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by MAURA KELLER

Rubber recycling



market expands

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2.2024



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Safe dismantling of electric vehicles

mkeller@americanrecycler.com

Electric vehicles (EVs) continue to take center stage as the latest trend in the automotive industry. Auto recyclers are becoming more adept at dismantling these high-voltage vehicles and rightfully so. Without proper training, the dismantling and handling of these vehicles can put recyclers and their employees at risk.

As Andy Latham, founder and chief executive officer at SalvageWire, explained, high voltage vehicles have been around since 1998 when the Toyota Prius launched, so the risks should be well known by now. However, there are three major safety concerns – chemical, electrical and incendiary.

"With chemical concerns, a damaged battery could be leaking electrolyte and this can be very harmful. Regarding the electrical realm, the biggest risk is electric shock, which could be fatal. With flammability concerns, a thermal incident could be very damaging," Latham said. The Salvage Wire team has developed training specifically written for automotive recyclers and dismantlers on the safe handling of electric and hybrid vehicles. They are building a certified trainer network which can deliver accredited training globally to vehicle recyclers and dismantlers, vehicle technicians, engineers and first responders. The training will improve awareness, increase professional standards and help the automotive industry prepare for an electrified future.

"The most important part of any training program is personal safety, so those working on these vehicles can get home to their families at the end of the working day," Latham said. "Every technician needs the confidence and competence to work on these vehicles along with the tools, the personal protective equipment (PPE) and the process."

Additionally, the management team needs to know about the risks so they can complete standard operating procedures and risk assessments for every step of the process for a high voltage vehicle - this includes vehicle collection, dismantling's safety assessment, storing high voltage parts, and selling and shipping those parts.

"Keeping themselves, their teams and their business safe is paramount – every employee needs to know that they are safe when at work. Training and development is essential to increase skills and professionalism. This investment pays for itself because staff member(s) feel valued and respected. It improves safety standards, it could improve staff retention, will allow each vehicle recycler to handle more vehicles and give new opportunities for more revenue," Latham added.

As an expert in the electric vehicle industry and the founder of EVhype. com, Rob Dillan is well versed in the



evolving standards and safety protocols for handling and dismantling EVs.

As Dillan explained, the handling and dismantling of EVs, particularly lithium-ion batteries, requires specialized training. Programs often include modules on electrical safety, high-voltage systems, battery chemistry, and emergency response procedures. For instance, the National Fire Protection Association (NFPA) offers an "EV Safety Training" program for emergency responders.

"In the U.S., the Occupational Safety and Health Administration (OSHA) has guidelines for workplace safety that apply to EV handling," Dillan said. "These include standards for personal protective equipment (PPE), proper tools for handling high-voltage systems, and procedures for dealing with battery fires or leaks."

Specific to lithium-ion batteries, battery handling and dismantling training covers safe handling, storage, and disposal procedures. These batteries pose risks such as thermal runaway and chemical exposure.

"Industry best practices also include using non-conductive tools and ensuring proper ventilation," Dillan said.

Automotive technicians working with EVs often undergo certification programs. For instance, as Dillan explained, ASE (Automotive Service Excellence) offers a Light Duty Hybrid/ Electric Vehicle Specialist certification, ensuring technicians are skilled in EV-specific technologies.

Latham added that the Automotive Recyclers Association (ARA) has some good training resources available from ARA University including reference manuals and online training. Training is available from other sources but a lot of recognized training is aimed at vehicle repairers and is not always relevant for vehicle dismantling and recycling.

"Salvage Wire has developed training

specifically for vehicle dismantlers and recyclers that is accredited by the Chartered Institute of Wastes Management (CIWM). This training is at four levels that reflect the needs of all automotive recycling operations, from awareness for managers and HR professionals, through two levels of technician training. The latter includes vehicle assessment, dismantling, parts storage and shipping, and a level of training for battery dismantling operations that dismantle batteries for recycling or remanufacturet batteries for re-use," Latham said.

Ahmad Ghahreman, chief executive officer, president and co-founder of Cyclic Materials, said that the global transition to EVs is reshaping the recycling landscape. For many years, catalytic converters have been one of the valuable parts of internal combustion engine (ICE) vehicles due to the valuable platinum group metals they contain. Although some hybrid vehicles still have these catalytic converters, EVs do not, which removes a valuable component for recyclers.

"While EVs don't have catalytic converters, they do have other valuable components, including batteries containing valuable metals such as lithium, nickel and cobalt as well as traction motors and hybrid transmissions containing permanent magnets made of rare earth elements (REEs), another group of important metals.

"The global transition to EVs is changing the way recyclers handle and resell their valuables before cars make it to the shredder," Ghahreman said. "Auto recyclers are learning how to handle and assess these new components. They are putting in place training, equipment, and procedures to safely remove batteries, which can pose a big fire hazard."

Ghahreman also pointed to the ARA, which has developed eight EV training See SAFE DISMANTLING, Page A2

Safe dismantling of EVs

■Continued from Page A1

modules for certification of automotive dismantlers of high voltage vehicles and other personnel that manage hybrid and electric vehicles.

"Auto recyclers are also receiving training on the new valuables in an EV such as electric motors that contain REEs," Ghahreman said. "Traction motors and hybrid transmissions are the new catalytic converter."

Auto recyclers must be prepared to handle high voltage vehicles as they enter an automotive recycling facility. These batteries pose risk of electrocution and fire hazard and require

specialized equipment and storage space for handling.

In addition to evaluating them for safety hazards, especially after an accident, batteries must also be evaluated for second life or recycling. This involves determining the health of the battery, which can be a complex process.

"It's important to note that removing and handling traction motors and hybrid transmissions from end-of-life cars is much less labor intensive and challenging than removing and handling batteries," Ghahreman said.

Dismantling in the Future

Like all technology, EV dismantling will continue to evolve, as will the technology required on the part of automotive recyclers to properly handle these vehicles. Latham pointed out that the automotive recycling industry has evolved over 100 years and will continue to evolve as new technologies come into production.

"Vehicle technology is changing all the time, and that change is now faster than at any previous time. The automotive recycling industry will continue to change, develop and evolve as the technology changes," Latham said. Some of this change will be forced by legislation



and regulation; new opportunities will bring more change and development but most importantly the owners and managers must look after their team, support training and development and continue to raise professional standards.

"Membership of a trade association and participation in their certification schemes will become essential if vehicle recyclers and dismantlers want to maximize their sales opportunities for recycled parts, and certification must include staff training and competence, especially in high voltage vehicles," Latham said.

As EV adoption increases, ensuring that individuals handling these vehicles are adequately trained and aware of the safety protocols is paramount. "This not only guarantees the safety of the workers but also contributes to the overall efficacy and sustainability of the EV industry," Dillan said.

Ghahreman advises that auto recyclers who invest in EV training and equipment will capture market share as the EV industry continues to grow. "Smaller firms must make investments to remain competitive against larger players and capture their share of the market," he noted.









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Waste and recycling industry sees decline in rate of fatalities

Remains Seventh Deadliest Industry in the Country as National Rate Increases

The U.S. Department of Labor's Bureau of Labor Statistics (BLS) released 2022 figures for industry and occupational fatality data. In its 2022 Census of Fatal Occupational Injuries (CFOI) Summary, the BLS reported that the fatality rate for refuse and recyclable material collectors fell significantly from 27.9 per 100,000 full time equivalents (FTE) in 2021 to 22.6 per 100,000 FTE in 2022, while the national rate for all industries increased. This is the third consecutive year the rate has dropped for the industry, while the national rate has increased over the same time period.

"While we are pleased with the declining rate of fatalities in our industry, one fatality is one too many," said NWRA Interim president & chief executive officer Jim Riley. "We commend our members for making safety a priority and look forward to continuing our efforts to bring every worker home safely at the end of every shift."

"Now is not the time to rest on our laurels," stated Kirk Sander, chief of staff and vice president of safety and standards at NWRA. "We need to continue to press to improve our industry to get off the Top Ten and strive for our ultimate goal of zero fatalities."

The BLS data on workplace injury and illness is published annually, and information on the waste and recycling industry is based on the U.S. Census Bureau definition of the waste and remediation services industry (NAICS Code 562111) as "solid waste collection, hazardous waste collection, other waste collection, hazardous waste treatment and disposal, solid waste landfill, solid waste combustors, and incinerators."



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Springfield MRF advisory board wins award

The Springfield Materials Recycling Facility (SMRF) Advisory Board (MAB) has been honored with the 2023 MassRecycle Award for Outstanding Institution. This recognition comes as a testament to the MAB's outstanding commitment to recycling education and advocacy for western Massachusetts communities.

The SMRF is a state owned materials recycling facility and the sole dual stream sorting facility in Massachusetts, offering essential processing and marketing services to more than 66 communities across four western counties. The MAB has consistently played a vital role in ensuring that the SMRF continues to promote recycling and reduce contamination effectively.

The MassRecycle Award for Outstanding Institution recognizes the MAB's invaluable contributions and is a testament to the board's exceptional commitment to recycling and environmental sustainability.



Springfield Materials Recycling Facility advisory board members received the 2023 Mass-Recycle Award for Outstanding Institution from Mass Recycle President, Gretchen Carey, at Boston's Hynes Convention Center.

Report shows only 21 percent of residential recyclables are captured

PARTNERSHIP

Identifying significant, but fixable gaps in the U.S. residential recycling system, a new report from The Recycling Partnership, a non-governmental organization committed to building a better recycling system, finds that only 21 percent of residential recyclables are being recycled. The report shows how Extended Producer Responsibility (EPR) policies and proactive industry investment can close these gaps. Under EPR, private industry funds improvements to the recycling system through packaging fees.

"State of Recycling: Present and Future of Residential Recycling in the U.S.", compares the current state of residential recycling with five requirements that The Partnership has determined are necessary for of a truly efficient system. Data from the report shows where the gaps are greatest, and where policy, investment, and action will have the largest impact. The report is based on multi-year field measurement studies conducted across the U.S. and The Partnership's National Database; it uses

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an updated methodology for determining recycling rates that tracks materials throughout the system.

"Every year we trash 79 percent of recyclables but we don't need to," said Keefe Harrison, chief executive officer of The Recycling Partnership. "Fixing recycling is completely doable – it just takes a clear plan and a true sense of urgency. This report outlines that plan. Our data provides an actionable roadmap for policymakers, companies, communities, and the public to ensure that recycling reaches its full potential to reduce waste and protect natural resources."

