravity as the truck bed raises and the soft surface, traditional end-dump trucks run a high risk of tipping and rolling risking crewmember safety. On top of the potential injuries and workers' compensation claims, there's damage to the truck and cost of repairs to consider when rollovers occur. Such accidents can cost more than \$250,000 and be a major loss for companies, especially with insurance processing and payment delays.

Tailored solutions can be engineered to meet an operation's exact requirements, with stability at the top of the list. The expanded width and low center of gravity available with custom bodies increases equipment stability when lifting to dump or driving up steep grades. From adjusting the width and height of the truck bodies to

match loading equipment and surrounding structures, to adding a special lining to the floor and corners of the body so refuse doesn't get stuck, the options are endless.

Volumetric Capacity

Operating efficiency can be a challenge for traditional dump trucks when they weigh less than the high volumes of refuse they carry. Because of this setback, hauling loads can be as little as 25 percent of their rated capacity. Some manufacturers may recommend sideboards to increase the bed's volume, but this does little for weight dispersion and makes for an even more top-heavy load. To combat these issues, look for a custom manufacturer that offers a true high-volume refuse truck body. The unique body design uses outwardly angled sidewalls for maximum stability while increasing hauling volumes. Additionally, the tapered design minimizes sidewall abrasion during loading, extending the life of the body. Hauling extra volume safely is only achieved when carefully balancing the lowest loading height, lowest center of gravity and best weight distribution possible, rather than simply tackling volume alone.

Ejector Blade Technology

Adding a rear eject refuse body prevents operators from having to raise the bed and risk the truck becoming unstable when dumping. Instead, the operator simply pushes a button to activate an ejector blade which pushes out the refuse, even on the move. This increases safety throughout any operation. For example, when navigating the uneven terrain of a waste facility, a rear eject refuse body can easily push material out even when backed up onto a refuse hill or driving atop the

mounds of refuse. With end dump bodies it is not only unsafe, but it's practically an impossible task to achieve the proper angle of repose to dump on a hill.

Using a rear eject also minimizes the amount of supplementary refuse spreading. Traditionally, multiple dozers or refuse compactors work constantly to spread out mounds of dumped material. Rear eject bodies more evenly spread the material during dumping than end-dump trucks, requiring less work from compactors and dozers. The spreading savings allow operations to effectively operate with one-third fewer trucks for post-processing tasks.

Custom bodies, high-volume bodies and rear ejects offer unbeatable stability, but not all are created equal. Working with the right custom manufacturer will enable a rear eject body to do much more than just safely spread material while driving — from hauling waste and spreading grit for road maintenance to applying the daily cover.

Steps Toward Safety

Waste facility managers have a rare opportunity to address safety issues and enhance productivity with just a few fleet changes. Partnering with a custom equipment manufacturer for a one-of-a-kind hauling solution can help you get there.



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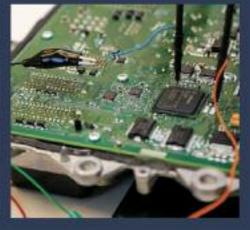


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BUSINESS BRIEFS

Glass Recycling Foundation Board updated

The Glass Recycling Foundation (GRF) announced the election of a new treasurer to the executive board and the appointment of a new board member.

John Eichbauer, vice president of operations for Knauf Insulation North America, has more than 25 years of supply chain operations and capital project planning experience. He has been on the Foundation's board since 2020 and this year was elected as the treasurer, formerly held by Ronald Holmes, director of packaging and technology at Diageo. Holmes continues on the nine-member GRF board.

Newly elected board member, Brian Kristofic, director of sustainability at Ardagh Glass Packaging North America, brings over 20 years of experience in corporate finance, strategy development, and government affairs to the board member position.

The GRF aims to support community glass recycling efforts by providing matching grants to start or expand programs. In February 2021, the GRF awarded its first grant of \$10K to Erie County, Pennsylvania, toward the purchase of glass recycler drop-boxes for its collaborative glass drop-off pilot project, resulting in 136 tons of glass collected in just 6 months. The GRF's Don't Trash Glass Campaign, in partnership with GlassKing and Corona, promotes glass recycling bar and restaurant glass in Chicago, Illinois, and Phoenix, Arizona. Corona Protect Our Beaches program pilot debuted at bars and restaurants September 2021 in Columbus, Ohio.

Nucor affiliates acquire two recycling businesses

Nucor Corporation announced two acquisitions on behalf of The David J. Joseph Company. The addition of these new recycling locations, representing a 10 percent growth in capacity, is consistent with Nucor's growth strategy and demonstrates their commitment to expanding the regional recycling platforms supporting their steel mills.

Advantage Metals Recycling (AMR) completed the purchase of Grossman Iron and Steel located in St. Louis, Missouri. This acquisition brings AMR's total number of recycling facilities to 12.

Trademark Metals Recycling LLC (TMR) has agreed to purchase the assets of Garden Street Iron & Metal Inc. located in Fort Myers, Florida. This acquisition brings TMR's total number of recycling facilities to 26.

