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Improving plastic recycling viability

by MAURA KELLER

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The plastics recycling industry is addressing the recent reports that only five to six percent of plastic waste that is put in recycling bins by consumers, is actually recycled. Why and what needs to change?

"We need to dramatically reduce plastic production – starting with numbers 3 through 7 plastics. Currently, five percent of the plastic in the U.S. is recycled and nine percent in the rest of the world," said Jared Opsal, executive director of Missouri Coalition for the Environment.

As Opsal explained, the Resin Identification Codes (RICs) display the types of plastic from 1 to 7. Number 1 and 2 plastics are the most recyclable, but those are only recycled around 30 percent of the time. Also, numbers 6 and 7 are nearly impossible to recycle.

"Large oil companies were aware that plastic recycling was not a realistic solution to plastic pollution as early as 1974, but they began promoting recycling as a way to address plastic pollution anyway," Opsal said. "It is safe to assume this was to protect what is now an approximately \$400 billion industry."

According to Tony Perrotta, a sustainability and regenerative economy expert at PA Consulting, the challenge posed by recycling and plastics specifically is extremely complex. A number of solutions are needed.

"It will take a portfolio approach to create meaningful impact," Perrotta said. "First, lean into better mechanical recycling practices, leveraged by vision technology, AI and robotics. Waste Management is leaning into AI and Republic Services is leveraging robotics. GreyParrot is another company using AI-based analytics. AMP Robotics are providing the robots."

Second, Perrotta said advanced recycling methods are coming onto the scene in a big way. Companies like Eastman Kodak and PureCycle in the U.S. are examples.

"While mechanical recycling uses physical processes such as grinding, washing, separating, and compounding in which polymers remain intact, advanced recycling typically alters the chemical structure of plastics, by methods such as dissolving with chemicals or using heat to break them down into original components," Perrotta said.

What Perrotta is most excited about is a move into novel and alternative materials altogether. These include things like seaweed, alginates, microorganisms and plant-based fibers.

"We see immense promise in plantbased fibers. One in particular is a technology called PulPac. It's a dry, molded fiber process that we are using to replace single use plastic bottles, medication



Recent reports note that only five to six percent of plastic waste that is put in recycling bins by consumers is actually recycled.

packs and other packaging," Perrotta said.

"There's a growing sentiment that the landfills of today have an opportunity to be the urban goldmines of tomorrow. There's a battle raging for material of all types – recycled plastic content, rare earth minerals, aluminum, glass, etc.," Perrotta said. "This has led to a growing level of investment in technologies that seek to reduce reliance on materials, capture materials earlier in their lifecycle, and unlock value from discarded materials."

Ambarish Mitra, co-founder at Greyparrot, a company that offers an AI waste analytics platform, said rapidly phasing out the use of these single-use plastics, such as plastic and polystyrene food and beverage containers, bottles, straws, cups, cutlery and disposable plastic bags, is an obtainable goal.

"Prevention of use is the most effective action towards sustainable waste management," Mitra said. "However, transitioning producers away from single-use plastics also presents significant challenges. The good news is that Extended Producer Responsibility (EPR) bills are gaining traction. Already passed in Maine, Colorado, Oregon, and California, these bills aim to hold manufacturers financially accountable for the entire lifecycle of their products, including collection, recycling, and disposal. The hope is that they will incentivize producers to adopt more sustainable practices and materials."

Biggest Impediments

The largest impediment to addressing the plastics recycling issue is that only a few types of plastic are recyclable. Those few are still extremely difficult and expensive to recycle.

"Barring some revolutionary

technological breakthrough, there will never be a viable solution to plastic pollution," Opsal commented. "Plastics recycling is a niche field fraught with a high recycling cost and there is a large amount of plastic to recycle. There is little they can do to meaningfully address plastic pollution."

Mitra added that one surprising reason why plastic recycling efficacy is so low actually has nothing to do with whether plastic is recyclable. Instead, it's because today's recycling sorting technology hasn't caught up with the types of plastics that producers use.

"For instance, the prevalent black plastic that is often used for food is almost always unsortable within legacy recycling facilities as they cannot identify the object," Mitra said. "Many of these facilities sort plastics by bouncing a beam of light off them. Since black plastic absorbs light, it is unsorted and never makes it into a recycling stream – instead, is landfilled."

Fortunately, new AI technologies that are being delivered into next-generation material recovery facilities (MRFs) are beginning to address the problem by capturing real-time images from cameras installed over conveyor belts.

"This approach is now being used to finally recycle black plastics and many other newer packaging," Mitra said.

Outside of single-use plastics, Mitra said another challenge we are facing with plastics is polymers that break down into microplastics. Polymers come in multiple forms, but four are commonly most used. These include HDPE, which is used for yogurt tubs, shampoo bottles, and milk jugs. Low-density polyethylene (LDPE), which is used in shopping bags or bread bags, polyethylene terephthalate (PET),

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Plastic Recycling

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which is used in beverage bottles or microwavable food trays, and polypropylene, which is used in most food containers.

According to Mitra, with that in mind, next-generation recycling processes are needed to produce longer-lasting recyclables and ensure the recyclability of all polymers. Pyrolysis is one approach to breaking down polymers into their base chemicals, leaving no functional difference between virgin and recycled material.

"It also allows the recycling of a broader range of polymers, including those traditionally considered non-recyclable due to contamination or complex compositions," Mitra said.

Caroline DeLoach, director of sustainability, Atlantic Packaging, said her biggest concern coming out of these reports is that consumers don't have enough context for what the "five to six-percent" statistic actually means, and this causes distrust in the recycling system that is misplaced.

"This statistic, which came from a Greenpeace report in 2022, received a great deal of press but also came under sharp criticism because of its misleading implications," DeLoach said. "Folks quote it to me all the time and say, 'See? This is why I don't recycle, there's no point. I put stuff in the recycling bin and it doesn't get recycled.' But that's not what these stats are telling us: the disappointing numbers come from a few challenges."

As previously mentioned, many kinds of plastic simply are not designed for recyclability. Also, many people simply don't have access to recycling because their municipality or apartment building doesn't offer it, often because of the expense.

"Lastly, yes, our collection, recycling systems, and sortation facilities are imperfect, but perhaps more importantly, people are still really confused about how to recycle properly," DeLoach said." The point is: these statistics are not saying that the recyclable plastics that make their way to MRFs are not recycled. MRFs often have quite good yields; it's that they don't have access to all of the usable material, and they receive a lot of unusable material."

DeLoach pointed out that the recycling industry is often disadvantaged by the fact that few people actually see what goes on once something goes into their blue bin

"People want to understand what happens to their recyclables, and we need to show them so that they can develop an appropriate level of trust in the process," DeLoach said. "Municipalities and advocacy groups must work with MRFs to show how sortation actually works, mostly to acknowledge the current limitations of the system so that consumers might understand what materials they can actually recycle."

From DeLoach's vantage point, manufacturers and brands are already working tirelessly to integrate as much post-consumer recycled (PCR) content into their packaging as they can. They typically are navigating external challenges such as the volatile price of PCR compared to virgin resin and high amounts of contamination and performance challenges, not to mention limitations like ensuring that PCR can be food-grade for food-contact packaging.

"From everything I can tell, there is no shortage of desire to acquire and use PCR in packaging – there are just too many obstacles in the way to continue scaling quickly," DeLoach said.

New law in Colorado sets labeling standards for compostable items

The Standards for Products Represented as Compostable, Senate Bill 23-253 was signed into law and became effective July 1, 2024.

B23-253 requires food service products and plastic products labeled as compostable sold or distributed in Colorado to be certified compostable and to be clearly marked as such. Producers of non-certified compostable products are prohibited from using misleading labeling that could imply the product is compostable.

Any person may file a complaint against a producer in violation via the online Composting Labeling Complaint form.

Requirements for certified compostable products

Effective immediately, food service products and plastic product, sold or distributed in the state should only be represented as compostable if it meets the follow standards:

- It is compostable by ASTM D6400 or ASTMD6868 standards.
- The product must be immediately distinguishable as certified compostable upon quick inspection.

The product must display:

- 1. A certification logo that indicates certified compostable
- 2. The world compostable where possible
- 3. Green symbols, colors, tinting, marks or design patterns

The product must not display a chasing arrow resin identification code or recycling symbol.

The act names small products as having a width of one-half inch or less of printable surface space. Certified compostable small products must use one of three of the requirements listed above.

Exception: These requirements do not apply to products composed entirely of untreated wood, including fiber-based substrates.

Marketing and advertising prohibitions for products not certified as compostable

A product that is not compostable

must not market or advertise the product in the state using:

- Tinting, color schemes, labeling or words required for products represented as compostable.
- Labeling, images or words that could mislead consumers into believing that the product is compostable.
- A producer of a plastic product shall not market or advertise the product using these or other similar forms of these words:

Natural
Biodegradable
Degradable
Decomposable
Oxo-degradable
Bioassimilable
Omnidegradable

 Any labeling, images or words that imply the plastic product will break down, fragment, biodegrade or decompose in a landfill or other environment similarly to a compostable product.

Prohibitions do not apply to:

- Biodegradable mulch film
- Brand colors or colors used in a manner that is not clearly intended to indicate compostability

Proposed West Coast facility will use recycled cartons to produce sustainable materials

The Carton Council, Elof Hansson and Upcycling Group have partnered to open a new facility in the second half of 2025 that will transform post-consumer food and beverage cartons into durable, sustainable building materials, creating another domestic market for recycled cartons

The initiative combines the environmental and economic benefits of carton recycling with market demands to create more sustainable building products. The manufacturing method involves shredding cartons and then bonding them together into large, durable sheets, through a high-pressure and heat treatment process.

"The innovative technology at this future facility comes at a critical time when the building industry is actively seeking methods to decarbonize processes and enhance the circular economy," said Jan Rayman, co-founder and chief executive officer of Upcycling Group. "Our zero-waste process, which eliminates the need for water, formal-dehyde glues and hazardous chemicals, significantly reduces carbon emissions by utilizing whole food and beverage cartons to produce boards for various construction applications."

"This new facility not only validates the value of carton recycling but will also provide a significant boost to recycling efforts across the West Coast, offering local materials recovery facilities a new viable domestic option for their recycled cartons," said Jason Pelz, vice president of recycling for the Carton Council.

The precise location of the proposed facility is expected to be announced later this summer. Upon completion, the partners project it will use an average of 750 tons (1,500,000 pounds) of recycled cartons per month, keeping these packages in the circular economy and out of landfills.



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San Antonio bans plastic bags in recycling bins

Starting August 1, the San Antonio Solid Waste Management Department (SWMD), Texas, no longer accepts single-use plastic bags in the blue recycling cart, even if they are bundled. This change is crucial to address the issues caused by processing plastic bags in the mixed recycling system.