Among the key findings of the report: Every material type is under-recy-

cled: 7 out of 10 cardboard boxes, 3 out of 4 milk jugs, 4 out of 5 steel cans, 3 out of 4 tons of mixed paper, and 7 out of 10 glass, aluminum cans, and PET bottles are lost to trash in homes. Why? Not enough households have recycling services and of those that do, communication about how to recycle is insufficient. Specifically:

- 76 percent of recyclables are lost to trash in homes, underscoring the importance of providing all households with recycling services and engaging residents with good communication about how to recycle locally.
- 73 percent of all U.S. households have recycling access. Broken down between single and multifamily homes: 85 percent of single-family homes have access, but only 37 percent of multifamily homes have access. This means that nearly 20 million households (63 percent of all multifamily homes) are effectively excluded from recycling.
- 43 percent of households participate in recycling. with non-participation due to both lack of recycling access and insufficient communication about how to recycle locally. Of the 73 percent that have recycling access, 59 percent use their recycling service. But even those that participate do not recycle everything they could ¬ 57 percent of recyclable materials are put in recycling containers. The report also notes that lack of public trust in recycling affects participation if people don't think their recyclables are being recycled, they are less inclined to participate.
- Five states (Alabama, Louisiana, Mississippi, Montana, and Nebraska) have residential recycling rates below 10 percent; only four states (California,

Connecticut, New York and Oregon,) have residential recycling rates at 30 percent or above. The report estimates that EPR policies would raise recycling rates above 60 percent for these states, noting that California, Colorado, Maine, and Oregon are in the process of implementing EPR (which takes 3-5 years following passage of legislation).

• Eleven states (California, Florida, Georgia, Illinois, Michigan, New York, North Carolina, Ohio, Pennsylvania, Texas, and Virginia) lose over 1 million tons of recyclables annually. This includes states with relatively high recycling rates. The report shows how data-driven, local investment solutions are key to overhauling the U.S. recycling system.

"Each link of the recycling system is interconnected, so we need to close all the gaps," said Cody Marshall, The Recycling Partnership's Chief System Optimization Officer. "But we can make the greatest strides by investing in access to recycling services, and communication, and outreach so that people can recycle from their homes and fully participate."

The report identifies key strategies to address recycling system gaps, noting that EPR drives improvement in each of the five requirements of an efficient system and private industry has much to gain by proactively investing in recycling system improvements. The report calls on:

•Policymakers at the federal and state level to adopt EPR;

•Companies to: invest in designing all packaging for recyclability (sources indicate that less than half of plastic packaging is recyclable today),

•Fund improvements in the system where the gaps are greatest, such as access to recycling services and communication about how to recycle locally,

•Leverage the opportunities in regions of greatest material loss; and

•State and community recycling leaders to turn the report data into action, especially through communication, education, and public engagement in recycling.

The report implores readers to act with a sense of urgency. Broadscale system change takes time to implement – the time to start is now.

To read the report, visit recycling partnership.org/residential-recycling-report

WASTE NY DEC releases the finalization of the New York State Solid Waste Plan



Department of Environmental Conservation

New York State Department of Environmental Conservation (DEC) Commissioner Basil Seggos announced the finalization of the 2023-2032 New York State Solid Waste Management Plan, a milestone in the State's ongoing efforts to ensure New York is at the forefront of rethinking waste. The New York State Solid Waste Management Plan: Building the Circular Economy through Sustainable Materials Management is a 10 year plan that describes actions to reduce the climate impact of solid waste and provides direction for New York's waste reduction, reuse, recycling, collection, transportation, and disposal investments, policies, and practices over the next decade.

"The State's new Solid Waste Management Plan is a roadmap for advancing more sustainable solid waste management to reduce landfilled waste and address one of New York's largest contributors to climate-altering greenhouse gases," Commissioner Seggos said. "Working closely with DEC's state, local, and community partners, New York State is bolstering existing efforts to divert waste from landfills, return materials back to productive use, and reduce climate emissions."

Diverting waste from landfills and renewing a resilient and recycled supply chain is integral to achieving goals of the Climate Leadership and Community Protection Act that include reducing greenhouse gas emissions while promoting a just and equitable transition to a greener economy. The Solid Waste Management Plan sets forth six major focus areas to move the circular economy and materials management industry forward in New York State:

- Waste Reduction and Reuse:
- Recycling and Recycling Market Development and Resiliency;
- Product Stewardship and Extended Producer Responsibility;
- Organics Reduction and Recycling;
- Toxics Reduction in Products; and
 Advanced Design and Operation of Solid Waste Management Facilities

and Related Activities. The DEC is already taking action to support items identified in the Plan, including:

 Awarding nearly \$2.9 million in grant funding to 23 municipalities statewide to help establish or expand food scrap recycling programs and facilities. Nearly \$1.9 million of this funding was prioritized to 13 projects serving communities in Potential Environmental Justice Areas and helps support the continued equitable development of the organics recycling industry across the state. • DEC awarded nearly \$2.2 million in grant funding to 47 emergency food relief organizations to assist with the purchase of equipment (such as trucks, refrigerated vehicles, freezers, and refrigerators) which will assist these organizations in providing food to the more than two million people in New York State facing hunger. This financial assistance addresses the capacity and transportation needs of emergency food relief organizations across the State and supports the Food Donation and Food Scraps Recycling law. DEC recently celebrated a milestone in the law's implementation by reaching five million pounds of food donated to New Yorkers in need through DEC's initiative with Feeding New York State.

- DEC received funding from the U.S. Environmental Protection Agency Solid Waste Infrastructure for Recycling Grant Program to assist New York in implementing online reporting for solid waste management and recycling facilities regulated by DEC, helping facilitate timely data reporting, data evaluation, compliance evaluations, and enforcement.
- DEC is engaging with reuse partners across the state and will continue to work more closely with partners to identify needs to expand infrastructure and

building material reuse, promote deconstruction and reuse through outreach and education, and develop priorities and strategies to ensure materials from the built environment are reused for their highest and best use.

The action items and the State's investments are designed to move New York State to an 85 percent total waste stream recycling rate by 2050. Several initiatives to advance waste reduction were also included in the State's Climate Action Council final Scoping Plan and would require legislative changes, such as expanding the State's food donation and food scraps recycling law, reducing packaging and paper product waste, and proposing disposal disincentives on all waste landfilled or combusted in New York.

DEC recognizes the importance of partnerships in achieving the solid waste management objectives for 2032 and beyond. As part of the public process in developing the plan, DEC released a draft for public review in March 2023, an informational webinar and an extended public comment period. The final plan includes revisions and clarifications based on the DEC's review of approximately 1,400 comments submitted by individuals, organizations, municipalities, associations, elected officials, businesses, among other stakeholders.





877-777-0043 | Fax 419-931-0740

Owner, Publisher and Editor ESTHER G. FOURNIER news@AmericanRecycler.com

Print and Digital Production JAN MEYER

jan@AmericanRecycler.com

Marketing Representatives MARY M. THORNTON maryt@AmericanRecycler.com JAN MEYER jan@AmericanRecycler.com

Circulation Manager DONNA L. MCMANUS

donna@AmericanRecycler.com

Writers and Contributors

MAURA KELLER mkeller@AmericanRecycler.com MARY M. THORNTON maryt@AmericanRecycler.com

Production Offices

1789 Indian Wood Circle, Ste 250 Maumee, OH 43537 877-777-0043 | fax 419-931-0740 AmericanRecycler.com

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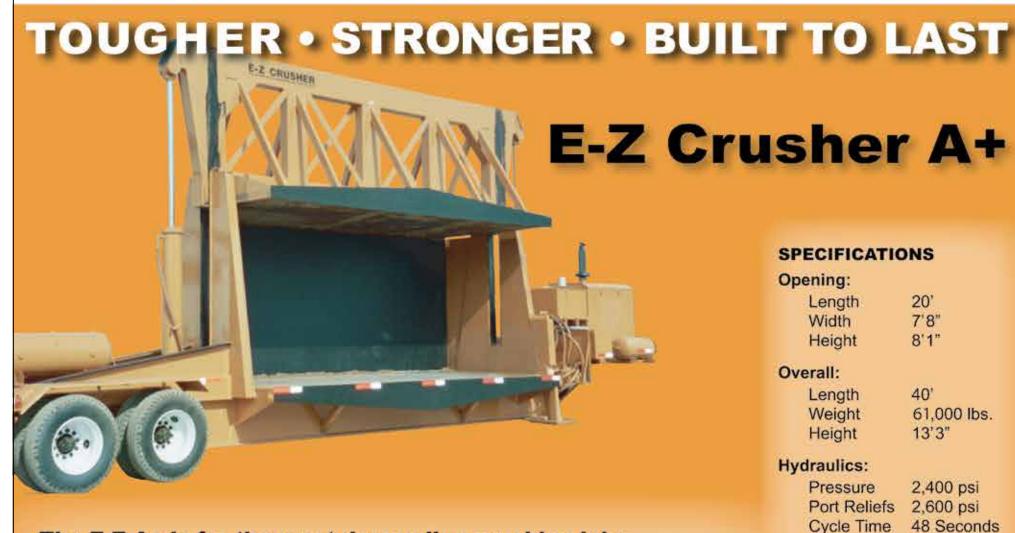
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PLASTICS

Three partners are changing Neste doubled the the narrative in plastic amount of waste p recycling at Site['] Zero



Site Zero will be able to produce the highest material qualities, while decreasing its ecological footprint.

Svensk Plaståtervinning celebrated the opening of Site Zero, a state-of-the-art plastic sorting plant in Motala, Sweden. The plant features TOMRA and Sutco equipment and aims to realize a circular economy for plastics by sorting Swedish plastic packaging waste into 12 fractions.

Sweden is taking the next leap in plastic recycling and celebrated the extension of the Svensk Plaståtervinning polymer sorting plant. Originally opened in 2019, the plant was built in collaboration with Sutco and featured TOMRA sorting technology. Mattias Philipsson, chief executive officer of Svensk Plaståtervinning, invested in the extension of the facility with the aim to close the loop on plastics and enable zero waste. Thanks to the most advanced sorting equipment and expertise from global leaders in the recycling industry, the plant is expected to process 46.3 tons (42 metric tons) of material per hour and recover 12 different types of plastics from mixed plastic packaging waste.

"Around 33 percent of plastic packaging in Sweden is recycled, but unfortunately there is still a lot of recyclable materials lost. This offers great potential, which we are committed to unlocking and transforming into a valuable opportunity for the country and the environment. Since 2019, we have successfully been producing four different types of plastics for recycling. We always wanted to do more and with the latest technology, we're able to accomplish our goals," explained Mattias Philipsson, chief executive officer of Svensk Plaståtervinning. With Site Zero, the company's goal is to enable zero waste, zero downcycling and zero emissions.