K&S Tire Recycling names Lukavsky as new president

K & S Tire Recycling, Inc., a scrap tire processor in the Midwest U.S., has hired Mike Lukavsky, a seasoned veteran of the industry, as president.

Lukavsky's career in the tire industry spans 29 years beginning with a job mounting tires in high school. He has worked for major tire retail outlets, manufacturers and Liberty Tire for the last decade. Located in Chicago Heights, Illinois, K & S Tire Recycling hauls and processes over 2 million scrap tires per year with the goal of "preserving the environment, one tire at a time" by finding end users for the recycled rubber.





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November 2021, Page A15 **American Recycler**

BRIEFS

Yanmar fills president and director roles

■ Yanmar Compact Equipment North America, encompassing the Yanmar Compact Equipment and ASV Holdings Inc. brands, announced Tate Johnson as president, Lee Thole as director of aftermarket and David Gannon as director of channel development.

Johnson joined the organization as commercial director in September 2020, overseeing sales, national accounts, channel development and marketing. He brought extensive leadership experience with deep technical, channel development and business leadership expertise within the commercial industry. As president, Johnson will lead and further develop the growth initiatives for the company as the two brands progress in a joint vision of Yanmar Compact Equipment North America.

Thole brings more than 20 years of experience, with a strong background in parts, service, and overall business operations. Thole's responsibilities as director of aftermarket will include strengthening several post-sales support functions as well as leading further development and implementation of the aftermarket strategy.

Gannon joins his role with 30 years of multi-industry experience. His position as director of channel development will involve working closely with the dealer network, both by recruiting dealers and assisting existing dealers with being successful.

CoPeace partners with Compost Colorado

CoPeace entered into a strategic partnership agreement with Compost Colorado (CoCo) to provide impact and business expertise and investment. CoPeace, through its subsidiaries, CoPeace Finance (CoFi) and CoPeace Marketing (CoMa), will provide financial, marketing and operational support and services to Compost Colorado. Additionally, CoPeace will add CoCo to its strategic investment portfolio of hold-

Founded in 2018, Compost Colorado provides at-home compost pickup, turning food waste, paper products, and plant materials into living soil. CoCo offers an easy and accessible way for anyone to participate in reducing greenhouse gases, reducing the reliance on landfills, and supporting the local community. CoCo's innovative 'bucket swap' model leverages their collection routes to integrate a sustainable delivery service, allowing members to conveniently shop on their online store to source local, eco-friendly products.

The agreement also includes equity stake in Compost Colorado, further aligning the mission of both companies. CoCo becomes the sixth company of the CoPeace holding company portfolio with the strategic investment.

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— Thomas A. Edison



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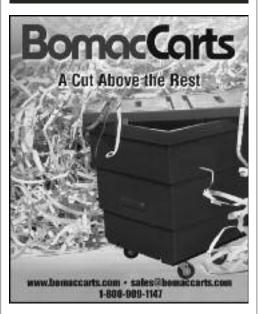
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FOCUS on AUTOMOTIVE

SECTION B www.AMERICANRECYCLER.com NOVEMBER 2021

Embracing a new avenue of automotive recycling: electric vehicles

by MAURA KELLER

mkeller@americanrecycler.com

Faced with high energy costs, environmental concerns by consumers, and government regulatory measures, the world's leading automakers are embracing electric vehicle (EV) technology like never before. In fact, in early 2021 General Motors pledged to stop making gasoline-powered vehicles by 2035 and will be embracing a future of all EVs, all the time. So what does this mean for the automotive recycling industry in terms of the handling of lithium ion batteries (LIBs) and other components in these vehicles? While electric vehicles are a feat of technology wizardry, when their lives come to an end, or at least their batteries die, the cells of LIBs can release toxic elements into the environment. That's why there's a significant focus on the recyclability and renewability of LIBs in the automotive recycling arena.

Gavin Harper, a Faraday Institution Research Fellow, and lead author of "Recycling Lithium Ion Batteries for Electric Vehicles," said the automotive recycling industry will need to change and adapt in order to deal with electric vehicles. Firstly, lithium ion batteries (LIBs) must be removed before vehicles are shredded. Given the size and weight of these battery packs, this will require equipment for manual handling.

"Operatives will need to be trained to deal with disconnecting the high voltage interconnects safely with insulated tools. There will also need to be the development of procedures for safely handling and shipping batteries onwards for remanufacture, reuse or recycling," Harper said. "There are also some risks associated with crash-damaged batteries. Given the additional labor this adds to vehicle recycling, in the long-run, this operation will become automated in order to speed the recycling of vehicles and remove employees from risky operations."



Electric vehicles are here to stay, making a successful recycling process imperative.

Also, Harper stressed that attention should also be given to electric motors. As he explained, at the moment, if you put an EV motor with a permanent magnet through an auto shredder, you will end up with fine magnet dust that sticks to auto shredders causing premature aging, as it acts as a fine abrasive.

"It also renders the magnetic material unsuitable for onwards recycling or further use," Harper said. "Motors should also be removed for remanufacture, reuse or recycling prior to shredding the vehicle."