When plastic bags are placed together with other recyclables in the blue cart, they can become entangled with those other items, making them difficult to recycle. Additionally, plastic bags and other plastic films can stick to recycling sorting equipment, causing machinery malfunctions and inefficiencies. Plastic bags collected from retailer kiosks do not face these issues since they are kept separate from other materials, allowing them to be recycled effectively.

"The decision to stop accepting plastic bags in the blue recycling cart is not unique to San Antonio," SWMD deputy director, Josephine Valencia, said. "Of the nation's 10 other largest cities, none of them are accepting plastic bags in the blue cart. San Antonio kept them in its program for several years, but operationally it hasn't worked. The change affects our 370,000 customers, but it is important to note that the city's private hauling companies that collect from the remaining 2,081,000 population and commercial businesses have never accepted plastic bags in their recycling programs."

SWMD will be updating all informational materials to reflect these new guidelines, ensuring that residents are informed and can easily comply with the new rules



The Recycling Partnership elects new directors to board

The Recycling Partnership announced that Dune Ives, Ph.D., and Kate Davenport have joined the organization as chief marketing officer and chief policy officer, respectively. In addition, The Partnership also named five new members and one reelected member to its board of directors.

As chief marketing officer, Ives brings 20+ years of expertise as an experienced systems change advocate, keynote speaker and behavior change expert to The Recycling Partnership. As the former chief executive officer of Lonely Whale, she led award-winning, action oriented initiatives and campaigns like the TOM FORD Plastic Innovation Prize, NextWave Plastics, and the viral For A Strawless Ocean that shifted normative behavior and sparked a global discussion on single-use plastic waste. As the Partnership's chief marketing officer, Ives will make recycling solutions more accessible and relatable through human-centered communications and campaigns, supporting The Partnership's work to build a better recycling system, and building trust in the recycling system.

Before joining the Partnership to lead the policy advocacy and policy implementation teams, Davenport co-led Eureka Recycling, a nonprofit recycler and zero waste advocacy organization. Davenport was instrumental in the launch of The Alliance for Mission-Based Recycling. Davenport's primary responsibilities include leading efforts to adopt Extended Producer Responsibility (EPR) at the state and national levels while ensuring that the implementation of these policies result in expanded recycling access, delivery of proven education practices that increase and sustain participation, and address important environmental justice issues.

The Recycling Partnership is also adding the following key industry leadership to its board of directors as it works towards the goal of improving the residential recycling rate by 25 percent by 2026:

- Alex Schenck, Walmart's director of Global Environmental Policy
- Brent Bell, vice president of recycling for Waste Management
- Ginger Spencer, City of Phoenix deputy city manager
- Robert Flores, global vice president of sustainability at Berry Global
- Scott Ballard, president of Eastman's plastics division
- Scott DeFife, president of the Glass Packaging Institute
- Scott Breen, senior vice president of sustainability at the Can Manufacturers Institute, was elected chairman of the board, Haley Lowry, global sustainability director for Dow, and Stephanie Potter, director of environmental policy for PepsiCo, were elected as vicechairs, and Robert Flores, vice president sustainability for Berry Global, was elected secretary. Scott Hemink, senior director of global knowledge and packaging solutions for General Mills, as treasurer.

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Michigan sets record high recycling rate



The recycling rate in the Great Lakes State is at a record high for the third consecutive year, according to a new analysis of data that the Michigan Department of Environment, Great Lakes, and Energy (EGLE) shared.

The EGLE research shows Michigan has steadily increased its recycling rate from what was historically the lowest in the Great Lakes region. Michigan's recycling rate has risen from 14.25 percent before 2019 to 21 percent last year and over 23 percent now. EGLE officials forecast that at its current pace of improvement, Michigan is on track to achieve the state's goal of a 30 percent recycling rate by 2029.

EGLE officials attribute the recycling rate surge to the fact that more Michiganders than ever have access to recycling services.

Michiganders recycled more than 330,000 tons of paper and paper products during fiscal year 2023, over 237,000 tons of metals, more than 67,000 tons of glass, and over 58,000 tons of plastics and plastic products. The total amount of residential recycled materials reported for FY 2023 was 703,369 tons – exceeding the record set the year before by more than 82,000 tons.

This equates to every person in Michigan over a 12 month span recycling 140 pounds of cardboard boxes, milk cartons, soup cans, plastic bottles, glass bottles and jars, food waste and other recyclable materials, EGLE researchers found.

Additional highlights from the new EGLE data:

- The improved recycling performance is helping Michigan advance the goals of the MI Healthy Climate Plan, commissioned by Gov. Whitmer as a broad-based road map to a sustainable, prosperous, healthy, equitable, carbon-neutral Michigan economy by 2050. Carbon neutrality is the global science-based benchmark for reducing greenhouse gas emissions to avoid the most devastating and costly impacts of climate change.
- Recycling in Michigan supports 72,500 jobs and contributes more than \$17 billion a year to the state's total economic output, according to an analysis by EGLE's NextCycle Michigan Initiative.
- EGLE and national nonprofit The Recycling Partnership together have rolled out more than 245,000 new curbside recycling carts in over 30 communities statewide serving a combined population of over 1 million Michiganders, with plans to introduce an additional 88,000 new carts in 2024 in four Michigan communities.
- 80 percent of Michiganders report taking action and changing their recycling behavior for the better following EGLE's 2019 launch of the national award-winning "Know It Before You Throw It" recycling education campaign featuring the Recycling Raccoon Squad.

To further expand recycling access in Michigan, EGLE also announced a

combined total of more than \$5 million in infrastructure grants that will help support recycling projects on tap in metro Detroit, Genesee County, Lansing, Southwest Oakland County, Isabella County, Van Buren County, Marquette County, Sterling Heights in Oakland County and Madison Heights in Macomb County.

The largest projects include:

- A first-of-its-kind EGLE collaboration with the Michigan Grocers Association, including Kroger stores and independent grocers, to boost recycling best practices at metro Detroit locations through an in-store education campaign featuring Recycling Raccoon mascots, who will offer tips from promotion inserts on shelves in the canned goods sections.
- Genesee County is receiving an EGLE grant of \$900,000 to build a recycling dropoff facility that will provide access to its approximately 170,000 households as a site to collect paper, cardboard, plastic and items like household hazardous waste and electronics. Currently, there is no drop-off recycling center in Genesee County, leading to a large gap in services for the community. By opening a drop-off site, the facility will offer convenience to residents since it will be more accessible and fill a service gap for those who do not have curbside recycling.
- Marquette County is receiving a \$900,000 EGLE grant to expand its processing capacity at its Materials Recovery Facility (MRF). Currently, the Upper Peninsula MRF processes about 8,500 tons annually, but Marquette County Solid Waste Management Authority officials say they need additional tipping floor space to accommodate projected increases in future tons delivered. The project will include construction of additional tipping floor space for inbound recyclables from counties across the UP.
- Isabella County is receiving an EGLE grant of \$900,000 to expand and upgrade its existing MRF that is currently designed to process 7 tons per hour. The facility needs to be rebuilt because of the changing density and composition of recyclable materials and to enable single-stream collection and processing for the region. The processing capability needs to be increased and a new single-stream sort system will need to be built. This is the first step in upgrading the entire facility to a single-stream processing capability and quadrupling its total capacity.
- The City of Sterling Heights is receiving a \$527,000 EGLE grant to support its transition from optional subscrip tion-based curbside recycling to universal curbside recycling. Sterling Heights has approximately 41,500 residential collection points. Approximately 8,700 households currently participate in subscription-based curbside recycling collection. The City of Sterling Heights' goal is to make recycling easy and convenient for residents, while reducing the volume of waste material going to the landfill and drastically increasing its total recycling rate and volume collected through universal curbside recycling.

- Van Buren County is receiving a \$500,000 EGLE grant that will enable the Van Buren Conservation District to partner with eight of the district's 11 transfer station drop-off centers to increase recycling services that are available throughout Van Buren County. The project will focus on infrastructure upgrades at each of the eight locations that will increase capacity, efficiency, safety, and services for Van Buren County residents.
- The City of Madison Heights is receiving a \$403,000 EGLE grant to roll out a community-wide Recycling/Trash Cart program that will serve its 30,000 residents and 9,600 households.
- The City of Lansing is receiving a \$300,000 EGLE grant to help fund the purchases of a recycling truck, dumpster containers, fleet management software and to hire a marketing firm to enhance commercial and multi-family recycling. Private-sector recycling services to multi-family sites and small- to medium-sized businesses have recently been reduced or eliminated. The EGLE grant will allow the city to compete for commercial customers who require a container larger than the 96-gallon curb carts currently used. Lansing officials say the project will help fill a market niche and position the city to offer a comprehensive suite of services that will increase tonnage, participation, access, and improve Lansing's diversion rate.
- The Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC) was awarded a \$140,000 EGLE grant to help buy new robotic sorting equipment that will automate line sorting at its MRF in Southfield. The state-of-the-art technology will address both chronic staffing shortages and the rising cost of temporary labor as well as improve workplace safety and enable staff to more efficiently process residential recyclables. Additionally, the installation of robotics, along with the accompanying analytics, will allow for dramatically improved tracking of materials by type and provide important metrics that can inform and improve MRF operations and future capital planning. The more accurate data-tracking metrics will help inform broader public and private sector discussions about products, product packaging, policies, and laws relevant to materials management, benefitting its member communities of Farmington, Farmington Hills, Milford, Milford Township, Novi, South Lyon, Southfield, Walled Lake and Wixom.

"Recycling is not only the right thing to do, but also the smart thing to do," said EGLE director Phil Roos. "Recycling properly saves Michigan taxpayers money by increasing the value of recycled materials, supporting Michigan jobs and improving the health of the environment," Roos said. "We know Michiganders want to recycle the right way, and through our 'Know It Before You Throw It' campaign and recycling infrastructure investments, we are providing them with the tools to do just that."