Site Zero is equipped with more than 60 TOMRA Autosort[™] machines. The 3.1 mi (5 km) sorting line features some of the world's most sophisticated sorter systems. The high-throughput technology makes it possible to process approximately 46.3 tons (42 metric tons) of recyclables per hour. What's more, the post-consumer waste is then separated into 12 different polymer types, including a variety of polyolefins, PET, PS, EPS, PVC, and more. Thanks to the combination of sorting technology and a well-designed sorting process, purity levels of up to 98 percent can be achieved. The clean material fractions are then sent to recyclers in the EU, but Site Zero is also planning to add recycling capacities to further process the main fractions locally.

amount of waste plastic processed during 2023

In its efforts to scale-up chemical recycling, Neste has successfully concluded another series of industrial-scale processing runs with increasing volumes of liquefied waste plastic at its refinery in Porvoo, Finland. The processing runs in the second half of 2023 doubled the total amount of liquefied waste plastic processed by Neste to more than 6,000 tons. For the first time, the largest run in 2023 exceeded 2,000 tons of liquefied waste plastic. The output of the runs is high-quality, ISCC PLUS certified material for new plastics.

"There is an urgent need to develop solutions to curb climate emissions, while simultaneously tackling the global plastic waste challenge," said Heikki Färkkilä, vice president chemical recycling at Neste. "We are processing increasing volumes of waste plastic, which is testament to our commitment to scale up chemical recycling. At the same time, these volumes also demonstrate the commitment of our partners, suppliers and the industry as a whole: We are confident we will see chemical recycling become a commercial-scale contributor to the circularity of plastics in the upcoming years."

The current runs utilize Neste's existing refinery equipment and pave the way for reaching capability to start continuous commercial processing. A new facility is currently being constructed at Neste's Porvoo refinery to enable the upgrading of 150,000 tons of liquefied waste plastic each year. This first phase of Neste's EU Innovation Fund backed PULSE project, which sees Neste investing 111 million euros, is expected to be finalized in the first half of 2025. In total, PULSE is aiming for an annual capacity to process 400.000 tons of liquefied waste plastic.

Neste is securing liquefied waste plastic supply through various suppliers. Besides contributing to the overall development of chemical recycling, processing liquefied waste plastic is helping Neste take steps towards developing its Porvoo refinery into a renewable and circular solutions site.

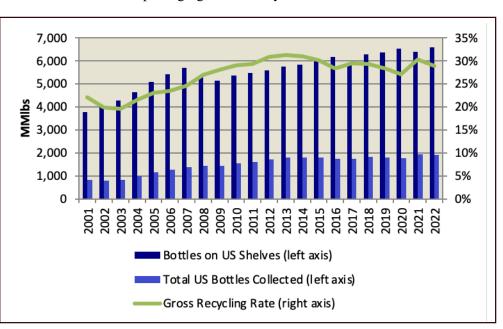
Report shows bottle-tobottle circularity rising

The National Association for PET Container Resources (NAPCOR) has released its 2022 PET Recycling Report. The report found that PET recycling rates held steady with the U.S. rate at 29 percent and the North American PET recycling rate at 37.8 percent. Demand for recycled PET (rPET) also remained strong in 2022, and a new milestone was reached with over 50 percent of end market consumption in the U.S. and Canada in bottle markets for the first time.

"There is a growing demand for recycled content from manufacturers within both the food/beverage and non-food bottle categories," said Laura Stewart, NAPCOR executive director. "This is continued evidence that packaging made from PET can be reused and repurposed and has a key role to play in the circular economy. Everyone involved, including manufacturers, consumers and packagers, needs to work together and make significant changes to ensure enough PET is collected and full circularity can be achieved."

"It is encouraging to see strong demand for postconsumer recycled PET," said Tom Busard, NAPCOR chairman, chief polymers and recycling officer for Plastipak Packaging, Inc., and president of Clean Tech, Plastipak's recycling affiliate. "To continue meeting this demand, there is a need to see increased collection to meet both legislated and voluntary recycled content demands of the future."







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ETALS

World crude steel production increases

World crude steel production for the 71 countries reporting to the World Steel Association (worldsteel) was 145.5 million tonnes (Mt) in November 2023, a 3.3 percent increase compared to November 2022

Crude steel production by region

Africa produced 1.8 Mt in November 2023, up 3.1 percent on November 2022. Asia and Oceania produced 104.8 Mt, up 2.2 percent. The EU (27) produced 10.6 Mt, up 3.2 percent. Europe, Other produced 3.7 Mt, up 22.2 percent. The Middle East produced 4.8 Mt, up 4.0 percent. North America produced 8.9 Mt, up 3.1 percent. Russia & other CIS + Ukraine produced 7.4 Mt, up 14.8

percent. South America produced 3.5 Mt, down 0.6 percent.

Top 10 steel-producing countries

China produced 76.1 Mt in November 2023, up 0.4 percent on November 2022. India produced 11.7 Mt, up 11.4 percent. Japan produced 7.1 Mt, down 0.9 percent. The United States produced 6.6 Mt, up 6.1 percent. Russia is estimated to have produced 6.4 Mt, up 12.5 percent. South Korea produced 5.4 Mt, up 11.9 percent. Germany produced 2.7 Mt, down 2.4 percent. Turkey produced 3.0 Mt, up 25.4 percent. Brazil produced 2.7 Mt, up 3.8 percent. Iran is estimated to have produced 3.0 Mt, up 7.6 percent.

То	p steel-pro	oducing	countries	
	Nov 2023 (Mt)	% change Nov 23/22	Jan-Nov 2023 (Mt)	% change Jan-Nov 23/22
China	6.1	0.4	952.1	1.5
India	11.7	11.4	128.2	12.1
Japan	7.1	-0.9	80.0	-2.8
United States	6.6	6.1	73.9	-0.5
Russia	6.4 e	e 12.5	70.2	6.4
South Korea	5.4	11.9	61.3	1.1
Germany	2.7	-2.4	32.8	-4.0
Turkey	3.0	25.4	30.5	-6.1
Brazil	2.7	3.8	29.3	-7.1
Iran	3.0 e	7.6	28.1	0.6
e-estimated. Ranking of top 10 producing countries based on year-to-date aggregate				

Spectro Alloys donates \$100K to 13 Minnesota nonprofits

Spectro Alloys, a leading Midwestbased recycler of aluminum, donated \$100,000 to 13 Minnesota nonprofits as part of its annual "Giving Together" program. Nonprofits both big and small were selected by Spectro Alloys team members to support causes ranging from food security to youth programs. Many Spectro employees also made personal donations or volunteered with these organizations.

"We wouldn't be here without the support of our community," said Spectro Alloys president, Luke Palen. "That's why it's important to us that we celebrated our 50th anniversary year by giving back. These organizations are doing incredible work, and we're proud to donate to causes that our team members care so deeply about."

Spectro's contributions include a marquee donation of \$40,000 to United Way of Hastings, which will support community members who are struggling with mental health challenges, fentanyl poisoning, student hunger and loss of hope, among other issues.

The 13 nonprofits receiving donations from Spectro Alloys were:

- 1. United Way of Hastings
- Feed My Starving Children 2.
- Second Harvest Heartland 3. 4. St. Jude Children's Research
 - Hospital
- Every Meal 5.
- Diaper Bank of Minnesota 6. 7. **TLC Parenting Hastings**
- John Birch Park Supporters 8.
- 9. Metro Hope Ministries
- 10. All In Ministries
- 11. Crescent Cove
- 12. American Wild Horse Campaign
- 13. United Heroes in Hastings

Radius Recycling reports ferrous and nonferrous volumes up year over year

Schnitzer Steel Industries, Inc. dba Radius Recycling reported results for the first quarter of fiscal 2024.

The company reported a loss per share from continuing operations of (0.64)and a net loss of \$(18) million. Adjusted loss per share from continuing operations was \$(0.64) and adjusted EBITDA was \$1 million.

Operating performance in the first quarter reflected sequentially tighter supply flows for recycled metals, which, together with lower average net selling prices for the Company's products, resulted in a compression of metal spreads. Market conditions for recycled metals remained challenging during the quarter, primarily due to lower manufacturing activity in the U.S. and the impact across Asia of the economic slowdown in China.

company's advanced nonferrous recovery technologies and from an acquisition made in fiscal 2023 contributed to a 12 percent increase in nonferrous sales volumes year-over-year. The company's mill utilization rate in the quarter was 95 percent and finished steel sales volumes were 10 percent higher year-over-year due to healthy non-residential demand in western U.S markets.

Tamara Lundgren, chairman and chief executive officer, said, "While the current market environment is challenging, we have demonstrated our ability to navigate effectively through periods of volatility and tight scrap availability by focusing on what we can control. This includes higher nonferrous volumes from our strategic investments and delivering on our \$30 million productivity improvement program that we announced last October."

Nonferrous production from the

November steel shipments down 2.3 percent

The American Iron and Steel Institute (AISI) reported that for the month of November 2023, U.S. steel mills shipped 7,175,177 net tons, a 4.1 percent increase from the 6,892,343 net tons shipped in November 2022. Shipments were down 2.3 percent from the 7,346,373 net tons shipped in the previous month, October 2023. Shipments year-to-date in 2023 are

82,255,551 net tons, down 0.4 percent vs. 2022 shipments of 82,567,565 net tons for 11 months.

A comparison of shipments year-todate in 2023 to the first 11 months of 2022 shows the following changes: hot rolled sheet, up 13 percent, cold rolled sheet, up 3 percent and corrosion resistant sheet, up 1 percent.

CR Scrap Metals MarketWatch 2 1 3

Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
FERROUS						
#1 Bushelings	per gross ton	\$429.00	\$425.00	\$450.00	\$475.00	\$482.00
#1 Bundles	per gross ton	405.00	399.00	439.00	450.00	465.00
Structural	per gross ton	372.00	371.00	370.00	376.00	369.00
#1 & #1 Mixed Steel	per gross ton	324.00	325.00	324.00	362.00	365.00
Crushed Auto Bodies	per gross ton	215.00	216.00	221.00	223.00	259.00
Shredded Auto Scrap	per gross ton	398.00	401.00	402.00	415.00	449.00
NON FERROUS						
#1 Copper Bare Bright	per pound	3.64	3.66	3.64	3.65	3.74
#2 Copper Wire & Tubing	per pound	3.43	3.46	3.40	3.41	3.50
Aluminum Cans	per pound	.69	.70	.69	.68	.69
AI/Cu Radiators	per pound	1.85	1.86	1.85	1.86	1.90
Aluminum Radiators	per pound	.51	.52	.52	.53	.55
Heater Cores	per pound	1.46	1.49	1.48	1.49	1.50
Stainless Steel	per pound	.60	.61	.62	.62	.64
All prices are expressed in USD. Printed as a reader service only.						