Also, as the EV revolution progresses, manufacturers may change to using different body structures in their vehicles. For example, the BMW i series use more carbon fiber in the body and these present unique recycling challenges.

Eric Schwartz, president of Autocar Industries, LLC in Hagerstown, Indiana, said he sees two key issues plaguing the electrification of today's vehicles: the scarcity of materials needed for the batteries and how to effectively recycle them.

As such, Schwartz said the automotive industry needs to find a way to reduce the number of metals needed for EV batteries.

"While there is not currently a shortage in lithium or nickel, scaling to the predicted amount needed might be difficult," Schwartz said. "Cobalt is the bigger concern with two-third of the global supply coming from the Democratic Republic of Congo. Finding effective and environmentally friendly ways to recycle these metal components from the lithium-ion batter-

ies will become even more important than ever. However, because the lifespan of lithium-ion batteries is about 20 plus years, we still have time but the issue needs to remain a priority."

In May, Autocar announced an emissions-free, all-electric version of its terminal tractor, the Autocar E-ACTT. Autocar is the only terminal tractor original equipment manufacturer with a single OEM-developed and produced electric vehicle system. The E-ACTT makes a great work truck even better by helping meet regulatory mandates for the vocational truck industry in reducing fuel consumption by 24 percent by the model year 2027 and in California, to transition diesel trucks to zero emission trucks.

See ELECTRIC VEHICLES, Page B6





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Ford, Redwood Materials teaming up on closed-loop battery recycling

Ford Motor Company and Redwood Materials are working together to build out battery recycling and a domestic battery supply chain for electric vehicles. Ford and Redwood's goal is to make electric vehicles more sustainable, drive down the cost for batteries, and ultimately help make electric vehicles accessible and affordable for more Americans.

Ford and Redwood are collaborating to integrate battery recycling into Ford's domestic battery strategy. Redwood's recycling technology can recover, on average, more than 95 percent of the elements like nickel, cobalt, lithium and copper. These materials can be reused in a closed-loop with Redwood moving to produce anode copper foil and cathode active materials for future battery production. By using locally produced, recycled battery materials, Ford can drive down costs, increase battery materials supply and reduce its reliance on imports and mining of raw materials.

"Ford is making electric vehicles more accessible and affordable through products like the all-electric F-150 Lightning, Mustang Mach-E and E-Transit, and much more to come," said Jim Farley, Ford president and chief executive officer. "Our partnership with Redwood Materials will be critical to our plan to build electric vehicles at scale in America, at the lowest possible cost and with a zerowaste approach."

Ford is investing more than \$30 billion in electrification through 2025, including the collaboration between Ford and Redwood, which will help deliver on Ford's plans to localize the battery supply chain.

This builds on Ford's previously announced plans to scale battery production through multiple BlueOvalSK battery plants in North America starting mid-decade. By building out a domestic, sustainable supply chain with recycled materials, Ford can drive down battery costs and help protect the environment. BlueOvalSK is the U.S. joint venture that Ford and SK Innovation intend to form, subject to definitive agreements, regulatory approvals and other conditions.

Previously, Redwood announced it will produce strategic battery materials, supplying anode copper foil and cathode active materials to U.S. partners. Redwood plans to transform the lithium-ion battery supply chain by offering large-scale sources of these domestic materials to reduce the cost and environmental footprint of electric vehicle production. The local supply of these two materials is a key part of Ford's commitment to reduce the environmental impact of battery manufacturing and continue to ramp up electric vehicle production in the U.S.

"We are designing our battery supply chain to create a fully closed-loop lifecycle to drive down the cost of electric vehicles via a reliable U.S. materials supply chain," said Lisa Drake, Ford's North America chief operating officer. "This approach will help ensure valuable materials in end-of-life products re-enter the supply chain and do not wind up in landfills, reducing our reliance on the existing commodities supply chain that will be quickly overwhelmed by industry demand."

Redwood Materials, founded by JB Straubel and based in northern Nevada, is creating a circular supply chain for batteries and helping partners across the electric vehicle and clean energy industries by providing pathways, processes, and technologies to recycle and remanufacture lithium-ion batteries.

"Increasing our nation's production of batteries and their materials through domestic recycling can serve as a key enabler to improve the environmental footprint of U.S. manufacturing of lithium-ion batteries, decrease cost and, in turn, drive up domestic adoption of electric vehicles," said Straubel, Redwood Materials chief executive officer. "Redwood and Ford share an understanding that to truly make electric vehicles sustainable and affordable, we need to localize the existing complex and expensive supply chain network, create pathways for end-of-life vehicles, ramp lithium-ion recycling and increase battery production, all here in America."

Longer-term, Ford and Redwood plan to work together to collect and disassemble end-of-life batteries to help reduce the cost associated with battery repairs and raw materials to manufacture all-new batteries.

To further advance these business opportunities, Ford invested \$50 million into Redwood Materials to help the company expand its U.S. footprint.

Fuel conversion program gives five grants

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) announced five organizations that will receive grants to replace old diesel trucks with new all-electric versions. More than \$1.5 million in funds will be awarded under EGLE's Fuel Transformation Program to support the transition to zero-emission vehicles.