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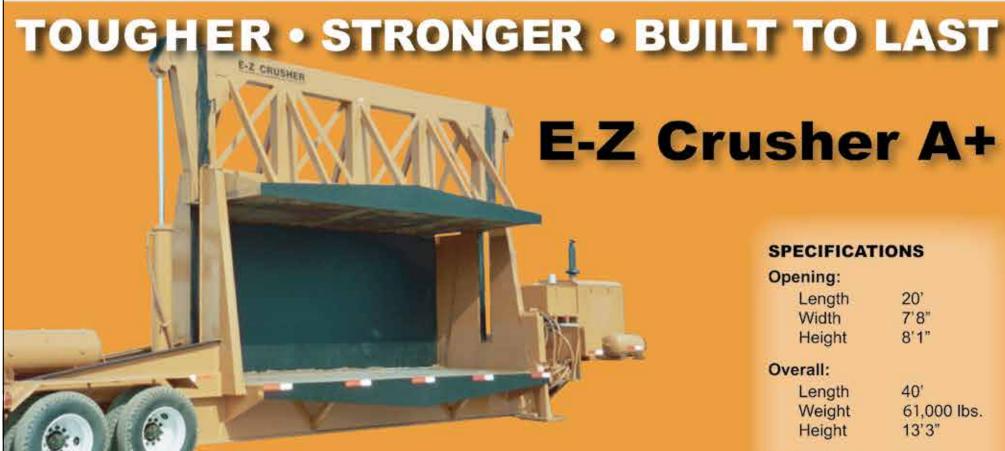
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NextCycle Michigan awards more than \$100k to advance recycling

Summer Showcase put the spotlight on 17 teams from Michigan and beyond, pitching reuse, recycling, composting, and recycled content projects.

An expert judging panel and an audience of entrepreneurs, small businesses, brands, investors, community representatives, and recycling industry professionals gathered on the Eastern Michigan University campus to hear the teams' innovative and collaborative ideas - part of the state's journey to a stronger circular economy.

NextCycle Michigan, an initiative of the Michigan Department of Environment, Great Lakes, and Energy (EGLE), is designed to advance businesses and projects that build capacity and markets for material recovery, reuse, and recycling in

EGLE Director, Phil Roos, provided the keynote address and highlighted Michigan's efforts to minimize waste and increase innovative and scalable solutions.

Selected teams receive access to research, mentorship and one-on-one coaching, a multiday accelerator camp, business planning, pitch development, and matchmaking with potential partners and funders. The Showcase is the culmination of the six-month program where teams pitch their projects, vie for awards, seek investment, and connect with partners.

The program is strategically designed to meet participants where they are and focus on the success of solutions. With an emphasis on reducing barriers, the program is free. Participants and businesses completing the program do not sacrifice any equity and can focus on reaping the benefits of a technical and collaborative program.

The June 12 Summer Showcase featured projects organized into two tracks:

- FLOWS Track: The Food, Liquids & Organic Waste Systems (FLOWS) Accelerator Track supports projects that transform any aspect of organics recovery in Michigan, from food donation to food scrap recovery, to new market development for finished
- RIT Track: The Recycling Innovation & Technology (RIT) Accelerator Track supports projects that advance new material recovery technologies, waste minimization techniques, or other advancements in sustainable materials management.

Monetary and in-kind prizes totaling \$26,000 were awarded to teams that presented a five-minute pitch and answered questions from the panel of judges.

In a surprise announcement, Julie Staveland, assistant division director for EGLE's Materials Management Division, announced a total of \$85,000 in Harvest Grant funding would be distributed to the 17 teams (\$5,000 to each team) that presented pitches at the Summer Showcase.

"You have sown the seeds and grown your projects. It is now time to harvest

The annual NextCycle Michigan those endeavors and take it to the next level," Staveland said. "We believe in the work you are doing and in the mission, and we will continue to invest in you, the change makers."

> The NextCycle Michigan Summer Showcase winners are:

- Hemp for Humanity of Three Rivers, Michigan, utilizing industrial hemp production waste, agricultural waste, and building deconstruction waste as viable building materials, won the \$10,000 FLOWS Best Pitch Award, sponsored by RRS. Hemp for Humanity also won the \$500 FLOWS People's Choice Award, sponsored by the Michigan Organics Council.
- · Design Declassified of Grand Rapids, Michigan, utilizing plastic waste from residential and commercial sources to manufacture plastic sheets that can be used for building materials or other purposes, won the RIT Make it in Michigan Award of in-kind technical support valued at \$10,000, sponsored by Centrepolis Accelerator at Lawrence Technological University.
- PittMoss of Ambridge, Pennsylvania, a manufacturer seeking to develop a Michigan facility to use locally sourced recycled paper fibers to manufacture soilless gardening mixes, soil amendments, and animal bedding, won the \$500 RIT People's Choice Award, sponsored by the Michigan Recycling Coalition.

Two tied winners split the \$5,000 Business Growth Award, provided by the Michigan Economic Development Corp's Pure Michigan Business Connect:

- · Chippin' In of Detroit collects foillined products like chip bags and candy bar wrappers to upcycle into sleeping bags for people experiencing homelessness.
- Beaver Island's St. James Township in northern Lake Michigan is seeking to develop programs to reduce organics and food scraps getting shipped off the island to be landfilled.

Also participating in the Summer Showcase and receiving their share of the Harvest Grant funding were teams representing:

- Bioworks Energy of Grand Blanc, Michigan
- · City of Detroit/Wood Work Detroit
- Eastside Compost of Lansing, Michigan
- Emmet County Department of Public Works/Recycling of Petoskey, Michigan
- Fibarcode of Ann Arbor, Michigan
- Great Lakes Recycling of Oak Park, Michigan
- · Liquid Ion Solutions of Pittsburgh, Pennsylvania
- New Horizon Property Management of Marshall, Michigan
- Nowhere Collective of Chicago
- Prairie Robotics of Buffalo, New York
- Sanctuary Farms of Detroit
- Takeout Takeout of Lansing, Michigan

CPM holds grand opening at facility in Waterloo



David Webster, CPM CEO, cuts the ribbon at opening of new location.

CPM Holdings Inc. (CPM), a leading global supplier of process equipment, engineered technologies and related aftermarket parts and services, today unveiled its new state of the art facility to serve the animal feed, oilseed, alternative fuel and other industries.

The new site in Waterloo, Iowa, produces a wide variety of equipment including pellet mills, flaking mills, hammermills, roller mills, pellet crumblers and related aftermarket parts. The 172,960 sq.ft. building includes space for advanced manufacturing, modern workspaces and offices, testing and application development, equipment and parts engineering and design. The facility houses 177 employees and led to the creation of 20 new jobs.

The facility's new state-of-the-art testing lab features a larger space for maneuverability and ease of use, upgraded clean lab with private customer room, and wallto-wall windows for full viewing of the testing area from the clean lab office area.

"CPM is committed to continuing our legacy of leadership from our new state of the art facility in Waterloo," said David Webster, CPM chief executive officer. "We're proud of this impressive new facility, which will enable us to maintain our product leadership through development of new products and bringing new innovations into our markets. Our commitment is to provide the best solutions and service for our customers. Our new facility will be a key piece in executing on our mission to feed, fuel, and build a better world."

CPM is a leader in the alternative fuels business, all of which are served by the Waterloo facility. The company has had operations in Waterloo since 1938.



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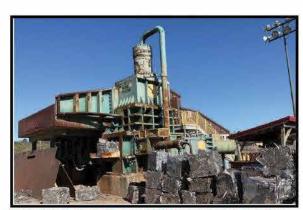
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AUTOMOTIVE

General Motors unveils 2023 sustainability report



Motors released its 2023 Sustainability Report, showcasing the company's commitment to building an equitable

zero-emissions future and working toward its carbon-neutral goal. The report highlights GM's initiatives to accelerate electric vehicle adoption, forge strategic partnerships to enhance supply chain sustainability, and support the development of a future-ready grid powered by renewable energy.

GM is striving to reduce greenhouse gas emissions in pursuit of a zero-emissions future. The report provides comprehensive insights into GM's initiatives across key areas of focus, including environmental stewardship, innovation, social responsibility and governance.

"Sustainability is not just good policy. It's good business – good for the company, for employees, and for recruiting and retaining the best people, people who will help us achieve our vision," said GM Chair and chief executive officer Mary Barra. "We've made tremendous strides through our investments and innovations in electric and autonomous technology, and we're going to expand

G e n e r a l our reach, especially with many important EV launches across a wide range of price points and segments this year."

Key highlights from the new report include:

- Joining the ZEROgrid Initiative alongside other industry leaders and the Rocky Mountain Institute to drive progress toward a less carbon intensive, more reliable and affordable grid.
- Planning to integrate the North American Charging Standard (NACS) into future GM EVs, while also enabling access to more than 15,000 superchargers in 2024.
- Expanding GM's commitment to the First Movers Coalition to be inclusive of steel, aluminum, concrete and cement.
- Providing \$64 million in grants to nearly 400 U.S.-based nonprofits to help create inclusive solutions to social issues.

"At GM, we are taking important steps toward supporting the transition to a more sustainable, zero-emissions future for everyone," said Kristen Siemen, GM chief sustainability officer. "We continue to make progress integrating sustainability into our business from the initial design and selection of materials, through product development and manufacturing, to innovative solutions for end of life. While there's more work to do, we are proud of our progress and are moving with purpose."

Hydro and Porsche collaborate for low-carbon aluminum

Hydro and Porsche signed a letter of intent aiming to reduce the carbon footprint of Porsche's car models. Based on this framework, the two companies have now signed a long-term agreement that opens for Hydro to deliver best-in-class, low-carbon aluminum for Porsche's vehicle production in the years to come. Capacity reservation and product development of low-carbon aluminum will allow Porsche to increase the use of recycled materials and reduce the carbon footprint of aluminum components. This will support their efforts to achieve a net-carbon neutral value chain of newly produced vehicles in 2030.

"With this collaboration, we bring an innovative business model to the market to allow industries to further decarbonize their supply chains. We are very excited to work with a fast moving pioneer like Porsche to help them deliver on their ambitious climate targets. I hope this serves as an inspiration for others to follow suit," says Eivind Kallevik, president and chief executive officer of Hydro.

The scope of the agreement includes both Hydro REDUXA primary low-carbon aluminum and Hydro CIRCAL 75R recycled aluminum containing a minimum of 75 percent post-consumer scrap. The aluminum is expected to go into the production of Porsche's next generation of sports cars.

In addition to potential future deliveries of low-carbon and recycled aluminum, the agreement entails technical collaboration on the development of new alloys with higher recycled content. The two companies will also explore how Hydro's long-term decarbonization projects, including the emission-free smelting technology currently under development, can be integrated into Porsche's supply chain.

Transparency and traceability from mine to metal

Hydro's integrated value chain, which spans from bauxite mining and alumina refining, to energy generation, smelting, extrusion, and recycling, allows the company to offer low-carbon aluminum products with traceability and transparency in every step from mine to metal. This is key to document emission cuts and reach Hydro's target of 30 percent reduction in carbon emissions by 2030, driven to a large extent by fuel switch and boiler electrification using renewable energy at the Alunorte alumina refinery in Brazil.

Hydro's approach involves radically rethinking every step of the value chain to take the lead in the green aluminum transition. The decarbonization needs to support just transition and contribute to a nature-positive future.



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AUTOMOTIVE

Alliance for Automotive Innovation reports new U.S. EV data

The Alliance for Automotive Innovation released its state-by-state analysis of the U.S. electric vehicle (EV) market for O1 2024.