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

METALS

after fraud and theft claims

will be restructured with new appointments in 2024. The supervisory board has agreed with chief executive officer Roland Harings, chief financial officer Rainer Verhoeven, and chief operating officer Custom Smelting & Products Dr. Heiko Arnold to prematurely terminate their current executive board contracts. The three executive board members are thus taking accountability for the unique challenges Aurubis faced in the past fiscal year in particular, in light of the serious cases of fraud, theft at the Hamburg plant and incidents in occupational safety.

Dr. Heiko Arnold will end his tenure on the executive board on February 29, 2024. Rainer Verhoeven will leave the company on June 30, 2024, and Roland Harings on September 30, 2024. This phased exit will ensure continuity in the realization of the company's strategic growth initiatives. Based on a comprehensive legal opinion from the Hengeler Mueller law firm on the responsibility of the three Executive Board members, the Supervisory Board has also decided not to pursue compensation for damages against the three Executive Board members at this time.

Inge Hofkens, who joined the Aurubis executive board in January 2023 and heads the recycling division, including all activities in the U.S., will continue in her role on the executive board and assume overall responsibility for the commercial division.

Effective March 1, 2024, Dr. Markus Kramer will be dispatched from the supervisory board to round out the new executive board team, assuming Arnold's key responsibilities until September 30, 2024. Kramer will also serve as chief transformation officer, be responsible for human resources, and assume the role of director of industrial relations. He will advance the measures already introduced to strengthen plant and company security

Aurubis AG company management and occupational safety, as well as the ongoing development of a corresponding security and safety culture at Aurubis.

> The supervisory board has begun the process for timely new appointments to the executive board with the assistance of recruitment consultants. The three executive board members will step down gradually to ensure good corporate governance and the systematic handover of their divisions to a successor.

> "With his executive board team, Roland Harings drove the company's strategic development forward, including opening the door to a promising future in the U.S. growth market. I would like to express my sincere gratitude to the three board members for their hard work and dedication as part of the Aurubis AG executive board. They were all instrumental in the positive economic development of Aurubis AG in recent years. We wish all three the very best and success in their future endeavors. The company will continue to pursue its strategic growth initiatives with unchanged energy and dedication. Furthermore, Aurubis will not compromise on any of its business ambitions for the 2023/24 fiscal year," Prof. Dr. Fritz Vahrenholt added.

> With Prof. Dr. Markus Kramer, the supervisory board is deploying a manager with many years of international experience in the processing industry. While based in Hong Kong, he served as president of the dispersion & pigments division for global chemical industry leader BASF. He was also responsible for the Europe, Middle East, Africa, Central Asia region. Prof. Kramer studied business administration in St. Gallen (Switzerland) and Barcelona (Spain). He is an honorary professor at the Institute for Design Engineering at TU Braunschweig, and has been a member of the Aurubis AG supervisory board since February 2023.

Wieland unveils \$500 million expansion project in Illinois

Wieland, a global supplier of copper and copper alloy solutions, plans to make a \$500 million capital investment to re-equip, expand and modernize its facility located in East Alton, Illinois. The investment is subject to the approval of state and local incentives.

The comprehensive expansion project intended in East Alton signifies Wieland's commitment to technological advancement, long-term sustainability, and its extensive and valued customer base in North America. The project includes the installation of an additional state-of-the-art hot rolling mill that will allow Wieland to increase and improve its production of critical copper and copper alloy components that are used today in advanced energy properties such

as electric vehicles (EVs), EV charging infrastructure, and renewable energy production. By significantly expanding the capabilities of the facility, Wieland aims to amplify its operational efficiency and deliver even higher standards of qual ity and reliability for its entire portfolio of copper and copper alloy rolled product solutions.

"Copper is not only integral to the energy transition, it is the foundation of a sustainable future," said Wieland chief executive officer Dr. Erwin Mavr.

Mayr further emphasized that the modernization in East Alton - following Wieland's modern plant in Vöhringen, Germany as a benchmark – is a testament to Wieland's commitment to longevity and growth.

Aurubis forces out executives | Steel imports decrease – finished market share at 21 percent

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,018,000 net tons (NT) of steel in November 2023, including 1,487,000 NT of finished steel (down 8.1 percent and up 19.7 percent, respectively, vs. October 2023). Total and finished steel imports are down 9.0 percent and 14.2 percent, respectively, year-to-date vs. 2022. Over the 12-month period December 2022 to November 2023, total and finished steel imports are down 10.3 percent and 14.5 percent, respectively, vs. the prior 12-month period. Finished steel import market share was an estimated 19 percent in November and is estimated at 21 percent over the first 11 months of 2023.

Key steel products with a significant import increase in November compared to October are sheet and strip all other metallic coatings (up 55 percent) and

ingots, billets and slabs (up 54 percent). Products with a significant increase in imports over the 12-month period December 2022 to November 2023 compared to the previous 12-month period include cut lengths plates (up 13 percent).

In November, the largest suppliers were Canada (534,000 NT, down 4 percent vs. October), Brazil (380,000 NT, up 266 percent),

Mexico (248,000 NT, down 20 percent), South Korea (141,000 NT, down 16 percent) and Japan (86,000 NT, down 36 percent). Over the 12-month period December 2022 to November 2023, the largest suppliers were Canada (6,868,000 NT, unchanged compared to the previous 12-months), Mexico (4,308,000 NT, down 21 percent), Brazil (3,656,000 NT, up 32 percent), South Korea (2,600,000 NT, down 8 percent) and Japan (1,229,000 NT, up 1 percent).

U.S. Imports of Steel Mill Products by Country of Origin (thousands of net tons)

COUNTRY	SEP. 2023 PRELIM	AUG. 2023 FINAL	% VAR. SEP. VS. AUG.	YTD 2023 (9 MON.)	YTD 2022 (9 MON.)	% VAR. 2023 VS. 2022	OCT. 2022 TO SEP. 2023	OCT. 2021 TO SEP. 2022	% VAR.
Canada	534	557	-4.1%	6,346	6,338	0.1%	6,868	6,892	-0.3%
Mexico	248	308	-19.6%	3,893	4,887	-20.3%	4,308	5,440	-20.8%
Brazil	380	104	265.9%	3,607	2,519	43.2%	3,656	2,772	31.9%
South Korea	141	167	-15.5%	2,368	2,585	-8.4%	2,600	2,826	-8.0%
Japan	86	134	-36.2%	1,110	1,142	-2.8%	1,229	1,216	1.1%
Germany	52	124	-58.0%	937	1,048	-10.6%	1,015	1,129	-10.1%
Taiwan	48	33	47.3%	556	970	-42.7%	623	1,078	-42.2%
China	37	43	-14.1%	566	599	-5.5%	618	680	-9.0%
Algeria	25	40	-37.2%	526	466	12.9%	569	509	11.8%
Vietnam	50	46	9.0%	524	913	-42.7%	547	1,075	-49.1%
Netherlands	52	60	-12.7%	473	551	-14.2%	516	599	-13.7
Italy	22	34	-35.2%	424	384	10.4%	492	402	22.3%
Romania	26	43	-39.5%	341	432	-21.0%	392	461	-14.8%
India	15	31	-50.1%	321	627	-48.9%	378	707	-46.5%
Thailand	11	35	-69.7%	346	228	51.7%	368	243	51.2%
All Other	292	439	-33.5%	3,725	4,957	-24.9%	4,086	5,496	-25.7%
Total	2,018	2,197	-8.1%	26,062	28,646	-9.0%	28,264	31,523	-10.3%
memo EU-27	269	446	-39.7%	3,697	4,020	-8.0%	4,087	4,331	-5.6%



METALS

Sadoff Iron & Metal acquires service provider Suncoast Communications

Sadoff Iron & Metal Company, a commodity recycler and subsidiary of Sadoff & Rudoy Industries, LLP, has acquired Suncoast Communications, a telecommunications equipment and service provider, based in Maryland. This strategic stock purchase, completed on January 1st, 2024, encompasses the business assets and warehouse operations of Suncoast Communications in Glen Bernie, Maryland and Dallas, Texas.

This synergistic partnership marks a significant milestone for both Sadoff and Suncoast, as it integrates their strengths in the reuse and recycling of telecommunications equipment and infrastructure. By leveraging the R2 certified electronics recycling expertise of Sadoff E-Recycling & Data Destruction and the specialized offerings of Suncoast Communications, the combined entities are poised to revolutionize the telecommunications industry with a dynamic, value-centric approach.

Sadoff & Rudoy Industries, LLP, with a legacy spanning over 75 years in the recycling industry, operates with a team of 240 dedicated professionals. Comprising ISO certified Sadoff Iron & Metal Company and R2v3 certified Sadoff E-Recycling & Data Destruction, the company maintains a robust presence across six locations in Wisconsin and two in Nebraska, serving both domestic and international markets.

Suncoast Communications, headquartered in Glen Burnie, Maryland, with an additional location in Dallas, Texas, is composed of a dedicated team of 27 professionals.

International Shipbreaking only U.S. recycling yard to be approved by EU Commission

International Shipbreaking LLC (ISL), part of global leader in sustainable materials EMR, has completed the EU Commission vetting process and will be listed as an "Approved" ship recycling facility until 2028. International Shipbreaking LLC (ISL) has been approved to recycle EU flagged vessels since 2018 and is the only yard in the U.S. to feature on the European List.

Located in Brownsville, Texas, ISL is one of 45 sites, 35 of which are in Europe, with approval from the EU Commission to dismantle large sea-going vessels. To prevent environmentally-damaging practices, the EU Ship Recycling Regulation requires all large sea-going vessels sailing under an EU Member State flag to use an approved ship recycling facility, included in the European List of ship recycling facilities.

To qualify for the list, a facility has to comply with a number of safety and environmental requirements set out in EU legislation. With more than 25 years of experience, ISL is a leading marine recycling company, which can handle projects of any size, from small tugboats and offshore supply vessels, to the largest commercial and military vessels.

Dedicated to protecting the environment for future generations, ISL ensures the highest safety standards and recycling rates possible, and has recently invested \$30 million in compliant infrastructure, which was integral in ISL being awarded EU Ship Recycling Regulation (EU SRR) accreditation.

Chris Green, president at International Shipbreaking LLC, said: "Our inclusion on the EU Commission's list of approved ship recycling facilities, is testament to our dedication to safety and environmental compliance, and our role in steering ship recycling towards a better future for its employees and the industry as a whole.