The organizations to receive funds include Cintas Corporation, city of Ann Arbor, Padnos, Granger Container Services, and the city of Grand Rapids. These projects will reduce greenhouse gas emissions and improve air quality in a total of nine counties including: Clinton, Eaton, Ingham, Kent, Livingston, Oakland, Ottawa, Washtenaw and Wayne. Four of these counties are in non-attainment areas for the 2015 National Ambient Air Quality Standard for ozone, and five are high asthma burden areas.

Collectively these projects will reduce 1,809.43 metric tons of carbon dioxide equivalents and 5.72 metric tons of nitrogen oxide emissions over the life of the vehicles. "Replacing older, diesel vehicles with all-electric vehicles aligns with the state's Mi Healthy Climate Plan and will increase the adoption of zero emission vehicles," said Elizabeth M. Browne, director of EGLE's Materials Management Division. "Reduced emissions will help people have cleaner air to breathe and fewer health concerns."

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Partners work to reduce emissions

Lazer Spot announced its partnership with SRECTrade to advise and manage the company's environmental commodities as part of further accelerating Lazer Spot's long time drive to reduce vehicle emissions. As a leader in the spotting industry Lazer Spot has reduced emissions for years, operating 100 percent electric yard trucks since 2017. Informed by these early trials, Lazer Spot has accelerated the deployment of 100 percent electric yard trucks aided by SRECTrade's work to optimize funding provided by environmental commodity programs.

Lazer Spot is ahead of the standard industry idle time by almost 30 percent, saving over 1.5 million gallons of fuel and eliminating over 32 million pounds of CO2 emissions. Two years into this initiative Lazer Spot began deploying its first all-electric yard trucks and is now more aggressively transitioning its fleet while successfully balancing the benefits against higher initial deployment costs.

SRECTrade's ability to source renewably generated electricity to power electric trucks is a key part of Lazer Spot's sustainability strategy. "We wanted a turnkey solution from a partner that could help educate, advise and operationalize these tough new regulatory programs," said David Stringer, Vice president of Innovation at Lazer Spot. "We also recognized that with our scale, we must leverage every resource to make the tech more affordable, approachable and ultimately more sustainable for our customers and the communities in which we operate – the very same communities in which we live.'

Stringer noted that the transition to EVs has been cost effective and beneficial in many ways. The zero-emission vehicles have led to more efficient workdays, safer working conditions, and greater employee retention. It's a win for everyone: employees, customers, the environment and the bottom line.

SRECTrade advises on and manages Lazer Spot's environmental commodity portfolio maximizing benefits from complex clean fuel and renewable energy programs.

Cash prizes available for winners of URG's annual virtual car show

The National Auto Body Council® announced new cash prizes for the top entries in the NABC® Rides for a Reason Virtual Car Show Presented by United Recyclers Group. Winners in each of the car show categories will take home bragging rights plus a \$100 cash prize, and the best in show winner, to be selected by NASCAR star Jeff Gordon, will take home \$250.

The show is an innovative fundraising event that will allow car lovers across America to join NABC members, their company employees and auto enthusiasts to put their passion and pride on display.

"We have seen some incredible entries in the NABC Rides for a Reason Virtual Car Show presented by URG so far," said Clint Marlow, chairman of the board of the National Auto Body Council and director of claims for Allstate. "We want to continue to encourage car lovers from across the country to register their rides and show off their pride, and hope to reward them for their efforts with a distinctive plaque and a prize they can spend on their next restoration project."

The judging panel includes some of the best known stars of the automotive world, including:

•Best of Show - Jeff Gordon, Axalta Global Ambassador, vice chairman of Hendrick Motorsports, fourtime NASCAR Cup Series champion and NASCAR Hall of Fame member

•Antiques/Vintage – Jeff Hammond, two time NASCAR Cup champion crew chief, and NASCAR TV and radio analyst, is a longtime car builder, restorer and racer

•Hot Rods, Rat Rods and Customs - Charley Hutton, car designer and builder, multiple Ridler award winner and former member of American Hot Rod and Foose Design build teams

•Classics: Best of the 50s, 60s and 70s – to be announced

•Old School Muscle Cars: 60s and 70s - Bill Elliott, NASCAR Hall of Fame Member, 1988 NASCAR Cup Champion and 16 time Most Popular Driver in NASCAR

•Modern Muscle: 1980s to **Today** – Lauren Fix, nationally-recognized automotive expert and host of His Turn-Her Turn[™] and Car Coach

•Trucks – Mark Oja, founder of California Speed and Custom and A-Team Build Lead on the classic "Overhaulin" series

•Motorcycles - Kyle Morley, owner and operator of XecutionStyle Kustom Paint and a leader in custom paint designs for motorcycles

•Wild Card Presented by Allstate - Clint Marlow, Claims director for Allstate, and Ian Roussel, custom car builder and host of Full Custom Garage on MAVTV

 Best Paint Presented by Axalta Keith Bell, Distribution and Industry Relations director, North America, for **Axalta Coating Systems**

The USA's most spectacular virtual car show will once again feature top cars, truck and motorcycles from NABC members, virtual car clubs, featured car corral, automotive stars and celebrity judges. Proceeds support the National Auto Body Council mission of Changing and Saving Lives through initiatives like the NABC Recycled Rides program, NABC First Responder Emergency Extrication program and NABC Drive Out Distraction program.