The "Get Connected Electric Vehicle Report" (Q1 2024) summarizes EV sales and purchasing trends across all 50 states.

This report includes a breakdown of light-duty market share by powertrain (2016-2024) and an update on EVs eligible for the federal 30D EV tax credit.

Sales up year-over-year, but down sequentially

- EVs represent 9.3 percent of new lightduty vehicle sales in Q1 2024, down from 10.2 percent in Q4 2023 and up from 8.6 percent in Q1 2023;
- 113 EV cars, utility vehicles, pickup trucks and van models now available for sale in the U.S. in Q1 2024. Light truck sales represent 84 percent of EV market;
- EV market share increased in 37 states in Q1 2024 compared to Q1 2023;
- Top five list for EV sales in Q1 2024: California (24.8 percent); Washington (20.2 percent); District of Columbia (19.5 percent); Colorado (18.3 percent) and Hawaii (16.0 percent);
- More than 344,000 EVs sold in U.S. in Q1 2024, a 13 percent increase over Q1 2023;
- Total light-duty sales (all powertrains) increased 4.2 percent; internal combustion engine (ICE) vehicle market share contracted 4.6 percent.

Public EV charging still lags; not keeping up with current and projected EV sales

- In Q1 2024, the number of publicly available EV chargers increased 5 percent from the previous quarter while total EVs on the road increased 8 percent;
- Nationwide, 344,533 EVs were

- registered in Q1 2024 but only 7,247 new public chargers were added a ratio of 48 new EVs for every new public port;
- There are 4.7 million EVs on the road and a total of 167,213 publicly available charging outlets in the U.S. a ratio of 28 EVs for every public port;
- More than 1 million more public chargers (940,370 Level 2 and 141,417 DC Fast) required to meet the National Renewable Energy Laboratory's necessary infrastructure estimate for 2030.
- 438 chargers will need to be installed every day or nearly 3 chargers every 10 minutes through the end of 2030.

Tax credits and model eligibility

- The Inflation Reduction Act (IRA) split the \$7,500 federal EV tax credit in two, basing eligibility on EVs meeting various critical mineral, battery component, assembly and income requirements.
- Of the 113 EV models available for sale in Q1 2024, 19 percent (22 models) are eligible for all or part of the credit:
- 13 models are eligible for the full \$7,500:
- 9 models are eligible for \$3,750.
- 92 percent of EVs for sale in the U.S. were eligible for a tax credit before the IRA was enacted in 2022.

A full list of models and information on eligibility for the EV tax credit is available at this link: https://fueleconomy.gov/feg/tax2023.shtml.

Automakers and battery partners have committed \$125 billion to expand the production of EVs and batteries inside the U.S. and across North America. A successful transition to electrification – and meeting government requirements – depends on factors outside the vehicle.

GM reports growing EV sales

General Motors Co. and its dealers delivered 696,086 vehicles in the U.S., up 0.6 percent year-over-year, in the second quarter of 2024 and 1,290,319 vehicles in the U.S., down 0.4 percent year-over-year, in the first half of 2024.

"We have an incredible portfolio of diverse vehicles and we're flexible, so we can win as more customers embrace EVs and we can keep winning if they want to stay with the engine technologies they know," said Marissa West, GM senior vice president and president, North America.

General Motors is focused on advancing an all-electric future that is inclusive and accessible to all. At the heart of this strategy is the Ultium battery platform, which will power everything from mass-market to high-performance vehicles.

Record EV deliveries

• 38,355 first half deliveries, including 21,930 in the second quarter.



- GM retail EV registrations up 17 percent year-to-date, outpacing the retail industry's 10 percent gain. GM will offer 10 EV nameplates by year end
- 40 percent of Blazer EV buyers are new to GM.
- Equinox EV is arriving at dealers now.
- Silverado EV RST, the longest range electric truck began deliveries in June.

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PAPER

New primary listing for Smurfit Westrock



Smurfit Westrock plc, a leader in sustainable packaging, announced its primary listing on the New York Stock Exchange, under the ticker "SW", following the completion of the previously announced combination of Smurfit Kappa and WestRock on July 5, 2024.

The company also has a standard listing on the London Stock Exchange (LSE) under the ticker "SWR".

Smurfit Westrock, operating in 40 packaging. I'm proud to be countries and tapping into the expertise this great team of people."

of over 100,000 people, has a unique and unrivaled ability to provide its customers with the most diverse, innovative and sustainable range of renewable and recyclable packaging solutions.

"Combining Smurfit Kappa and WestRock creates a world-leading sustainable packaging player, bringing together a tremendous depth of experience and expertise from both companies," said Tony Smurfit, Smurfit Westrock chief executive officer. "We believe that this combination has created the 'go-to' leader and partner of choice in sustainable packaging. I'm proud to be chosen to lead this great team of people."

Dermody Properties breaks ground on LogistiCenter



Dermody Properties, a diversified private equity investment management company focused exclusively on the national logistics real estate sector, announced that WestRock, a leader in sustainable packaging, has signed a build-to-suit lease at LogistiCenterSM at Pleasant Prairie. WestRock is establishing a Great Lakes regional corrugated operations hub and will require more than 580,000 square feet within Wisconsin's newest rail-served logistics park.

WestRock announced in January 2024 that it would begin building a new corrugated box plant in Pleasant Prairie to meet

growing demand from customers in the Great Lakes region.

"WestRock's new corrugated converting facility in Pleasant Prairie will use state-of-the-art automation and enhanced capabilities to improve product quality and customer satisfaction," said David B. Sewell, chief executive officer of WestRock. "Efficient manufacturing operations generate less waste and reduce energy consumption, contributing to sustainability and further solidifying WestRock's position as the supplier of choice."

The logistics park was previously home to a power plant and sits adjacent to substations that can deliver unrivaled power capacity and provide freshwater service from Lake Michigan.

Green Bay Packaging to invest in downstream box facility



Green Bay Packaging (GBP) of Green Bay, Wisconsin, has announced it is expanding manufacturing space at its Great Lakes Pack-

aging Division facility in Germantown, Wisconsin, with the addition of a new building. The company held a groundbreaking ceremony at the location in July.

GBP describes its Germantown Great Lakes Division as a provider of corrugated containers, point of purchase displays, wood/foam specialty packaging and contract packaging and fulfillment services.

While the facility does not convert recovered paper into new paperboard, it engages in downstream functions for GBP corrugated materials, including those made at its recycled-content mill in Green Bay, in which it invested \$500 million earlier this decade. The mill consumes old corrugated containers (OCC), mixed paper and other recovered paper grades.

The new downstream facility will consist of 270,000 square feet of manufacturing space "for increased capabilities and streamlined operations". Equipment within the facility will include a rotary die cutting (RDC) machine, a laminator and a specialty folder-gluer.



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Europe's pulp and paper industry shows resilience

The decrease in paper and board production in 2023 (-13 percent) resulting from low demand was far more pronounced even than during the Covid-19 crisis (-4.7 percent in 2020). This is a trend that is not particular only to Europe, but the global slowdown has been worsened in the EU by comparatively high costs for production inputs, notably energy. The European economy as a whole has lost momentum, against the background of a high cost of living, monetary tightening, and a weak external demand.

All paper and board grades recorded a sharp decline of production, with a varied situation across grades. The production of packaging grades decreased by 11 percent in 2023 compared to 2022 while sanitary and household paper registered a decrease by about 4.0 percent.

Despite these developments the pulp and paper industry displayed some surprising signs of robustness in 2023, with an exceptional recycling rate of 79.3 percent – or 74.4 percent on a three-year rolling average. It remains more than ever a "made-in-Europe" industry with 91 percent of fibers sourced from within the European Union. Adding to this was a positive trade balance for market pulp,

produced to be sold on the market rather than used on-site, for the first time since data is collected by Confederation of European Paper Industries (CEPI).

The trade balance for the sector overall remains high, placing it in the top European manufacturing sectors on that metric. Still, this second consecutive year of decrease could point towards a loss in global competitiveness for Europe's pulp and paper industry.

In another area of high performance amongst industrial sectors, the decoupling of pulp and paper production from CO2 emissions continues on a steady trajectory, decreasing by 5.8 percent in 2023. The sector has already achieved over 46 percent reduction of carbon emissions since 2005. Investments remain proportionally high, despite a continuously difficult context, and will need to accelerate in the coming years to reach the decarbonization objectives set by the European Commission.

An early sample of company data points towards a rebound in production and profitability across all European pulp and paper sector segments in 2024. But the industry's position remains far from what it was before the Covid crisis and war in Ukraine.



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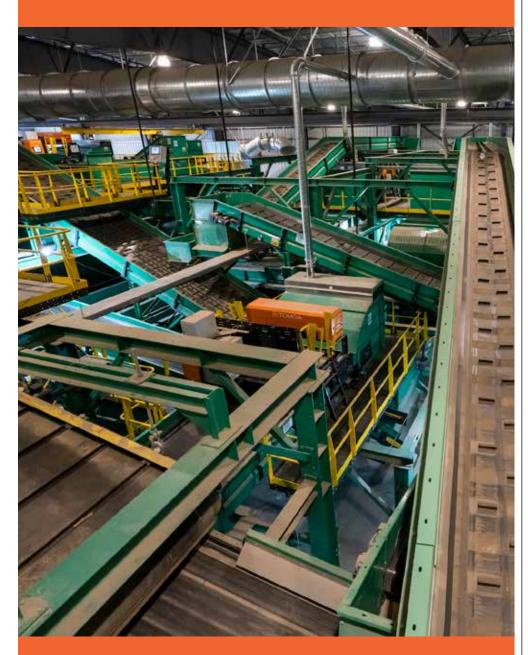
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METALS

World crude steel production increases

World crude steel production for the 71 countries reporting to the World Steel Association (worldsteel) was 165.1 million tonnes (Mt) in May 2024, a 1.5 percent increase compared to May 2023. **Crude steel production by region**

Africa produced 1.8 Mt in May 2024, up 0.9 percent on May 2023. Asia and Oceania produced 122.1 Mt, up 1.6 percent. The EU (27) produced 11.7 Mt, up 1.8 percent. Europe, Other produced 3.9 Mt, up 6.2 percent. The Middle East produced 5.2 Mt, up 4.6 percent. North America produced 9.4 Mt, down 0.9 percent. Russia & other CIS + Ukraine produced 7.7 Mt, up 2.8 percent. South

World crude steel production for America produced 3.3 Mt, down 8.2 regretation 71 countries reporting to the World percent.