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ELECTRONICS

New Survey: Americans are concerned about electric vehicle battery disposal

continues to grow in the U.S., Americans are increasingly concerned about what will happen to all those lithium-ion EV batteries when they reach end of life - even though the EV battery recycling industry is booming. A new study commissioned by engineered battery materials company Ascend Elements found that 71 percent of U.S. adults say they are concerned about disposal of used EV batteries, up from 54 percent in 2022. About 56 percent of survey respondents say EV batteries will cause "toxic landfills," up from 48 percent in 2022. These concerns may be linked to a fundamental misunderstanding about the recyclability of EV batteries. Nearly 40 percent of survey respondents think lithium-ion EV batteries are not recyclable, down from 47 percent in 2022. The annual study was conducted by an independent research firm to survey a random sample of 1,004 US consumers about their beliefs and attitudes regarding lithium-ion batteries and electric vehicles. The margin of error is +/-3 percent at the 95 percent confidence level.

"When I see this data, I can't help thinking we're not doing enough to educate the public about lithium-ion battery recycling," said Eric Gratz, Ph.D., co-founder of Ascend Elements. "Lithium-ion batteries, including EV batteries, are recyclable. The metals inside an EV battery are

As the electric vehicle (EV) market ntinues to grow in the U.S., Americans increasingly concerned about what will open to all those lithium-ion EV batter-

> Ascend Elements recovers up to 98 percent of the critical metals in electric vehicle batteries before using its patented Hydro-to-Cathode® process to manufacture new, sustainable EV battery materials known as cathode precursor (pCAM) and cathode active material (CAM). Several peer-reviewed studies have shown Ascend Elements' recycled EV battery materials perform as well as similar materials made from virgin (or mined) sources while reducing carbon emissions associated with mining. The company currently has the capacity to recycle 30,000 metric tons of EV batteries per year, or about 70,000 EV batteries annually. That's approximately 20 percent of North America's current lithium-ion battery recycling capacity.

> Myths and misinformation about EV battery recycling continue. "The industry has made terrific advances in the efficiency and economics of lithium-ion battery recycling, but these false narratives about EV batteries continue," said Roger Lin, vice president of government affairs at Ascend Elements. "We are changing that by creating an infrastructure that would make it unthinkable to let a lithium-ion battery go to landfill. They are just too valuable."

While concerns about EV batteries are

rising, the survey data suggests Americans are learning how to recycle other types of lithium-ion batteries.

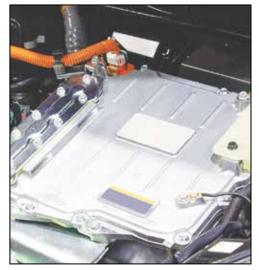
- Only 21 percent of survey respondents say lithium-ion batteries can be recycled in the household recycling bin, down from 33 percent in 2022
- Only 15 percent say lithium-ion batteries can be put in the household trash, down from 27 percent in 2022

"For the record, lithium-ion batteries should never be put in the trash or the household recycling bin," Dr. Gratz said. "While I'd like to see universal awareness of these basic recycling facts, the survey data suggests we've made some progress since last year."

Improper disposal of lithium-ion batteries can cause fires and explosions in waste management facilities and recycling centers. According to Dr. Gratz, used lithium-ion batteries should be dropped off at authorized collection points. Check with your municipal recycling program or visit Call2Recycle to find a drop-off location.

The survey revealed several opportunities for continued education about household lithium-ion battery use and recycling.

- Only 40 percent of survey respondents understand that they should not "charge an e-bike or electric scooter battery
- unattended or overnight."Over 60 percent correctly understand that you should "never leave a



lithium-ion battery plugged in when it is not charging."

- 42 percent of survey respondents understand they should "always cover the battery terminals with electrical tape or place it in a clear plastic bag" before recycling.
- 30 percent of survey respondents know they should not "recycle damaged or recalled lithium-ion batteries in the same way they recycle other lithium-ion batteries."

The survey points to an industry-wide need for improved consumer education and outreach about lithium-ion batteries and battery recycling.

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BUSINESS BRIEFS

Monomoy Capital Partners to acquire Waupaca Foundry

Proterial, Ltd., an international producer of high performance materials for mobility, industrial infrastructure, and electronics, announced the signing of a definitive agreement for Monomoy Capital Partners to acquire Waupaca Foundry, Inc., a leading supplier of cast and machined iron castings. Waupaca Foundry will continue to operate under its current management team, led by president, chief executive officer, and chief operating officer Michael Nikolai. Financial terms of the private transaction were not disclosed.

Headquartered in Wisconsin with operations dating back to 1871, Waupaca Foundry supplies gray and ductile iron to diverse markets using state-of-the-art processes and technology led by high-caliber people and processes. Waupaca Foundry is the leading supplier of cast and machined iron castings for automotive, commercial vehicle, agriculture, construction, and other industrial markets. The company has over 4,000 employees and operates five iron foundries with 1.4 million tons of capacity, making it one of the largest metal casting suppliers globally.

The transaction is expected to close in 2024 and is subject to customary closing conditions.

Robert Bunting nominated as interim treasurer of PEMA

The Process Equipment Manufacturers' Association (PEMA) Nominating Committee selected Robert Bunting to serve as interim treasurer until March 1, 2024. The board of directors approved the nomination unanimously, and Bunting will fulfill the treasurer role until March 1, 2024. He has been nominated for the position of vice president to be voted upon by all PEMA members on March 1.

Bunting strives to be actively involved in industry associations having served in multiple positions in PEMA. He is the president and chief executive officer of Bunting[®], a company that bears his family's name. Bunting, founded in 1959 by Walter Bunting in Chicago, is one of the world's leading designers and manufacturers of magnetic separators, metal detectors, materials handling, magnetic printing cylinders, magnets, magnet assemblies, and magnetizing equipment. The company, headquartered in Newton, Kansas, has multiple locations including Bunting-Elk Grove Village; Bunting-DuBois; Bunting-Berkhamsted and Bunting-Redditch in the United Kingdom; and Ningbo, China.

PEMA, formed in 1960, brings together companies that supply equipment and systems that are used by process industries, including but not limited to food, chemical, pharmaceutical, wastewater treatment, paint and coatings, agribusiness, ceramics, metals, plastics, wood, pulp and paper, environmental, building products and mining/minerals.

OPENLANE to acquire Manheim Canada

 OPENLANE, Inc. has signed a definitive agreement to acquire Manheim Canada from Cox Automotive, subject to certain customary closing conditions. The proposed acquisition advances OPENLANE's digital strategy by adding Manheim Canada inventory, buyers, sellers and corresponding data to the OPENLANE Canada digital marketplace launched earlier this year. Valued at \$130 million CAD or approximately \$95 million USD, the transaction includes the Manheim Montreal facility and auction sales, operations and select staff across Manheim Canada, which intends to exit Canada.

Under the agreement, OPEN-LANE will assume Manheim Canada's customer relationships. After the transaction closes, OPENLANE will integrate Manheim Canada into OPEN-LANE Canada, combining all inventory within the OPENLANE digital marketplace. The company will also consolidate operations at nearby locations, onboarding select staff to ensure a seamless transition for customers and ensuring continued access to related services and offerings including inspections, reconditioning, transport and logistics.

The transaction also includes the purchase of Manheim's Montreal facility but excludes its other Canadian facilities. In Montreal, OPENLANE intends to transition its operations, people and inventory from its current location to the acquired Montreal facility. In all other locations, substantially all of the customers and business operations will be transitioned to nearby OPENLANE Canada vehicle logistics centres. Upon closing, OPENLANE will commence a process to market and sell its existing Montreal facility and anticipates substantial proceeds that would fund a significant portion of the acquisition. All other OPENLANE vehicle logistics center locations and operations will remain the same.



Stellar promotes Chad Rea to director of sales demountables

Stellar Industries, an employee-owned and operated manufacturer of mechanic trucks, cranes, tire service trucks, hooklifts, trailers and service truck and van accessories, has promoted Chad Rea to director of sales demountables, which includes hooklifts and container carriers. In his new position, Rea will play a pivotal role in leading the hooklift and container carrier sales team, overseeing its function and providing strategic direction to drive continued success.

Rea, who previously served as Stellar's regional sales manager for the Midwest and Great Lakes regions, brings a wealth of experience and a proven track record of success to his new position. Since joining Stellar in January 2022, Rea has demonstrated exceptional leadership and a keen understanding of the industry. His responsibilities have included expanding the distributor network, supporting existing distributors and actively promoting the Stellar brand.

In addition to managing the team, he will collaborate closely with the product management team to provide valuable insights for the continued development and enhancement of Stellar's hooklift and container carrier product lines.

Dan Quam joins Brokk as parts manager

Brokk, a manufacturer of remotecontrolled demolition machines, hired Dan Quam as parts manager for the company's Monroe, Washington, parts warehouse. His responsibilities include managing the parts department and overseeing, receiving and purchasing spare parts for both Brokk and Aquajet products in North America. Quam will work with the Brokk team, including warehouse manager Noah Acree and assistant warehouse manager Brodie Kohn, to help ensure Brokk delivers on its promise of same-day shipping on all common parts.

Before joining Brokk, Quam worked for Mi Fluid Power Solutions, a hydraulic/pneumatic parts distributor, for more than 32 years. He worked his way up from the warehouse and learned all aspects of the business from customer service and purchasing to branch management. His most recent position was in outside sales. In this role, he regularly worked with Brokk, developing a longstanding relationship with the team and a deep knowledge of the Brokk and Aquajet brands. All in all, his three decades of experience will help him provide Brokk and Aquajet customers specialized product knowledge and industry expertise to get the parts they need on the job.



BUSINESS BRIEFS

Goodyear names new vice president of commercial business

The Goodyear Tire & Rubber Company announced that Joe Burke has been named vice president of its North America Commercial business. He reports to Steve McClellan, president, Goodyear Americas.

Burke succeeds Dave Beasley, who decided to retire after nearly 40 years with Goodyear.

Burke joined Goodyear in 2015 and most recently served as the general manager of Goodyear's Global Aviation business. Prior to joining the company, he held positions at OEConnection, Lincare Holdings and Aerotek.

Komatsu to acquire American Battery Solutions

Komatsu, through its wholly owned subsidiary in the U.S., Komatsu America Corp., has agreed to acquire American Battery Solutions, Inc. (ABS), a battery manufacturer headquartered in Detroit, Michigan. The immediate impact on Komatsu's consolidated business results is estimated to be minimal.