GM will be first customer for Nucor's Econia net-zero steel

Nucor Corporation launched Econiq[™], a line of net-zero carbon steel products. Building the green economy and the necessary infrastructure requires clean, advanced steel products. By introducing Econiq, Nucor is providing confidence for steel consumers to know they are purchasing the lowest greenhouse gas (GHG) emissions steel product available. A first of its kind at scale for the U.S. steel industry, Econiq will be available across Nucor's steelmaking product lines, the broadest and most diversified offerings in the U.S. market.

General Motors will receive the Econiq net-zero steel beginning in Q1 2022 and it is projected that all steel purchased by GM from Nucor will be net carbon neutral by the end of 2022.

The U.S. is the cleanest place in the world to make steel, accounting for less than 2 percent of the GHG emissions from the global steel industry. Nucor's use of recycled scrap-based electric arc furnace technology at all of its 24 U.S. mills enables them to operate at 70 percent below the current GHG intensity for the steel industry and meet even the most aggressive emission intensity benchmarks. Econiq steel will utilize 100 percent renewable electricity and high quality carbon offsets to negate any remaining Scope 1 and 2 emissions.



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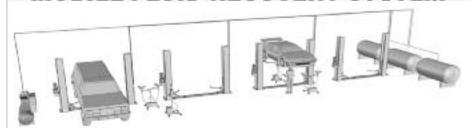
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EQUIPMENT TLIGH

Crushed Car Haulers

by MARY M. THORNTON

maryt@americanrecycler.com

In the U.S. alone, approximately 12 to 15 million vehicles reach the end of their use annually. In the early process of recycling autos, they are typically crushed. This aids in travel efficiency, as they typically must be moved to another location for further processing. Upon process completion, auto recycling keeps 11 million tons of steel and 800,000 nonferrous metals out of landfills. There are a few different crushed auto hauling vehicles that are useful in the recycling process and Benlee is just one of the companies that manufacture them.

"For the global, continually evolving auto recycling market, Benlee offers a full line of crushed car trailers to meet any requirement. Ranging from 48' to 53' in an 8", 16", double drop or even flat deck configuration, with either a 'sliding tarp' enclosure system or a gate system, we can supply a unit that provides a cost effective and reliable solution for moving crushed cars," Greg Brown, owner said. In fact, Benlee has the U.S. Patent on the 'sliding tarp' system that is used in the market. Standard features include a fluid containment system In addition to reinforced side walls for increased reliability. Available options include air ride as well as an auto inflate system, lift axles, aluminum wheels and more.

"For almost 50 years, Benlee has been one of the top names in the industry and manufactures the best roll off, crushed car, open top gondola trailers, logger trucks and roll off trucks," Brown stated. "Our 12 acre facility sits in the heart of manufacturing America in Romulus, Michigan, near Detroit. Quality and support are a

hallmark at Benlee, with five service bays, two frame straightening bays and a spare parts operation. Our in-house manufacturing brings together a highly experienced crew of experts that design, service, sell and support the best roll off dump trailers and trucks, as well as crushed car units and other specialty vehicles. At our website, you may also view our online parts operation for rollers, sheaves, tie downs and more," he added.

Chuck Oppedal, semitrailer sales manager, said

"A Demco gondola scrap trailer provides strength, flexibility, and reliability unmatched by the competition for the most demanding jobs – including the transport of crushed cars. Our gondola scrap trailers are made from tough, Hardox steel or mild steel for less rigorous needs. Available in 3' to 8' heights and lengths of 40' to 53' to match the needs of every job, no matter how unique. The plate steel floors are available in 3/16" Hardox 450 or A656 Grade 80 and 1/8" Hardox 450 or 11 ga. mild steel walls. These trailers can take whatever the job demands and then some, and their reliability means you can use them continuously without fear of breakdown or replacement."

Featuring 22.5k tandem axles with one axle ABS brake, as well as 3leaf, heavy duty suspension, a Demco scrap trailer is in full compliance with all laws and DOT regulations, even featuring conspicuity tape and rubber mounted lights. Demco gondola scrap trailers also feature a sealed wiring system, color coded break lines, two-

> speed landing gear, and a beautiful Diamond Vogel polyurethane primer and paint exterior, all phosphate washed and caulked prior to paint, helping each trailer to work and look great for years.



Benlee, Inc.

Options include ABS brakes on the second axle, I.L.O. standard lights, a load binder or vented tail gate, as well as spring and air ride configurations. Also, gondola scrap trailers can be customized with 25k tandem axles up from 22.5k axles, enabling a hefty 80,000 lb. GVWR - in addition to 8.62" brakes and Load Range H tires, which makes even the most overwhelming loads possible. Additional customization options include a toolbox, spare tire carrier and aluminum rims.