Top 10 steel-producing countries

China produced 92.9 Mt in May 2024, up 2.7 percent on May 2023. India produced 12.2 Mt, up 3.5 percent. Japan produced 7.2 Mt, down 6.3 percent. The United States produced 6.9 Mt, down 1.5 percent. Russia is estimated to have produced 6.3 Mt, down 0.9 percent. South Korea produced 5.2 Mt, down 10.9 percent. Germany produced 3.2 Mt, down 1.9 percent. Turkey produced 3.2 Mt, up 11.6 percent. Iran produced 3.3 Mt, up 2.1 percent. Brazil produced 2.6 Mt, down 7.4 percent.

| Top steel-producing countries | | | | | | | | | | |
|------------------------------------------------------------------------------------|------------------|-----------------------|----------------------|---------------------------|--|--|--|--|--|--|
| | May 2024 (Mt) | % change May 24/23 | Jan-May 2024 (Mt) | % change Jan-May 24/23 | | | | | | |
| China | 92.9 | 2.7 | 438.6 | -1.4 | | | | | | |
| India | 12.2 | 3.5 | 61.9 | 7.7 | | | | | | |
| Japan | 7.2 | -6.3 | 35.7 | -2.3 | | | | | | |
| United States | 6.9 | -1.5 | 33.4 | -2.4 | | | | | | |
| Russia | 6.3 | e -0.9 | 30.9 | -2.5 | | | | | | |
| South Korea | 5.2 | -10.9 | 26.4 | -6.3 | | | | | | |
| Germany | 3.2 | -1.9 | 16.2 | 3.7 | | | | | | |
| Turkey | 3.2 | 11.6 | 15.5 | 19.8 | | | | | | |
| Iran | 3.3 | 2.1 | 14.0 | 9.1 | | | | | | |
| Brazil | 2.6 | e -7.4 | 13.6 | 0.6 | | | | | | |
| e-estimated. Ranking of top 10 producing countries based on year-to-date aggregate | | | | | | | | | | |

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PLASTICS

SWANA joins the Canada Plastics Pact

The Solid Waste Association of North America (SWANA) has joined the Canada Plastics Pact.

"SWANA is thrilled to join forces with the Canada Plastics Pact in our shared commitment to prevent plastic waste. As an organization dedicated to supporting resource management to drive sustainable practices, this partnership reinforces our commitment to being climate champions," said SWANA executive director & chief executive officer Amy Lestition Burke.

Launched in 2021, the Canada Plastics Pact is leading Canada's response to the escalating plastic crisis. It exists to eliminate plastic waste by accelerating and scaling the solutions that will keep plastics in the economy and out of people, animals, and nature.

Through fostering innovation and collaboration, more than 100 partners from across the plastics value chain are taking meaningful steps to eliminate unnecessary and problematic plastics, redesign packaging, and increase their use of recycled plastic.

SWANA is a collective of over 10,000 professionals from both the public and private sectors. The association's mission is to propel the transition from solid waste management to resource management, uniting around the pillars of education, advocacy, safety, and research.

"Our members provide critical roles in collecting and processing plastics to enable recycling and to prevent plastic pollution. We are building connections to support designing for recycling, strengthening demand for recycled content, and supporting critical infrastructure," Lestition Burke said.

Various initiatives have been underway to address the opportunities and challenges to enacting systems change, such as the formation of strategic working groups that bring together the key stakeholders to tackle the pressing issues around plastic waste and pollution. The CPP's guidance documents, driven by the collective expertise of the Pact Partners within its working groups, are a critical tool that supports the implementation of change in Partner operations, by sharing knowledge and innovative solutions.

"Together with CPP, we're poised to make significant strides in advancing a circular economy and mitigating the environmental impacts of plastic pollution," Lestition Burke, said.

SWANA is now a proud member of both the Canada Plastics Pact and the US Plastics Pact. By joining forces with other like-minded organizations, SWANA can continue to propel the industry forward and achieve sustainability goals as part of the SWANA Strategic Plan.

Coperion and Herbold Meckesheim deliver bottle-to-bottle recycling plant solution

Coperion and Herbold Meckesheim are collaborating technologies for the design and construction of entire PET bottle-to-bottle recycling plants. In addition to mechanical processing of used PET bottles, the recycling system encompasses all process steps leading up to extrusion with a ZSK twin screw extruder, including pelletizing and an SSP (solid state polycondensation) reactor.

The PET bottle recycling systems are designed for a throughput of 5,500 kg/h. They deliver PET recyclate that is approved by the European Food Safety Administration (EFSA) and the U.S. Food and Drug Administration (FDA) for direct contact with food.

Coperion's and Herbold Meckesheim's bottle-to-bottle plants enable all recyclates to be processed together, even if they exhibit different IV (Intrinsic Viscosity) values or fluctuating bulk densities. Additionally, the Coperion-Herbold solution saves on operating costs, logistics costs, and energy consumption in comparison to conventional PET recycling processes.

The bottle-to-bottle recycling system first processes the PET bottles into flakes. For this purpose, Herbold uses granulators with forced feeding and washing system technologies that efficiently and gently process the PET to minimize material loss due to fines formation and thus maximize yield.

This preprocessing is followed by conveying and feeding into the ZSK recycling twin screw extruder. There, the PET regrind is gently melted, intensively dispersed, and processed into a homogeneous mass. The ZSK's twin screw technology efficiently transfers the energy into the melt. Thanks to the twin screw extruder's high 18 Nm/cm³ torque, the PET's residence time in the extruder is short. Processing takes place at low temperatures, polymer chain degradation is minimal, and the product quality achieved is high. Volatile components such as monomers, oligomers and water are removed from the melt and purged.

Following discharge from the ZSK recycling extruder, the still-warm material stream is transferred via a gear pump to an underwater granulator and an SSP reactor, where it is then condensed and decontaminated.

Coperion and Herbold Meckesheim design especially efficient plants for plastic recycling – from mechanical pretreatment to finished pellets.

Herbold Meckesheim USA, a subsidiary of Herbold Meckesheim Germany, designs, manufactures, and installs size-reduction equipment (shredders, granulators, etc.) and wash-line systems for the plastics industry, specializing in the recycling of industrial and post-consumer plastics.

WASTE

EGLE, US Ecology enter agreement to address hazardous waste violations

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) and EQ Detroit Inc. (doing business as US Ecology – Detroit South) have entered a consent order to resolve violations of state and federal waste regulations at the 1923 Frederick Street, Detroit, site. The order requires US Ecology to pay an upfront penalty to the State of Michigan of \$34,225, and \$24,307 to reimburse the state for enforcement costs. An additional \$927,423 will be used to fund an escrow account for use in the development of supplemental environmental projects (SEPs) to benefit the community.

"The health and safety of all Michiganders is our top priority," said Phil Roos, EGLE director. "This nearly \$1 million agreement goes a long way toward ensuring that the people who live in this community feel protected. They deserve to know that facilities handling potentially dangerous wastes in their community are doing so responsibly and in accordance with all rules and laws designed to ensure consistent and thorough safety procedures are followed."

US Ecology – Detroit South is an 11.5 acre commercial waste treatment facility, licensed by EGLE to manage both hazardous and non-hazardous wastes. The facility treats and solidifies waste before sending it off-site for disposal.

The consent order addresses violations dating back to April 2020, including problems with waste screening procedures, failures of internal controls, and structural damage to waste treatment tanks and drum storage areas. The solidification process has been shut down since June

2023 while US Ecology made necessary repairs and upgrades and investigated the soil and groundwater around the tanks.

US Ecology has made several structural repairs and operational improvements throughout development of the consent order and the facility is allowed to restart solidification in the repaired tanks seven days after the agreement is signed. The Consent Order also requires additional activities beyond what has already been completed. US Ecology – Detroit South must:

- Ensure that the waste treatment tanks meet all applicable standards.
- Implement improved waste acceptance and screening procedures to ensure that waste received at the facility can be safely and effectively stored, treated, or shipped offsite.
- Improve procedures for inspecting waste storage areas.
- Conduct regular groundwater monitoring.
- Complete a feasibility study evaluating additional air emission controls.
- Deposit \$927,423 in an escrow account, pending development of possible supplemental environmental projects (SEP). If an acceptable SEP is not proposed within one year, this amount is to be paid as a penalty to the State.
- Pay, in addition to the escrowed amount, an upfront penalty of \$34,225 and reimburse the State an additional \$24,307 for enforcement costs. Future violations will be subject to additional penalties identified in the consent order.

EPA awards \$2 million to Santo Domingo Pueblo for waste management



The U.S. Environmental Protection Agency (EPA) awarded a community grant for \$1.5 million and an environmental justice government to government award for \$539,452 to Santo Domingo Pueblo, totaling \$2,039,452. The \$1.5 million grant is for planning and engineering design activities associated with improvements to the Domingo, Galisteo, and Main Village lift stations as part of the comprehensive Santo Domingo wastewater distribution system project. The \$539,452 grant will educate residents on the dangers of open dumps and remove several open dumps within Tribal lands.

Santo Domingo Pueblo identified the need for a long-term and efficient wastewater system to manage wastewater across Pueblo lands. With this \$1.5 million grant funding, the Pueblo will plan and design a centralized wastewater treatment plant that will improve wastewater infrastructure across the territory. The estimated duration of this project is 14 months.

With the environmental justice government to government grant, Santo Domingo Pueblo plans to clean up 11 non-hazardous waste open dump sites and conduct six free trash weeks, three tire amnesty events, and two open dump community workshops. The grant will also fund outreach efforts to 2,000 community members to ensure residents understand proper waste disposal methods and the hazards of open dump sites, including soil and water contamination, to eliminate the practice of open dumping.

Both of these grants' objectives align with goals set in the EPA FY 2022-FY2026 Strategic Plan, ensuring underserved communities have clean and safe drinking water and maintain crucial water infrastructure.

American Recycler August 2024, Page A15

BUSINESS BRIEFS

Tenamec Companies expand and realign

To accommodate strategic growth and an expanded product line, Tenamec Companies, parent of Builtrite Manufacturing, Lemco Hydraulics and SAS Forks, has realigned its business operations, adding SAS Group, which now incorporates SAS Forks, SAS Rail and DRKhorse Tools.

SAS Group will be led by president Bruce Bacon, an industry veteran and entrepreneur who has founded or co-founded several dominant equipment brands serving the metals recycling, demolition and affiliated industries.

To support the new structure Tenamec has added several prominent industry veterans to its leadership team, specifically:

- Uwe Kausch has joined as vice president of marketing and product.
- Sal LaCorte has joined as vice president of sales and business development.
- Scot Stein has joined as director of SAS Rail and special projects.

Additionally, the company has assembled a best-in-class regional sales team, including:

- Wes Jones Midwest
- Andy Waszil Northeastern & Quebec, Maritimes
- Wendell Moss Southeastern
- Matt Wroblewski Southern
- Rob Henning Western
- Mark Kirsten national accounts for SAS Forks

The regional managers represent Builtrite, Lemco, SAS Forks, DRKhorse and SAS Rail

Tenamec has also begun seeking high-quality distributors to sell and service these product lines throughout North America under an exclusive agreement.