ABS develops and manufactures a wide variety of heavy-duty and industrial battery packs, using lithium-ion batteries for commercial vehicles, transit buses, standard- and off-road vehicles. The company provides both standard and custom battery systems optimized to each customer's needs. ABS' technology, combined with the advanced product development knowledge and expertise of its people, enables the company to develop and manufacture battery packs designed to deliver superior performance and product life, and to enhance safety.

The acquisition of ABS will enable Komatsu to develop and produce its own battery-operated construction and mining equipment, through the integration of ABS' battery technology with Komatsu's knowledge and network. The first equipment produced with ABS' batteries will be used to power mining equipment in North and South America, where demand for electrification has been increasing. In the future, Komatsu will aim to expand the use of batteries in construction equipment and to establish a global supply system. Komatsu will continue to support ABS' battery business to further develop the electrification business post-acquisition.

ABS will operate as a stand-alone business entity within Komatsu and will continue its growth plans by executing on its current and prospective customer programs in the commercial vehicle segments.

The mining and construction opportunities provided through Komatsu will enable ABS to position itself as one of the world's leading providers of battery systems in both on-highway and off-highway markets.



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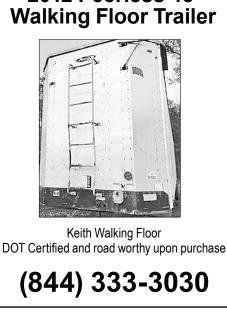
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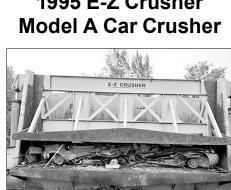
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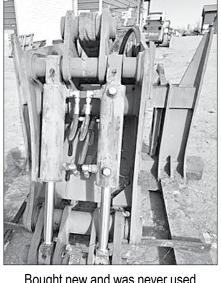
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FEBRUARY 2024

Rubber recycling market expands

by MAURA KELLER

SECTION B

mkeller@americanrecycler.com

The rubber recycling and manufacturing marketplace is experiencing significant transformations, driven by both environmental concerns and technological advancements.

As John Sheerin, senior director endof-life tire programs at USTMA, explained, in 2024 USTMA will begin preparation of their 2023 U.S. Scrap Tire Management Report, which will provide additional important insights and update the findings from the organization's 2021 report.

Currently recycling tire rubber into ground rubber products has been a growing market. In USTMA's latest Scrap Tire Management Report (2021) it was noted that the ground rubber market increased by 20 percent since 2019, making it the largest end-of-life tire market, consuming roughly 28 percent of all scrap tires in areas such as molded and extruded products (rubber mats and flooring as examples), rubber modified asphalt, rubber mulch and fine ground rubber (a material used in new tires, coating, and sealants).

"Also, tire derived fuel continues to be a consistent market – and as noted in our 2021 report, was the second largest market for end-of-life tires - while civil engineering applications have slowed a bit," Sheerin said.

Collen Clark, founder of Schmidt & Clark LLP, said governments across the world are implementing stricter regulations regarding waste management and recycling. This is influencing the rubber industry to innovate and adapt in terms of recycling practices and the utilization of recycled materials.

"There's also an increased focus on sustainability," Clark said. "There's a growing emphasis on sustainable practices within the rubber industry. Companies are increasingly adopting eco-friendly methods in rubber production and recycling, responding to both regulatory pressures and consumer demand for sustainable products."

Of course, technological innovations in rubber recycling are taking the industry by storm as they're employed to enhance the efficiency of rubber recycling. This includes improved methods for de-vulcanizing rubber, allowing it to be reused in new products with greater effectiveness.

"The machinery is improving and with automation tires can be recycled faster using less energy. The final products are also cleaner and safer than they were a decade ago," said Michael Lobsinger, vice president at Eco-Flex. "It is difficult to determine the difference between our mats using recycled tires and mats that use virgin rubber. We are aware of a company that is working on using recycled tires to create rubber for manufacturing new tires. This technology is almost perfected and could change the industry whenever tires can be reused."

There is also a series of diverse applications of recycled rubber, which means recycled rubber is finding its way into a wide array of products. Specifically, the rubber industry is increasingly adopting circular economy models, where waste materials are reused to create new products, reducing the reliance on virgin materials and minimizing environmental impact. "This includes use in automotive parts, construction materials, and even in creating new types of footwear and sports equipment. The versatility of recycled rubber is expanding its market presence," Clark said.

Lobsinger said that tire recycling will become more important as vehicles are transitioned to electric, as internal combustion engine vehicles typically weigh more and use tires faster.

"Many countries such as Australia and parts of Europe are moving towards mandates that tires need to be recycled as opposed to landfilled or burned. So, the supply of tires is increasing," Lobsinger said.

Eco-Flex's newest product is a sound barrier wall made from recycled tires,



recvcled.

which uses 92 percent less carbon than concrete sound barriers and have 25 percent more sound absorption. They are long lasting and have a stone-like façade.

"This could be an ideal solution for dealing with excess used tires and there are so many miles of sound barrier installed throughout the world every year," Lobsinger said. "We also have products such as industrial walkways and access mats that can replace wood products, which are typically discarded after one or two uses. Our products last up to 20 years."

Amy Brackin, senior vice president of sustainability at Liberty Tire, pointed out that the industry is getting tremendous pressure - from consumers, retailers, and manufacturers - to not only collect and manage tires but to also find the best and highest use for end-of-life tire material. That is both a challenge and a big opportunity.

"Liberty has actively embraced this effort and already made significant progress," Brackin said. "Some of our successes are rubber mulch, molded products, rubberized asphalt, playground surfaces, sport area infill, crumb rubber applications, tire-derived aggregate, and tire-derived fuels. These have required significant capital investments and execution costs to make them happen." But we know we can't rest on our laurels. That's why Liberty is constantly focused on innovating and committing capital towards new projects and growth."

Market Expansion

The market for recycled rubber is expanding globally, with increasing demand in both developed and emerging economies. As Clark explained, this is being driven by the growing awareness of environmental issues and the cost-effectiveness of using recycled materials.

"These trends indicate a dynamic and evolving industry, where sustainability and innovation are key drivers," Clark said.

Lobsinger noted that there is more competition within the rubber recycling industry as new players are entering the market. This can be good as they help educate the public on the benefits of the industry.

"The challenge is more competition drives the prices down and impacts the bottom line," Lobsinger said. "One of the biggest challenges facing the rubber recycling industry is getting municipalities and large companies to understand the benefits and ESG metrics of using recycled tires. These stakeholders talk about the importance of being environmentally friendly, but are often reluctant to switch from wood or concrete products. Challenges relating to the cost of shipping, utilities and inflation in general, makes it more difficult to maintain the bottom line in this economy."

Brackin said that recovered carbon black and the use of pyrolytic oil continues to hold a lot of promise and that mar-See RUBBER RECYCLING, Page B6



Liberty Tire Recycling receives TDEC grant

The Tennessee Department of Environment and Conservation (TDEC) announced a grant of \$500,000 for the Nashville facility of Liberty Tire Recycling, LLC (LTR) from the state's Tire Environmental Act Program.

LTR will provide matching funds of \$1,143,357 and use the grant toward purchasing equipment to process approximately 10,000 tons of scrap tires annually. The project costs \$1,643,357 and will help divert approximately 1 million scrap tires each year from landfills.

"We are seeing great advances in repurposing tires for environmental benefits, and this grant for Liberty Tire Recycling is a great example," said TDEC Deputy Commissioner Greg Young. "Programs like this not only help clean up sites of used tires, they involve innovative new uses for them. We congratulate Liberty Tire Recycling on this project."

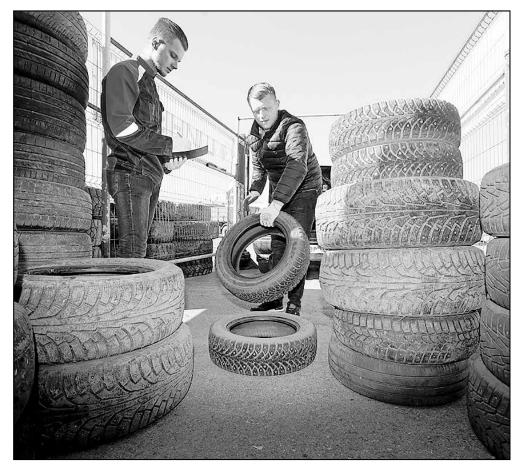
LTR will install tire shredding equipment that will be able to convert tires into rubber chips that will be suitable for use as either tire-derived fuel (TDF) or tire-derived aggregate (TDA).

The purpose of the Tire Environmental

Act Program is to select and fund projects that best result in beneficial uses for waste tires. Projects must qualify for one of three categories: tire processing/recycling, tire-derived material use, or research and development. The program provides grant funding to eligible entities, including local governments, non-profit organizations, higher education institutions, K-12 schools, and for-profit businesses.

Tennessee established the Tire Environmental Fund in 2015. Upon the first retail sale of a new motor vehicle to be titled and registered in Tennessee, a flat fee based on the number of a vehicle's wheels is assessed. The fee goes into the fund and is used for projects creating or supporting beneficial end uses for waste tires.

Since 2015, grantees have been awarded almost \$6.8 million, and approximately 5.5 million tires or nearly 58,000 tons of scrap tires have been diverted from landfills. The tires are repurposed for use in rubberized asphalt, tire-derived aggregate, tire-derived fuel, granulated rubber porous flexible pavement, and other beneficial end uses that result in tires being diverted from landfills for a higher and better use.



TDEC to accept grant applications from TEAP for waste tire reuse



The Tennessee Department of Environment and Conservation (TDEC) will accept applications immediately for grants from the state's Tire Environmental Act Program (TEAP).

The grants are to fund projects that create or expand beneficial uses for waste tires. Such projects include tire recycling and processing, using materials such as aggregate that are derived from tires, initiating research and development in tire management, using tires for alternative fuels, or promoting innovation in infrastructure.

"One of the most effective environmental practices we have is repurposing waste tires," said TDEC Commissioner David Salvers. "The process not only diverts tires from landfills and illegal tire dumps but finds new uses for them. We encourage Tennesseans to be involved in this process, and these grants provide important financial assistance to those who want to join the effort."

Tennessee produces approximately 6 million waste tires every year. TEAP has helped divert more than 6.5 million

tires since the program's inception. The Tennessee General Assembly established the Tire Environmental Fund in 2015. Since then, grantees have been awarded almost \$9.2 million to address waste tire disposal in the state.