Oppedal added, "A Demco scrap trailer delivers dependability and flexibility for any job, from local use to general utility, medium range, and even extended highway needs. Because of the varying size of various scrap metals, a gondola trailer reduces the number of hauling events required, which can help make a job more profitable via fewer resources and time used. While most use these trailers to transport scrap metal for recycling or disposal, they're also great for transporting materials during construction jobs and even moving the odd boulder or two. With a Demco gondola scrap trailer, there's no limit to the amount of material you can transport, and our rigid construction and long-lasting paint and trim means many years of faithful service."

Repurposed Trailers builds five types of crushed car haulers, including the open side enclosure, retractable If a standard scrap flip side gate and the clam shell flip trailer leaves you side wire mesh enclosure gate prod-wanting more, Demco ucts. With both products, the trailer still has you covered. easily rises upward for safe loading

and unloading of cargo and can include either option for operation: a fully automatic, PTO hydraulic or an electric system retractable flip side wire mesh gate. When the gate enclosure is not flipped to the open position, the gate rests flush against the full open side of the trailer. "We offer a choice of either a straight floor or single drop configuration. We also offer tri axle, spread or closed tandem suspension options. Sometimes, federal regulations can be

a challenge, relative to transporting recyclable materials. Our custom repurposed, double drop crushed car carriers are built to suit the unique requirements of each customer. All of our carriers meet D.O.T. requirements while safely moving crushed cars as needed. We also manufacture scrap hauling trailers," stated Jimi Racanelli, owner.

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Salvaging Millions

by Ron Sturgeon Autosalvageconsultant.com

Has the money truck hit you? LKQ and other consolidators are out there

Over the last 20 years, I have consulted for and watched as my friends and myself sold out to the consolidators. I've also given presentations at ARA conventions on what the consolidators are looking for and how to value your yard. At this year's ARA convention in Dallas on November 12th at noon, I am speaking on "Succession, Sales and Yard Valuation." I hope you can attend. Following is a summary of my presentation.

All of us are getting older and it's happening at the same rate! Eventually, it will be time to hand your auto recycling operation to the kids, or sell it to them or to others. How do we value all this blood sweat and tears? The trickiest thing is the inventory value, but there are many other factors to consider, including tax consequences. Also, if you don't have kids or obvious buyers, how do you find a buyer, and what can you expect to get from the sale of your business? Finally, how do you maximize your return and minimize taxes?

About that money truck!

What is the money truck? In the investment world, it's the moment when the bank wire comes. Getting to the point when it is time to back up and unload the money truck is arduous, but, when you do, suddenly all the things you were arguing and negotiating for don't seem to matter so much. You didn't get the \$200,000 back that you just spent on the new loader, but you did get \$350,000 for the equipment you bought 20 years ago. Let's keep it real. That new loader was only worth that to you and maybe to the operator. And now that you've closed, you smile and say to yourself that most of the equipment was pretty worn and you couldn't have hoped to sell it for the amount you fought for.

How do you make the decision to start down the sales path? Will you give the kids some of the money? If you have no kids, the decision is much easier. You've been busting your ass for 20 years or more, and frankly, you're tired, but you still love what you do. Most yards haven't been tremendously profitable in any given year, but over time, the yards have made a small fortune. If you were a consulting client of mine, I advised you to invest and not to put all your eggs in one basket.

Of course, the single biggest part of selling the business is determining what the sale price should be. Sellers always say "Oh, that's not enough," and yet, if a fortune teller had told you last year that you were going to come into millions, maybe tens of millions, you would have scoffed, right? But it's real. This could happen. Perhaps you are saying to your-

self "Why should I sell now? I'm doing well, and the money is good. Many yard owners are making (and paying taxes on) incomes from \$500k to millions. They are doing quite well, thank you. A potential buyer comes along and says the place is worth about 4 to 5 times earnings. You think they're crazy! You can just work 4 or 5 more years and have that. Well, just pause. Take a deep breath. Let's talk about the money truck.

On the morning you wake up, maybe in your 50s, and you check your bank balance – \$6 million dollars. You just stare. How can this be true? Screw the new loader, momma and me are going on a cruise. You won't believe how you feel, and you will have a new focus!

I sold to Ford in 1999 for \$14.1 million and paid off all those hungry lenders. I was 48. Many would have gone home, but I had a lot of energy and was very competitive. Now I wanted to make money, not run a salvage yard. With \$10 million, after paying off lenders and losing \$1 million in the stock market, (never again will I do that!), at a 75 percent loan-to-value, you can control \$40 million of real estate. I am stupid. I laid it on the line, borrowing against it to start down the new road.

Oh, and I'll be cashing those \$12,500 rent checks for the land, it wasn't in the sale price and they didn't want to own it.

Now I am a landlord. Not buying and selling, just renting. In 10 or 15 years, it will double in value. Do the math. Now, let's keep it real, right? When were you going to ever have \$40 million or \$80 million? Huh? That can't be right, can it? How many more years will you need to work at the yard to make that? How much will the yard be worth in 10 to 15 years? Is that what you want to do for 15 more years?