Simplified Environmental names Nelson vice president of sales

Simplified Environmental Solutions (SES), an innovator in true zero waste to landfill material processing and management, has named Dave Nelson as its new vice president of sales. Nelson joins SES after more than 30 years, serving the environmental services sector in a variety of sales leadership and strategy roles.

The St. Louis-based organization has recently opened new locations in Salt Lake City, Utah and Kansas City, Missouri, with additional expansion being considered elsewhere throughout the U.S. Each of the new locations will carry the full range of service offerings from SES, including non-hazardous secondary material processing, recycling, reuse of raw material waste and scrap, controlled disposal of finished goods, food waste reuse and compost, and onsite waste and recycling consultation.

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FOCUS on METALS

SECTION B American Recycler.com AUGUST 2024

Global copper demand at all time high

by MAURA KELLER

mkeller@americanrecycler.com

A study by Grand View Research indicated that the U.S. copper scrap market size was valued at \$661.3 million in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 4.5 percent from 2023 to 2030.

According to the study, the rising focus on the electrification of vehicles amidst efforts to reduce greenhouse gas emissions is driving the growth of the copper scrap market. Electric vehicles (EVs) require nearly four times more copper compared to internal combustion engine (ICE) vehicles, increasing copper's importance within the electric vehicle marketplace. In addition, copper is increasingly being used with the electrical components and systems for aircraft, trains and marine vessels, focusing further attention on the role recycled copper can play in the required supply within the transportation sector.

Eric Saderholm is the managing director of exploration, company co-founder, and director of American Pacific Mining Corp, a precious and base metals explorer and developer focused on opportunities in the Western U.S. with projects in Alaska, Montana and Nevada.

As Saderholm explained, the copper market is on a steady upward trajectory based on several factors. First and most important, there is an upturn in global copper demand coupled with growing concern for future production shortfalls and supply deficits. This recent uptick in demand for the red material shows no signs of slowing over the long term. While short-term dips in copper are expected, so are spikes, based on global economic factors.

"Conservatively, hard-rock copper mine production is forecast to drop by 15 percent in the next 20 years worldwide, while global demand is expected to double during this period," Saderholm said. "This presents consequential fulfillment challenges as the electrification of the planet and green energy options become increasingly common and now, often mandated. Wind energy, solar power, and electric vehicles (EVs) require a tremendous amount of copper to manufacture and implement. The modernization of developing countries, which have historically

needed minimal refined copper resources, is now adding to increased global copper demand and placing new pressure on supply chains."

Meanwhile, as Saderholm pointed out, copper recycling is becoming increasingly important for sourcing supply. It is currently responsible for approximately 30 percent of refined copper on the market which is a substantial contribution and recycling of processed copper is forecast to rise steadily to help fill worldwide production deficits.

"However, the copper recycling process is not without challenges," Saderholm said. "Most of the stockpiled copper scrap is in the form of alloys such as bronze and brass that contain potentially toxic elements such as lead and arsenic that are difficult to liberate from the alloy as a part of the recycling process. To address this, technological advances for the efficiency of economic metal segregation and processing are ongoing as copper recycling will need to fill some of the supply voids left by diminishing hard rock production."

As Erin Smith, deputy director, EHS & Recycling at Copper Development Association explained, some market segments are experiencing a notable surge in copper demand, largely driven by the clean energy transition, electrification of transportation, data centers, and the integration of green and healthy building practices.

"Copper is crucial for the low-carbon economy, supporting sectors like wind power, electric vehicles, heat pumps and energy storage," Smith said.

Additionally, a need for copper building materials plays a key role in growth, including the increased focus on zero emissions and resilient building designs, which address concerns about climate change and environmental sustainability.

As Smith explained, copper offers significant advantages, including energy, water and maintenance cost savings compared to traditional building materials, leading to increased asset valuation and risk mitigation for building owners and developers. Also, copper's high residual value and infinite recyclability, with no loss in properties, make it the sustainable choice for many applications.



Copper is increasingly being used in the electrical components and systems for aircraft, trains and marine vessels.

"One of the biggest issues facing the copper industry that metal recyclers need to be aware of, is the significant amount of high-grade copper scrap currently exported from the U.S., which could instead be recycled domestically," Smith said. "Additionally, an even larger volume of complex alloy scrap is exported because the U.S. lacks the necessary processing capacity and capabilities to recycle it domestically."

To address these issues, Smith said it is essential to develop strong partnerships and collaborate on devising solutions throughout the entire copper value chain, which includes scrap dealers and recyclers.

Smith suggested that by increasing the amount of recycled material processed domestically, the U.S. can strengthen its economy, shorten supply chains, and reduce emissions from transcontinental scrap shipments.

"Processing more scrap domestically promotes job creation and manufacturing growth, contributing to a stronger and more resilient U.S. economy and copper supply chain," Smith said.

Saderholm added that copper theft is becoming a serious problem. Theft cases

today are escalating at roughly the same rate as the rising price of copper. Obviously, copper being transported from mines to processing facilities and refined copper products are heavily protected by security measures.

"However, copper thieves have become increasingly organized from merely opportunistic individuals to highly strategic groups that evaluate their targets, execute the thefts with great precision, have sophisticated fencing operations for moving copper for market re-sale, and have more outlets to sell their stolen goods," Saderholm said. "Aside from the losses for individual businesses, this issue has grown from a nuisance to a national security issue. Many times, copper thieves target vital infrastructure including telecommunication towers, electrical facilities, water supplies, and critical security systems. Abandoned or vacant structures are the most common targets of thieves since these sites are difficult to secure and patrol and security measures are almost nonexistent. With global demand for copper at all-time highs, copper theft is expected to continue on an upward trajectory."

See GLOBAL COPPER, Page B6



Steel industry, union rally on Capitol Hill to stop unfair trade



UNITED STEELWORKERS



Four organizations representing the American steel industry and the United Steelworkers took their case to Capitol Hill urging action on legislation strengthening U.S. trade remedy laws to crack down on unfair trade practices and enhance the enforcement tools needed to combat repeat offenders of the U.S. trade remedy laws. Nearly 30 attendees representing steel producers, pipe and tube manufacturers and union workers across the United States highlighted that dumped and subsidized steel from China and elsewhere has harmed the American steel industry and applauded the introduction of the "Leveling the Playing Field 2.0 Act (LTPF)," introduced in the House by Reps. Terri Sewell (D-AL) and Beth Van Duyne (R-TX) and in the Senate by Sens. Sherrod Brown (D-OH) and Todd Young (R-IN). The bipartisan bills currently have a combined 80 cosponsors.

Representatives from ArcelorMittal, Atkore, Cleveland-Cliffs, Metallus, Inc., North American Stainless, Nucor, Outokumpu, SSAB Americas, Steel Dynamics, Vallourec, and United Steelworkers (USW) – in addition to the steel advocacy groups American Iron and Steel Institute

(AISI), Committee on Pipe and Tube Imports (CPTI) and the Steel Manufacturers Association (SMA) – participated in the events.

AISI president and chief executive officer Kevin Dempsey said, "The American steel industry has faced repeated surges of unfairly traded steel imports in recent years – due largely to dumped and subsidized imports from many countries and regions, including those that produce steel with higher carbon intensity than U.S. steelmakers. By strengthening the effectiveness of the U.S. trade laws, this bill will help give the American public confidence that their government has every tool available to fight for a level playing field for the American steel industry and our workers."

Executive director and general counsel of CPTI Roger B. Schagrin said, "U.S. steel pipe and tube producers and their employees rely on a level playing field and this legislation provides tools which will ensure the industry can continue to compete in a world market plagued by steel overcapacity and distortions caused by Chinese government ownership of their steel industry. We commend the sponsors of this bill for their commitment on this important legislation and urge Congress to act this year to ensure that the pipe and tube industry and its workers can play a vital role in the U.S. economy and support our national security."

May steel shipments increase

(AISI) reported that for the month of May 2024, U.S. steel mills shipped 7,431,201 net tons, a 3.8 percent decrease from the 7,721,633 net tons shipped in May 2023. Shipments were up 1.0 percent from the 7,356,130 net tons shipped in the previous month, April 2024. Shipments yearto-date in 2024 are 36,607,546 net tons,

The American Iron and Steel Institute down 3.3 percent vs. 2023 shipments of 37,860,154 net tons for five months.

> A comparison of shipments year-todate in 2024 to the first five months of 2023 shows the following changes: cold rolled sheet, up 4 percent, corrosion resistant steel, down 2 percent and hot rolled steel, down 2 percent.

What's the difference between a hippo and a zippo? One is really heavy and the other one is a little lighter!

CMC to open rebar facility in Akron, Ohio

A concrete reinforcing steel (rebar) fabricator, Commercial Metals Company (CMC), has announced plans to locate a facility in Akron, investing in a building that had stood vacant for one year. A JobsOhio Revitalization Grant will support the project to ensure the building is ready for use. Once renovations are complete, CMC plans to grow operations and hire up to 50 new employees over the course of 5 years.

CMC, with its products in landmark bridges and buildings all over the world, will produce fabricated rebar at its new facility. CMC is the largest producer of rebar in the U.S. and has a network of rebar fabrication facilities across the country. A team comprised of Greater Akron Chamber, Summit County, and Team NEO worked with CMC

management to ensure the Company invested in the Northeast Ohio Region for its growth.

CMC's Akron facility is its second in Ohio. The company sees potential for Ohio, with growth in construction-related products and downstream operations in the rebar market.

"The investment by CMC is representative of the ongoing resurgence of traditional manufacturing in not only the City of Akron, but also across Northeast Ohio," stated Gregg Cramer, vice president of Economic Development with the Greater Akron Chamber. "Domestic and international companies are considering Northeast Ohio due to the successful public/private partnership we have built along with our competitive cost of living, location and workforce."

Steel imports up 1.7 percent

Based on preliminary Census Bureau 15 percent). Products with a significant data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,850,000 net tons (NT) of steel in May 2024, including 2,231,000 net tons (NT) of finished steel (up 1.7 percent and 6.6 percent, respectively, vs. April 2024). Total and finished steel imports are up 8.0 percent and 5.5 percent, respectively, year-to-date vs. 2023. Over the 12-month period June 2023 to May 2024, total and finished steel imports are unchanged and down 5.4 percent, respectively, vs. the prior 12-month period. Finished steel import market share was an estimated 25 percent in May and is estimated at 23 percent over the first five months of 2024.