The deadline for submission of grant applications is April 15. There are no restrictions on eligible entity types. All organizations are eligible to apply for the funding. Further information on the program is available online at the TEAP website.

The Tire Environmental Act Program is funded through a flat fee assessed to the sale of new motor vehicles in Tennessee, based on the number of wheels of the vehicle. The fee is \$5 for a new vehicle with 4 or fewer wheels, \$10 for new vehicles with more than 4 but fewer than 11 wheels, and \$15 for new vehicles with 11 or more wheels.

These are reimbursement grants, meaning an applicant will need to have start-up capital to apply for funding. The minimum grant request is \$10,000, and the maximum grant request is \$1 million; there are varying levels of matching funds required based on entity type. Applicants must demonstrate how their project will improve or enhance beneficial end uses for scrap tires.

Tire recycling market projected to increase to \$18,137.8 million by 2032

Allied Market Research published a vehicle tires segment. However, the report, titled, "Tire Recycling Market by Process (Pyrolysis, Shredding, Refurbishing), by Product (Crumbed Rubber, Tire Derived Fuel, Refurbished Commercial Vehicle Tires and Others), by Application (Manufacturing, Construction, Rubber Products, Automotive, and Others): Global Opportunity Analysis and Industry Forecast, 2023-2032." According to the report, the global tire recycling industry generated \$11,980.9 million in 2018 and is anticipated to generate \$18,137.8 million by 2032, witnessing a CAGR of 3.3 percent from 2023 to 2032.

The purpose of tire recycling is to collect, sort and process tires that have been used or disposed of, in order to recover materials or energy that may be of value. This process utilizes a variety of methods, including shredding and grinding, as well as pyrolyzing, to break the tires down and extract materials such as rubber, steel, and fiber. These can then be used for a variety of purposes, including the production of new tires, building materials, fuel, and more. By recycling tires, waste is reduced, resources are conserved, and the environmental impact of tire disposal is minimized.

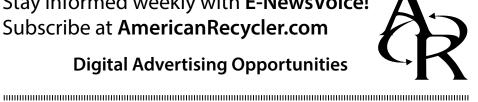
The refurbished commercial vehicle tires segment held the highest market in 2018, accounting for more than half of the global tire recycling market, and is estimated to maintain its lead position throughout the forecast period. The rise in awareness regarding the benefits of refurbished tires such as their low price, and relatively safer operations is driving the growth of the refurbished commercial

crumbed rubber segment would showcase the highest CAGR of 3.9 percent from 2023 to 2032. Crumbed rubber is a major raw material used in the manufacturing of new tires, rubber mats and rugs, sealants, garden mulch, and various others.

Based on application, the automotive segment accounted for the largest share in 2018, contributing to nearly three-fifths of the global tire recycling market revenue, and is projected to rule the roost by 2032. The use of recycled tires in manufacturing rubber mats, collision bumpers, tires, and other objects is driving the growth of this segment. However, the construction segment would portray the highest CAGR of 4.5 percent from 2023 to 2032. Recycled tire products are used in manufacturing roof sealants, pipes, hoses, and various others; thus, a rise in the construction sector is expected to drive the growth of the construction segment.

Based on region, Asia-Pacific held the highest market share in 2018, accounting for nearly half of the global tire recycling market revenue, and is likely to dominate the market during the forecast period. A large population having relatively higher disposable income in the region enables people to buy vehicles, which eventually generates high volumes of tire waste, and drives the tire recycling market in the Asia-Pacific region. However, the Africa region is expected to witness the highest CAGR of 4.9 percent, from 2023 to 2032. Africa is expected to become a major consumer of vehicles, which is expected to have a positive influence on the tire recycling market.

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BFGoodrich inflation system wins new Popular Science award



BFGoodrich announced that BF-Goodrich ActivAir is a Popular Science 2023 "Best of What's New" award winner in the automotive category.

ActivAir allows off-roaders to adjust tire pressure to fit the terrain without leaving their vehicle. The patented technology was developed and tested by top builders in some of the most extreme environments, such as the Dakar Rally and the Ultra4 Racing Series.

Since 1988, the editors of Popular Science have reviewed thousands of products in search of the top 100 innovations – breakthrough products and technologies that represent significant advancements.

"The 'Best of What's New' Awards are our way of celebrating the most exciting and groundbreaking innovations of the year. These awards highlight the revolutionary inventions that are helping to improve our daily lives, our society, and our planet," Annie Colbert, editor-in-chief for Popular Science. "From the future of air travel to revolutionary skin care products, and from sustainable outdoors equipment to game-changing gadgets, this year's list is a thrilling mix that we're proud to call the Best of What's New."

BFGoodrich ActivAir is a Central Tire Inflation System designed by TELE-FLOW. It includes the latest generation of pneumatic valves with a display and control unit. TELEFLOW is the intelligence center of the ActivAir solution. The driver chooses one of four operating terrains, and the system inflates or deflates the tires. More experienced drivers have the option to manually select their desired pressures. ActivAir allows a transfer of all available power to the ground and maximizes traction.

Founder of Impulse Offroad and off-road racer, John Williams, was a key builder throughout the creation of ActivAir. He worked with BFGoodrich to integrate all components into several prototype vehicles. One component included Dynatrac, a partner that integrated an air passage in their axle assemblies. These components come together to create ActivAir, a fully integrated and innovative solution.

This is the fourth Michelin or BFGoodrich product to receive Popular Science recognition. Last year, Michelin received recognition for the MICHELIN Pilot Sport EV tire.

LIFE project revolutionizes Europe's tire recycling and reuse methods



The statistics are staggering – tires and other auto components account for three-quarters of all rubber demand in the EU. Sixty-five percent of end-of-lifetires (ELTs) landfilled and 17.5 percent are incinerated. The Italian project Life Green Vulcan aims to revolutionize tire recycling and reuse with its innovative and environmentally-friendly rubber de-vulcanization process.

This selective rubber de-vulcanization process has enormous potential for extracting raw materials from ELTs. It can then replace almost all the virgin rubber – even in high performance applications, making the products significantly more sustainable.

It's a highly complex process – but one which has a low environmental impact, eliminates the use of harmful chemicals, uses sustainable materials and reduces both post-production and post-consumption ELT.

The resulting tire waste is turned into compounds which are used to manufacture

new tire treads and spring pads for cars and light trucks. The project predicts an astonishing increase of 100 to 400 percent in current recycle and reuse rates, with potential reductions in greenhouse gas emissions of 15 percent for spring pads and seven percent for tire treads.

"Our expectations met reality," said Francesco Di Pierro, a business developer at project coordinator Innovando. "With our product partners, we're taking a strategic approach to supplying high quality sustainable rubber for the automotive and tire industries. This project shows we're serious about reducing greenhouse gas (GHG) emissions and moving to the circular management of production waste and supply."

Although Life Green Vulcan officially concludes by the end of February 2024, the project has already shown the European tire industry the potential for reprocessing 200,000 to 400,000 tonnes of ELT granules each year.

Michelin North America receives Caterpillar Supplier Excellence Recognition Award for 2023



Michelin North America, Inc. has won the Caterpillar Supplier Excellence Award 2023 from Caterpillar Inc.

With Caterpillar's global presence across multiple industries, this award demonstrates Michelin's excellence in meeting customer commitments.

"Caterpillar depends on premiere suppliers like Michelin to provide high-quality, defect-free products that meet or exceed their standards," said Bill Schafer, vice president, sales for Beyond Road, Michelin Mining. "We are proud that our team has collaborated closely with Caterpillar to help them provide products and services to their customers all over the world."

This award recognizes Michelin's commitment to excellence and driving a culture of zero defects for customers while demonstrating the company's commitment to supporting Caterpillar's growth strategy goals.

"Simply put, Caterpillar suppliers are the front-end of our value chain to ensure we deliver innovative products and services that make our customers more successful," said Pam Heminger, senior vice president for the Caterpillar Strategic Procurement and Planning Division. "By working together, we can deliver on our purpose to help our customers build a better, more sustainable world."

Goodyear and Visolis collaborate on isoprene production materials

The Goodyear Tire & Rubber Company and Visolis have announced a collaboration project to produce isoprene through the upcycling of biobased materials. Isoprene is used as a raw material in synthetic rubber, typically generated as a by-product from refining crude oil. Visolis' technology will produce high-quality isoprene from lignocellulosic feedstocks, which are non-edible biomass and agricultural materials.

To advance its sustainable material use, Goodyear conducts research to investigate new alternative raw materials and innovative solutions that meet the company's high standards of quality and safety. Goodyear unveiled a 90 percent sustainable-material demonstration tire earlier this year and plans to sell a tire with up to 70 percent sustainable materials this year, working with its supply base.

The Visolis and Goodyear collaboration will explore the reduction potential of Visolis' process by conducting carbon footprint analysis. This is a significant step towards reducing the carbon footprint of tire manufacturing. Goodyear seeks sustainable material options that meet its high standards of quality and safety while delivering product performance. The collaboration with Visolis allows Goodyear to leverage Visolis' technology to produce high-quality isoprene from non-edible biomass and agricultural materials, which aligns with their sustainable material strategy.





by MARY M. THORNTON

maryt@americanrecycler.com

According to Business Research Insights, the global rubber recycling market will reach the \$4,658.91 million mark by 2031. Through recycling, scrap rubber can be converted to pyrolysis oil, tire-derived fuel, and many other rubber products for a variety of markets. The equipment offered by the following companies below can be used for rubber and tire recycling.

The DTX 4/600 Alligator Shear available from GENSCO, is a heavy-duty shear suitable for tire and scrap metal processing. "Engineered for durability and efficiency, this alligator shear sets a high standard for efficient processing of tires and other scrap material that requires up to 24" blades and a wide jaw opening," With multi-tier quality inspections for every shear that leaves the warehouse, and a lifetime of tech support, GENSCO offers the highest standard of recycling equipment, stated Shelly Zelunka.

Zelunka added, "The DTX 4/600 is standard with foot-pedal control and 4-sided blades that are reversible, regrindable and

that ensure sustained cutting performance. With a strong cutting force of approximately 120 tons in the throat, the shear effortlessly handles challenging materials, making quick work of tire beads and scrap materials. Equipped with an adjustable jaw opening, the DTX 4/600 easily adjusts to various tire sizes and reduces cycle time for smaller tires. This adaptability is important, especially when efficiency is a priority."

Designed for continuous use, the DTX series has been a staple in scrap processing operations globally. Since 1919, GENSCO has been at the forefront of supplying a full range of equipment to the recycling industry. The DTX 4/600 offers decades of know-how, reliability and the flexibility required by heavy duty scrap recycling operations. It exemplifies GENS-CO's expertise in handling high-tensile metals, including those found in tire beads. Alligator shears from GENSCO range from bench-top models to 40"-blade models, designed for rail and structural steel cutting.