With \$6 million in the bank, you will go in and start inventorying cars and helping the buyer. It's going to be the same, right? Nope. Never again. You're bright with lots of life left in you. If you're a fool for work like I am, go open or invest in a few businesses. Mentor.

How did it go? Today, I have more than 1,500 tenants paying rent, including 9 salvage yards. I'm 68 years young. Headed on an around the world cruise, our 275th trip. We're keeping it real, right? It wasn't going to happen running the yard. And by the way, now you have a new problem. Are really going to leave the kids all that money?

The money truck has hit you or it may soon if that's the right decision for

Remember, only you can make BUSINESS GREAT!

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

Electric vehicles

■Continued from Page R1

Schwartz added that one of the biggest challenges with EV batteries is that they are not designed to be recycled and they vary in design based on the manufacturer. "Additionally, they are often built for toughness and are difficult to dismantle," Schwartz said. "However, researchers are examining ways to repurpose EV batteries, after their life powering a vehicle, for less-demanding tasks like storing electricity from solar panels and wind turbines."

In addition, Ian Gardner, chief executive officer, GoFor Delivers, a company that offers renewable delivery services via EVs that help companies cut costs and go carbon negative, also pointed out that both the automotive industry as well as the recycling arm of the industry need to solve for the LIB issues since, by one estimate, upward of 12 million tons of lithiumion batteries will reach end of life by 2030

"All other components of EVs are easier to recycle than they are in an internal combustion engine vehicle," Gardner said. "For example, there are fewer fluids – no engine oil, for example – which makes EVs more environmentally friendly. Also, the recent trend in using sustainable recycled materials in new vehicles helps a lot."

As for the battery, Gardner predicted it will have a long usable life. After its mobile use, it can be used for stationary purposes. It's estimated that EV batteries might last up to 30 years.

"Recent technology even lets us stop and reverse the decay in battery cells. Also, the lithium and cobalt in battery cells can be extracted and reused," Gardner said. "While the process is costly, it's worthwhile because the cost and carbon footprint of mining these materials are also large."

Being In the Know

Auto recyclers need to be aware of the dangers associated with high voltage electricity and have appropriate training within the domain of EV battery recycling. Disassembly of battery



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Schwartz added that one of the gest challenges with EV batteries is they are not designed to be recyand they vary in design based on manufacturer. "Additionally, they packs from automotive applications requires high-voltage training and insulated tools to prevent electrocution of operators or short-circuiting of the pack.

Furthermore, Harper said there needs to be safe handling procedures around crash-damaged batteries, which present a number of risks in terms of both fire and thermal events, but also the potential for toxic off-gassing.

"Auto recyclers need to know how to store EV batteries safely once they have been removed, and if there is any chance of auto-ignition, the batteries should be stored away from other flammable items," Harper said. Given that stockpiling of waste batteries is potentially unsafe and environmentally undesirable, if direct re-use of an LIB is not possible, it must be repaired or recycled.

A Future Outlook

The automotive recycling industry will undergo massive transformation and reconfiguration in its operations in the coming years as the focus changes to EVs. But the level of impact EVs will have on auto recyclers depends how much value auto recyclers want to capture from these vehicles.

"Do they want to focus on selling the battery onwards to other firms who can provide the specialized gateway testing, remanufacture, reuse and recycling of lithium ion batteries, or do firms want to engage more with triaging batteries that have been removed from vehicles, so they can be sold into the highest value application?" Harper said. "Also, if more manufacturers change the makeup of electric vehicles in order to be lightweight, this will affect the recycling of body structures significantly. We strongly believe that there will be more concentration and more automation in the end-of-life treatment of vehicles."

To help develop a globally competitive EV recycling industry, the U.S. Department of Energy launched a lithium-ion battery recycling center, the ReCell Center. As Schwartz explained, collaborators from across the battery supply chain – from battery manufacturers to automotive original equipment manufacturers (OEMs) and recycling – are working with the ReCell Center.

"One of its goals is to design batteries with recycling in mind and create future batteries that are easier to recycle," Schwartz said. "For example, several battery manufacturers are already looking for substitute chemistries for lithium and cobalt, such as sodium. We are watching this developing science with great interest."

Looking ahead, Gardner said recycling EVs will be a great business and ecologically very important. "Technology will dominate here, and there will be a lot of innovation in the market," Gardner said. "The bigger challenge is getting rid of all these diesel and gas vehicles, with their polluting oils and residual materials, poisonous catalytic converters and tar-stuffed exhaust pipes."

Ford to lead shift to electric vehicles with new campus in Tennessee and twin battery plants in Kentucky

Ford Motor Company plans to bring electric vehicles at scale to American customers with two new massive, environmentally and technologically advanced campuses in Tennessee and Kentucky that will produce the next generation of electric F-Series trucks and the batteries to power future electric Ford and Lincoln vehicles.

Ford plans to make the largest ever U.S. investment in electric vehicles at one time by any automotive manufacturer and, together with its partner, SK Innovation, plans to invest \$11.4 billion and create nearly 11,000 new jobs at the Tennessee and Kentucky mega-sites, strengthening local communities and building on Ford's position as America's leading employer of hourly autoworkers.