Key steel products with a significant import increase in May compared to April are line pipe (up 73 percent), oil country goods (up 53 percent), sheets and strip all other metallic coated (up 17 percent), sheets and strip hot dipped galvanized (up 17 percent), and standard pipe (up increase in imports over the 12-month period June 2023 to May 2024 compared to the previous 12-month period include sheets and strip all other metallic coated (up 24 percent), ingots, billets and slabs (up 23 percent), cut lengths plates (up 23 percent) and sheets and strip hot dipped galvanized (up 11 percent).

In May, the largest suppliers were Canada (574,000 NT, down 2 percent vs. April), Brazil (453,000 NT, up 18 percent), South Korea (369,000 NT, up 77 percent), Mexico (310,000 NT, down 27 percent) and Vietnam (148,000 NT, up 2 percent). Over the 12-month period June 2023 to May 2024, the largest suppliers were Canada (6,795,000 NT, down 2 percent compared to the previous twelve months), Brazil (4,489,000 NT, up 56 percent), Mexico (4,018,000 NT, down 16 percent), South Korea (3,006,000 NT, up 17 percent) and Japan (1,168,000 NT, down 10 percent).

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

| COUNTRY | MAY 2024 PRELIM | APR. 2024 FINAL | % VAR. MAY VS. APR. | YTD 2024 (5 MON.) | YTD 2023 (5 MON.) | % VAR. 2024 VS. 2023 | JUNE 2023 TO MAY 2024 | JUNE 2022 TO MAY 2023 | % VAR. |
|-------------|-----------------------|-----------------------|---------------------------|-------------------------|-------------------------|----------------------------|-----------------------------|-----------------------------|--------|
| Canada | 574 | 587 | -2.2% | 2,922 | 3,013 | -3.0% | 6,795 | 6,929 | -1.9% |
| Brazil | 453 | 386 | 17.5% | 2,205 | 1,658 | 33.0% | 4,489 | 2,871 | 56.4% |
| Mexico | 310 | 423 | -26.7% | 1,743 | 1,908 | -8.7% | 4,018 | 4,777 | -15.9% |
| South Korea | 369 | 208 | 77.0% | 1,308 | 938 | 39.4% | 3,006 | 2,574 | 16.8% |
| Japan | 108 | 98 | 10.0% | 504 | 525 | -4.0% | 1,168 | 1,295 | -9.8% |
| Germany | 89 | 98 | -9.2% | 383 | 476 | -19.7% | 948 | 1,145 | -17.2% |
| Vietnam | 148 | 145 | 2.0% | 545 | 211 | 158.0% | 894 | 589 | 51.8% |
| Taiwan | 117 | 83 | 41.1% | 435 | 327 | 32.9% | 687 | 880 | -21.9% |
| Netherlands | 73 | 53 | 36.3% | 238 | 195 | 21.7% | 550 | 577 | -4.6% |
| China | 43 | 36 | 19.7% | 180 | 274 | -34.4% | 503 | 661 | -23.8% |
| Egypt | 49 | 90 | -45.2% | 211 | 71 | 197.9% | 474 | 103 | 360.6% |
| Romania | 45 | 80 | -44.1% | 219 | 186 | 18.1% | 409 | 460 | -11.0% |
| Turkey | 39 | 61 | -35.2% | 238 | 160 | 49.1% | 390 | 671 | -41.8% |
| Algeria | 6 | 20 | -68.4% | 63 | 222 | -71.8% | 367 | 412 | -11.0% |
| Italy | 30 | 63 | -53.0% | 164 | 243 | -32.4% | 361 | 538 | -32.9% |
| All Other | 396 | 370 | 7.1% | 1,831 | 1,806 | 1.4% | 4,082 | 4,621 | -11.7% |
| Total | 2,850 | 2,801 | 1.7% | 13,187 | 12,213 | 8.0% | 29,140 | 29,102 | 0.1% |
| memo EU-27 | 408 | 460 | -11.3% | 1,766 | 1,841 | -4.0% | 3,928 | 4,521 | -13.1% |
| | | | | | | | | | |

Novelis names new executive leadership

Novelis Inc., a sustainable aluminum solutions provider and the world leader in aluminum rolling and recycling, announced executive leadership appointments in key regions and roles in order to accelerate global growth and advance aluminum as the material of choice for circular solutions. Company executives Roberta Soares and Cary Chenanda have been appointed as regional presidents for South America and North America.

Former president of South America, Francisco Pires, has transitioned to the new role of chief transformation officer, while former interim president of North America, Tadeu Nardocci, will transition to overseeing the company's large capital projects as executive vice president, manufacturing operations.

Novelis South America

Roberta Soares has been named senior vice president and president, Novelis South America. As head of the region, Soares will lead all aspects of the company's business in South America, which had net sales of \$2.46 billion in fiscal year 2024. The region is made up of two plants and approximately 1,700 employees serving the beverage packaging and specialties markets.

Soares was most recently vice president, operations, Novelis South America. Prior to that, she spent four years as vice president, finance and IT, Novelis South America. Soares joined the company in 2000 as a marketing intelligence and financial planning analyst in Brazil. Over the course of her tenure at Novelis, she held roles in operations, finance, strategy, marketing and recycling.

Novelis North America

Cary Chenanda has been appointed executive vice president and president, Novelis North America. As head of the region, Chenanda will lead all aspects of the company's business in North America, which had net sales of \$6.72 billion in fiscal year 2024. The region is made up of 15 plants and more than 4,000 employees serving the beverage packaging, automotive and specialties markets.

Chenanda joined Novelis in April

2024 as president designate of the North America region. Prior to Novelis, Chenanda spent 25 years at Cummins and most recently held the position of vice president & general manager of Cummins Emissions Solutions, a \$4 billion business with 4,500 employees, 12 manufacturing plants, seven technical centers, and two joint ventures worldwide. During his tenure at Cummins, Chenanda held positions of increasing responsibility across engineering, marketing, purchasing, operations and general management.

Transformation Office

Francisco Pires has been appointed senior vice president and chief transformation officer. In this role, Pires will focus on driving action on Novelis' vision to advance aluminum as the material of choice for circular solutions.

Pires was most recently senior vice president and president, Novelis South America. Prior to that, he served as chief operating officer for Novelis South America. Pires joined Novelis in 2012 as director of procurement in South America. During his tenure, he has held leadership positions in sales, procurement and supply chain for Novelis South America. **Expansion**

Tadeu Nardocci has been appointed executive vice president, manufacturing operations, and will oversee a number of transformational investment projects already under way, including the approximately \$4.1 billion investment to build an integrated, 600 kilotonne rolling and recycling plant serving the beverage packaging and automotive markets in Bay Minette, Alabama.

A 45 year veteran of Novelis, Nardocci has deep expertise in capital expansion projects and held multiple executive leadership positions throughout his tenure with the company, including interim president of Novelis North America, chief manufacturing officer, president, Novelis South America, president, Novelis Europe, and senior vice president of innovation, technology and strategy.





Grants awarded to support clean manufacturing of steel and other construction materials



The U.S. Environmental Protection Agency announced the selection of 38 grant recipients across the country, totaling nearly \$160 million, to support efforts to report and reduce climate pollution from the manufacturing of construction materials and products. EPA estimates that the construction materials used in buildings and other built infrastructure account for more than 15 percent of annual global greenhouse gas emissions.

Billions of tons of concrete, asphalt, steel, glass and other construction materials and products are required to build, maintain and operate the country's buildings and infrastructure. The U.S. leads the world in the production of clean construction materials will reduce climate pollution by helping businesses measure the carbon emissions associated with extracting, transporting and manufacturing their products.

The grants will support the administration's Federal Buy Clean Initiative, which leverages the U.S. government's sway as the largest purchaser on Earth to catalyze demand for clean construction materials used in federal buildings, highways, and infrastructure projects. The grants will be awarded to businesses, universities and nonprofit organizations serving all 50 states and will help disclose the environmental impacts associated with manufacturing concrete, asphalt, glass, steel, wood and other materials.

Deputy EPA Administrator Janet McCabe announced the grant selections at Superior Paving, an asphalt facility in Chantilly, Virginia, alongside Richard Willis, PhD, vice president for engineering, research, & technology at the National Asphalt Pavement Association, and additional federal and industry leaders.

Ranging from \$250,000 to \$10 million, the grants will help businesses develop robust, high-quality environmental product declarations (EPDs), which show environmental impacts across the life of a product and can catalyze more sustainable purchasing decisions by allowing buyers to compare products. Investments in data and tools will make high-quality EPDs available for 14 material categories, which include both new and salvaged or reused materials. These efforts will help standardize and expand the market for construction products with lower greenhouse gas

emissions. They will make it easier for federal, state and local governments and other institutional buyers to ensure the construction projects they fund use more climate-friendly products and materials.

The grant selections include a diverse range of projects to help measure and ultimately reduce greenhouse gases. For example:

- A company in Georgia will receive funding to report the emissions savings gained by switching from higher-carbon components in cement and concrete to recycled and innovative materials
- A project in Maine will help a company that manufactures insulation made from wood fiber track the quantity of energy and raw materials used in each of their processes.
- A project in Illinois will help a nonprofit organization that sells reused architectural materials measure how much the salvaged materials reduce carbon emissions.
- A large insulation manufacturer based in Indiana will use grant funding to measure and report greenhouse gas emissions for their full product
- A major university will use grant funds to research and document carbon emissions savings from reusing structural steel
- Several projects will support workforce development to grow the number of sustainable construction professionals available to support these important efforts.

EPA is also announcing expanded technical assistance opportunities to businesses, the federal government and other organizations across America. EPA will initially offer EPD development support and direct businesses to resources to help them measure and reduce the embodied carbon associated with their materials, such as those provided by the ENERGY STAR Industrial program. Federal agencies and their suppliers will be able to compare the climate impact of various materials to drive near-term greenhouse gas emissions reductions. Robust EPD data will be further strengthened by a new label program under development that will identify low carbon construction materials for the growing Buy Clean marketplace.

EQUIPIVIENT SPOTLIGHT

Shears/Loggers/Balers

by MARY M. THORNTON

maryt@americanrecycler.com

According to a report by Linkedin, the global metal market was valued at \$1,004,745 million in 2022 and is expected to reach a value of \$1,171,982 million by 2028. The main market sectors involved in the movement of the metals market are the auto, power and oil industries and six metal varieties are typically the most dominant in shaping market trends. The U.S., Europe, China, Japan, Southeast Asia and India are the main regions that also influence market trends. The information that follows focuses on some of the most common equipment options – shears, loggers and balers, which are typically used in processing metals.