Gradeall's truck and agricultural tire sidewall cutter is designed to process semi-truck tires and more as the machine effectively removes the sidewall, which





Derimmers/Shears

contains the thick steel bead inside each tire. This technique eliminates the shape memory effect, leaving a relatively flexible tread section and two sidewalls, which simplifies storage, transportation, shredding, and recycling processes related to scrap tires. "Our compact sidewall cutter is simple to use, safe to operate and easily maneuvers, on-site. Recommended usage con- ditions include level concrete sur- face placement and a 415v, 3-phase power supply, and the tool steel blades are durable and efficient," Stephen Murphy, Managing Director, said.

"In areas where whole tire transporting is prohibited, this machine also offers an ideal solution. With an optional tread cutter attachment, the sidewall cutter can be used to further process tread sec-tions into smaller, manageable segments, which is particularly useful for cumbersome tractor tires. This option also typifies Gradeall's holistic approach to tire recycling, since downsized material is more easily transported to shredding facilities, and pyrolysis plants and can be further processed by a conventional baler. The Gradeall MK2 tire baler produces a PAS108 standard tire bale," Murphy noted.

He also explained how "a unique, valuable application for truck scrap tire sidewalls is their use as silage pit covers, vs. auto scrap tire use. Truck tire sideso don't hold water. Auto scrap tires

Gradeall International Ltd

are commonly problematic as they retain water, which stagnates and the resulting rancid, green liquid is unpleasant to handle. Also, during off-season, car tires are typically stored in a pile. When not in use, flattened truck tire sidewalls can be easily managed using a Gradeall storage product."

Gradeall is a manufacturer of waste handling and recycling equipment with over 30 years of experience, supplying a diverse range of industries that require waste management solutions. Based in Northern Ireland and specializing in the design and manufacture of processing equipment for scrap tires of all sizes, Gradeall is a significant, global player in this sector.

According to Greg Wright, vice president of Granutech-Saturn Systems, "Tire recycling is a large segment of our business and we manufacture equipment for all stages of tire recycling – from the primary shredder to fine grind refinermills and everything in between. Tire Derived Fuel is still a large segment of scrap tires and many other segments continue to grow, including rubberized asphalt, sports turf crumb, and rubber mulch. The science behind pyrolysis continues to advance as well."

Granutech offers over 50 years of manufacturing experience in size reduction equipment. Added Wright, "The equipment we manufacture and recommend for tire recycling can vary greatly, depending on the customer's requirements. Depending on the final product walls are almost as heavy as a car tires size required, processing rates can range but have a larger footprint, lie flat and anywhere from one ton per hour up to 20 See SHEARS, Page B5



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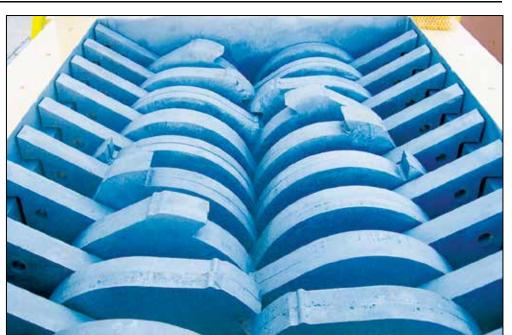
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Shears

Continued from Page B4

tons per hour. If a customer only wants to make a primary shred or a chip, we would recommend one of our dual shaft shredders, possibly with an external sizing screen, or a quad shaft shredder. If the goal is to reduce tires to a powder, then four stages of processing with various pieces of equipment at each stage are involved, performing various tasks. Reducing tires to crumb rubber is much different than performing a primary shred or chip, as removing the steel and fiber becomes a large part of the process, at different stages and with a variety of equipment."



Granutech-Saturn Systems, Inc.



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Gradeall offers over 30 years of experience in the design and manufacture of waste handling and recycling equipment, including balers and compactors. With clients worldwide, they specialize in tire processing equipment, tire balers and truck and agricultural tire sidewall cutters. Cutters are helpful in downsizing large, difficult to store tires.



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For over 50 years, Granutech-Saturn Systems has led the industry in designing and manufacturing of heavy-duty size reduction machinery including single, dual, and quad shaft shredders along with crumb rubber processing equipment. For a wide range of materials, we can meet your needs for both production and sizing requirements.

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Rubber Recycling

Continued from Page B1

ket is a focus at Liberty. So are new opportunities in molding and the use of plastic and rubber combinations for a variety of applications.

"More important than any one product, however, is developing the right approach," Brackin said. "As an industry, we have to avoid the innovators dilemma. We can't become complacent about our current products, and we need to be asking ourselves everyday 'how do we constantly improve?""

At Liberty, the approach is twofold: the company pursues a diversified portfolio of outbound products, and we invest all our free capital into growth and innovation. They know the scale of the challenge continues to grow but so does the opportunity.

"Our job is to grow so we can handle the increased volume and innovate so we can move more tires towards their highest and best use," Brackin said. "This allows retailers to meet the needs of their customers in moving tires to a fully sustainable solution."

Liberty has set an ambitious goal of zero waste – by 2030. When all tires they collect will go to a beneficial use and no longer be landfilled.

"Sustainability requires commitment

from all businesses in the supply chain. We need to not only achieve total recycling, we also need to innovate and move tires up the value chain at the same time. We also need to do it all while continuing to provide exceptional tire collection services -24/7, rain or shine," Brackin said. "That is a tall task. It's going to take new partnerships, investments in emerging technologies, and aligning the public and private sectors. It also means that even as we are in the middle of this exciting time as an industry, we can't forget about our exceptional employees. They are out in the field and in the factories every single day building a sustainable future. We can't do it without them."

Tire manufacturers Bridgestone and Michelin are working with stakeholders in the reclaimed Carbon Black (rCB) community to develop a proposed global standard to increase the utilization of recovered carbon black material in tires. According to Sheerin, Continental increased its use of ground tire rubber in its retread operations and Pirelli has been increasing its recycled and bio-based materials content of new tires.

"All USTMA member companies are focused on materials issues to improve the environmental performance of new tires," Sheerin. "USTMA members share the goal of recycling 100 percent of scrap tires into sustainable and circular markets."

USTMA sees end-of-life tire recycling as a key part of its role in supporting a sustainable circular economy and the organization has been steadfast in its efforts to promote market expansion.

"USTMA will continue its commitment to expand markets and help advance opportunities for scrap tire technologies through work with our value chain partners, federal and state policymakers, academia and NGOs," Sheerin said.

2024 Tire Recycling Conference to focus on accelerating growth in tire recycling markets



The U.S. Tire Manufacturers Association's (USTMA) and Scrap Tire Research and Education Foundation's 2024 Tire Recycling Conference will bring together industry leaders, federal and state officials, and hundreds of stakeholders across the recycling value chain with a mission to accelerate growth in sustainable, circular tire recycling markets in the U.S. The conference will be held May 14-17, 2024, at the Marriot Renaissance Atlanta Waverly Hotel and Convention Center in Atlanta, Georgia.

Sustaining one of the highest recycling and reclaiming rates in the country, tires outperform metal, glass, aluminum, plastic, and paper recycling. This year's conference will spotlight ways to improve that performance and examine emerging trends in the circular economy. Opportunities to grow existing and rising tire recycling markets – including rubber modified asphalt, micronized rubber powder, tire-derived fuel, civil engineering markets and emerging markets like pyrolysis and

devulcanization – will be a central focus.

"End-of-life tire trends have been rapidly evolving, driven by a recognition of the environmental impact and economic potential of this material," said John Sheerin, director of end-of-life tire programs for USTMA. "We're excited to convene with industry leaders to analyze recycling and repurposing initiatives that have gained significant momentum. Several innovative methods are advancing more effective management and market development for end-of-life tires."

The Scrap Tire Work Group, a staterun working group comprised of tire recyclers and representatives from government, trade, and academia will contribute its expertise and policy analysis to the conference, discussing current progress of end-of-life tire markets and programs in the U.S.

"Governments and organizations are recognizing the importance of growing end-of-life tire markets through comprehensive tire recycling programs," said USTMA president and chief executive officer Anne Forristall Luke "The 2024 conference will be a catalyst for diverse stakeholders to work together to advance avenues for infrastructure development, economic growth and job creation in this sector."

Information about the conference is available at www.stref.org. Attendees are asked to register for the conference and book hotel accommodation as soon as possible as space is limited. Michelin alleges infringement of intellectual property rights protecting BFGoodrich All Terrain T/A K02 tire

Michelin North America, Inc. filed suit against a Canadian company for manufacturing a remold tire that violates Michelin's intellectual property rights protecting the BFGoodrich All-Terrain T/A KO2 tire.

Michelin filed a lawsuit in the North District of New York, United States (Michelin v. Techno Pneu, Inc., case no. 6:23-cv-1568-AMN-TWD).

In its complaint, Michelin alleges that Techno Pneu has manufactured remolded products that infringe on a design patent protecting Michelin's BFGoodrich All-Terrain T/A KO2 tire tread.

Moreover, Techno Pneu's website advertises that its remolded products – including the products that are alleged to infringe the design patent protecting Michelin's BFGoodrich All-Terrain T/A KO2 tread design – are for sale in the U.S.

Michelin seeks legal and equitable remedies for infringement of its patent rights resulting from Techno Pneu's actions and conduct.

"The BFGoodrich All-Terrain T/A KO2 tire and its legacy represent the achievement of many years of technical development in the Michelin organization," said Harold Phillips, global general manager of the BFGoodrich brand for Group Michelin. "Michelin will actively defend its products, and we will continue to protect our intellectual property rights."



The original BFGoodrich All-Terrain T/A KO tire, the predecessor for the current BFGoodrich Tires All-Terrain T/A KO2 product protected by the litigation, created and defined a new, essential category when it was introduced in 1976. Every tire is stamped with "Baja Champion" on the sidewall, representing its class-winning status in the grueling SCORE Baja 1000. This tire also is consistently ranked at or near the top of its category, based on performance and driver preference. Buyers on tirerack. com, for example, report driving the BFGoodrich Tires All-Terrain T/A KO2 more than 30 million miles and assign a 4.5-star rating (from a maximum 5 stars).

This tire has been selected as original equipment for the Ford F-150 Raptor and the Jeep Wrangler Rubicon. The tire has been recommended by experts at respected outlets such as Outside magazine, Gear Patrol, Car & Driver magazine, Four-Wheeler magazine and many others.



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