A new \$5.6 billion mega campus in Stanton, Tennessee, called Blue Oval City, will create approximately 6,000 new jobs and reimagine how vehicles and batteries are manufactured.

Blue Oval City will become a vertically integrated ecosystem for Ford to assemble an expanded lineup of electric F-Series vehicles and will include a BlueOvalSK battery plant, key suppliers and recycling. Ford's new Tennessee assembly plant is designed to be carbon neutral with zero waste to landfill once fully operational.

In central Kentucky, Ford plans to build a dedicated battery manufacturing complex with SK Innovation – the \$5.8 billion BlueOvalSK Battery Park – creating 5,000 jobs. Twin battery plants on the site are intended to supply Ford's North American assembly plants with locally assembled batteries for powering next-generation electric Ford and Lincoln vehicles. Investments in the new Tennessee and Kentucky battery plants are planned to be made via BlueOvalSK, a new joint venture to be formed by Ford and SK Innovation, subject to

definitive agreements, regulatory approvals and other conditions.

"This is a transformative moment where Ford will lead America's transition to electric vehicles and usher in a new era of clean, carbon-neutral manufacturing," said Ford executive chair Bill Ford. "With this investment and a spirit of innovation, we can achieve goals once thought mutually exclusive – protect our planet, build great electric vehicles Americans will love and contribute to our nation's prosperity."

This news comes amid strong demand for the all-new Ford F-150 Lightning truck, E-Transit and Mustang Mach-E electric vehicles, and is on top of Ford's recent announcement to expand production capacity and add jobs at the Ford Rouge Electric Vehicle Center in Dearborn, Michigan.

"This is our moment – our biggest investment ever – to help build a better future for America," said Jim Farley, Ford president and chief executive officer. "We are moving now to deliver breakthrough electric vehicles for the many rather than the few. It's about creating good jobs that support American families, an ultra-efficient, carbon-neutral manufacturing system, and a growing business that delivers value for communities, dealers and shareholders."

Ford's \$7 billion investment is the largest ever manufacturing investment at one time by any automotive manufacturer in the U.S. Part of Ford's morethan-\$30 billion investment in electric vehicles through 2025, this investment supports the company's longer-term goal to create a sustainable American manufacturing ecosystem, and to accelerate its progress towards achieving carbon neutrality, backed by science-based targets in line with the Paris Climate Agreement. Overall, Ford expects 40 percent to 50 percent of its global vehicle volume to be fully electric by 2030.

Reimagining how electric vehicles – and the batteries that power them – are designed, manufactured and recycled, Ford is creating an all-new electric vehicle manufacturing ecosystem.

Blue Oval City will be among the largest auto manufacturing campuses in U.S. history. Like the iconic Rouge complex in Michigan did a century earlier, Blue Oval City will usher in a new era for American manufacturing.

The 3,600 acre campus covering nearly 6 square miles will encompass vehicle assembly, battery production and a supplier park in a vertically integrated system that delivers cost efficiency while minimizing the carbon footprint of the manufacturing process. The assembly plant will use always-on cloud-connected technologies to drive vast improvements in quality and productivity. The mega campus is designed to add more sustainability solutions, including the potential to use local renewable energy sources such as geothermal, solar and wind power.

Creating approximately 6,000 jobs, Blue Oval City will be a hive of technical innovation to build next-generation electric F-Series trucks. This growth opportunity will allow Ford to reach new customers with an expanded electric truck lineup.

Despite its size, the assembly plant at Blue Oval City is designed to have as minimal an impact as possible on the surrounding environment – and even to generate positive impacts. The assembly plant's goal is to have a regenerative impact on the local environment through biomimicry in design of the facility. From the start of production in 2025, Ford's goal is for the assembly plant to be carbon neutral.

Through an on-site wastewater treatment plant, the assembly plant aspires to make zero freshwater withdrawals for assembly processes by incorporating water reuse and recycling systems. Zero-waste-to-landfill processes will capture materials and production scrap at an on-site materials collection center to sort and route materials for recycling or processing either at the plant or at off-site facilities once the plant is operational.

Joining the Ford electric manufacturing revolution is a planned \$5.8 billion, 1,500-acre BlueOvalSK battery manufacturing campus in Glendale, Kentucky, which is targeted to open in 2025.

Twin co-located plants will be capable of producing up to 43 gigawatt hours each for a total of 86 gigawatt hours annually. Together, these American-made batteries will power next-generation electric Ford and Lincoln vehicles.

Bringing 5,000 new jobs to Kentucky, BlueOvalSK Battery Park will be centrally located to support Ford's North American assembly plants' footprint.

Ford is investing \$90 million in Texas alone as part of a \$525 million total investment across the U.S. during the next five years to transform America's auto technician industry. The investment will go toward job training and career readiness initiatives for the current and next generation of technicians. These programs aim to develop highly skilled technicians and will support Ford's growing portfolio of connected electric vehicles.







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