According to Curt Spry, sales manager for Aljon/C&C Mfg., the Aljon 580CL is a full featured, twin-ram, car logger/baler that is capable of efficiently processing 20-25+ complete end of life cars, vans, and pick-ups (including engines, transmissions, and running gear). Power for the machine is generated by a proven Volvo-Penta Tier 4 Final diesel or via an electric motor. "The logger's comfortable, climate controlled cab is equipped with Aljon's exclusive monitoring system, which allows an operator to monitor machine functions as well as view the baling function in real time. To meet the challenges of processing 21st century vehicle structures, Aljon executed significant structural redesigns of the 580 crushing chamber. Before implementing, the proposed changes were thoroughly analyzed and proven, using FEA (finite element analysis). This was followed by exhaustive field testing on our most demanding application. Redesigned baler doors, reinforced end walls, lid cylinder end caps and cylinder ends are now greatly enhanced on our logger, which was already a good overall performer," said Spry.

Danieli Corporation provides a wide range of heavy duty scrap shears, which offer the perfect customized solution for each specific type of scrap to be processed. The range includes a wingtype machine, side compression, and inclined shears. "Our shear capacity can reach up to 3,000 tons of force and 100 tph in productivity. The continuous innovation and support of the Danieli Group research and development team allows Danieli to always be a step ahead in offering unique solutions. Our patented DIS automatic blade changing system allows shear operators to change blades in under 30 minutes and greatly reduces the risk of operator injury," explained Jim Stepanek, North American sales

The company's new DIS series of inclined stationary shears are designed to work constantly in very rugged conditions. At maximum capacity, these machines allow scrap yards and melt shops to cut and densify log material as well as shear through P&S, HMS and more – while reducing the need for oxicutting. The design of the high efficiency hydraulic circuit simultaneously allows for optimization of electrical consumption, even during very fast cycles. Whatever your stationary shear needs may be, Stepanek said Danieli can

provide you with a solution.

The **ELDAN** Multi-Purpose Rasper is a heavy duty shredder used for both primary and secondary processing, depending on material and capacity. Carsten Nielsen, product manager, noted how "high inertia from the flywheel ensures an even load on the machine, thus

yielding a higher cutting power. The machine is belt driven for simple transmission, and the rotor is manufactured and designed for minimum wear. The knives can be reground multiple times on a 'flat-bed' grinder, ensuring long life and low operation costs. The machine is designed for quick and easy change of knives and screens, which are available in different hole sizes for flexible production. Exchangeable wear parts ensure a virtually indestructible machine." The Multi-Purpose Rasper is available in various sizes and in extra heavy duty versions, depending on the desired capacity and cutting force. For the added benefits of adjustable rotor speed, reduced power supply costs, reduced power consumption by up to 40 percent and starting up when fully



Aljor

loaded with material, the Multi-Purpose Rasper is also available with a frequency converter option.

Okada America offers nine models of shears, for carriers ranging in weight from 3 to 170 metric tons. The firm's versatile OS Series Scrap Shear can cut ferrous and nonferrous scrap, concrete, pipe, solid round I-beams and plate materials. "Our OS Series shear is perfect for 2nd and 3rd member applications, which provides flexibility for processing and hard to reach areas," commented Neil Maus, marketing manager. Product features include a speed valve for reduction in opening and closing times, 360° hydraulic rotation, an interchangeable tip and blades for optimal efficient along with easy maintenance and a robust jaw design increases cutting force.

See Shears, Page B5



Danieli Corporation



Okada America



SHEAR EXCELLENCE!

OS Series Scrap Shear

- Nine models, speed valve, robust cutting force
- Interchangeable tip & blades, 360° hydraulic rotation
- Locations: OH, OR, TX



Shears/Loggers/ Balers

■ Continued from Page B4

Serving U.S. customers since 1995, the balance of the Okada product line includes 10 fixed grapple models for carriers ranging in weight from one to 50 metric tons, eleven types of rotating grapples for carriers ranging in weight from three to 50 metric tons and five multi-processors for carriers ranging in weight from 16 to 160 metric tons.



Eldan Recycling



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Global Copper

■ Continued from Page B1

Upgrading site security, including armed guards, abandoned site patrols, and camera surveillance, is one way to curb global copper theft.

"Another important method to minimize theft is to identify and scrutinize the buyers of stolen copper products to help identify groups responsible for the thefts," Saderholm said. "Copper theft usually carries very light fines and short prison sentences, and these punishments should be much harsher to hinder the upswing in thefts. As an outcome, these increased security measures and deterrents will be costly to implement and directly affect future copper prices."

Other challenges for the copper industry include recycling process location and capacity, energy availability, adequate space for stockpiling, permitting concerns, environmental stewardship, social license and acceptance, further public education about the importance of recycling, ease of transport of scrap, and waste management and disposal.

"There is a long list of challenges and concerns, but none are insurmountable with government and public awareness and support," Saderholm said.

Future Initiatives

Several new operations are coming online in the U.S. that will increase secondary smelting and refining capacity and open up new sources of recycled feedstock for copper and copper alloy semi-fabricators at a critical time.

According to Smith, copper plays a pivotal role in the U.S. economy, defense, and the decarbonization of other industries, including construction.

Because of its strength, corrosion resistance, and electrical conductivity, copper is highly used in the construction sector and is ideal for plumbing, roofing, electrical wiring and heating systems. And as the world continues to experience a construction "boom" especially in developing countries, a lot of copper is required. As such, attention is being paid to scrap copper garnered from obsolete buildings, construction debris, and other infrastructure.

Recycling copper is also economically beneficial as virgin copper must undergo lengthy mining, refining and shipping procedures. That's why more and more manufacturers across a variety of industries are embracing copper scrap. And as copper recycling technology continues to be refined, the overall process has become more effective and efficient in the sorting, smelting, and refining of recovered copper—all of which results in high-quality recycled copper outputs.

"It is crucial to acknowledge that recycling alone will not suffice to meet future demand as many copper products have very long service lives and do not leave the urban mine for decades," Smith said. "Meeting projected U.S. demand growth requires an 'all-of-the-above' approach to increasing supply. The U.S. will need to mine and refine more copper, recycle more, and maintain imports from reliable trade partners to ensure a robust and resilient supply chain."

And Saderholm pointed out that with copper's recent addition to America's

critical metals list, the industry is hopeful this status will bring greater awareness of the importance of the red metal to U.S. consumers. This can be leveraged to build a needed platform to educate the public, connecting the dots between copper's role in the use of everyday products and its importance in the transformative changes now happening in technology, electrification, and energy.

'Copper's critical metal designation can also help the U.S. industry's case for America to become self-reliant in producing and recycling copper, and the role that government must play for this to happen," Saderholm said. "Over the years, U.S. governments of all political stripes have been slow to react in addressing the nation's copper shortage. In an attempt to play "catch up," they offer subsidies and incentives to expedite copper mine permitting alongside approvals for expansive recycling facilities. In truth, the U.S. is far behind Europe in incentivizing and promoting copper recycling. Today, America is the second largest consumer of copper behind China, and our over-reliance on other countries to supply necessary metals and mineral needs is not a long-term strategy for creating a sustainable long-term supply."

While copper's critical metals status is a good step forward, Saderholm said the industry needs to be plain in delivering sober comments to the masses about why we are facing a supply shortfall, domestically and internationally.

"Existing mines can only produce so much copper for so long. Hard rock copper mines are now facing several upcoming challenges due to this increased worldwide copper demand. Many large mines have been in production for several decades or more," Saderholm said. "These operations are now dealing with diminishing ore reserves, lower grade ore production, increased permitting and processing costs, as well as numerous geopolitical issues."

Bringing new copper mines online takes many years. Even when resource opportunities and political views align for developing a new copper mine, time is needed to address environmental, Indigenous, and community stakeholder considerations. These consultations, together with permitting, may require 15 or more years before a mine can be built and copper production can begin.

"Recycling cannot replace mining for primary copper supply. It is worth pointing out that while the contribution of recycled metals to the global copper market plays an ever-growing role, it is impossible to fully replace copper sourced from hard-rock mines," Saderholm said. "There is simply not enough historic worldwide copper-bearing scrap metal available to ever become a complete replacement not even close. Exploration and mining will always be key to meeting the increasing demand for copper, which is expected to double in the next 25 years. Bringing on new mines and optimizing older mines will be essential. Recycling will never realistically fill those looming demand requirements. That being said, the collective copper industry must focus in the short term on optimizing recoveries and refined ore control measures from existing mines, alongside copper-bearing scrap recycling to fill this looming supply void."

Domestic aluminum demand up 4.3 percent in first quarter signaling industry rebound



The Aluminum Association released preliminary estimates as part of its monthly Aluminum Situation statistical report, showing demand for the aluminum industry in North America (U.S. and Canada) increased 4.3 percent year-over-year through the first quarter of 2024. This follows an estimated drop in demand of 3.9 percent last year after strong results in 2022.

"Domestic aluminum demand is rebounding so far this year amidst continued interest from our customers and end consumers in more sustainable, recyclable material options," said Charles Johnson, president & chief executive officer of the Aluminum Association. Among key takeaways from the report:

- Aluminum demand in the United States and Canada (shipments by domestic producers plus imports) totaled an estimated 6,955 million pounds through March 2024, compared to the Q1 2023 total of 6,666 million pounds.
- Primary aluminum ingot shipments increased 16 percent year-over-year compared to Q1 of 2023 while sheet

- & plate shipments grew 6.1 percent during the same time period.
- At the same time, foil shipments dropped 19.2 percent and extruded product shipments dropped 5.4 percent in the first quarter.
- Total semi-fabricated or "mill" product demand was up five-tenths of one percent year-over-year.
- Exports of aluminum ingot and mill products from the U.S. and Canada (excluding cross border trade) totaled 769 million pounds to date, up 36.6 over like-2023.
- On average, orders recorded by domestic producers year-to-date in 2024 (through April) increased 4.8 percent over year-to-date 2023, according to the Association's Index of Net New Orders of Aluminum Mill Products (baseline index of 100).
- Total imports of unwrought aluminum and semi-fabricated aluminum products into North America (US and Canada) have fallen 13.5 percent year-to-date in 2024 (through April).

U.S. sets "melt & pour" rule for Mexican steel imports

The Secretary of Commerce reported on the effect of imports of steel mill articles on the national security of the U.S. under section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862). The Secretary found that steel articles are being imported into the U.S. in such quantities and under such circumstances as to threaten to impair the national security of the U.S.

In Proclamation 9705 of March 8, 2018 (Adjusting Imports of Steel Into the U.S.), the Secretary's finding that steel articles, as defined in Clause 1 of Proclamation 9705 (as amended by Clause 8 of Proclamation 9711 of March 22, 2018 (Adjusting Imports of Steel Into the U.S.), are being imported into the U.S. in such quantities and under such circumstances as to threaten to impair the national security of the U.S. and then decided to adjust the imports of steel articles by imposing a 25 percent ad valorem tariff on such articles imported from all countries except Canada and Mexico. Proclamation 9705 further stated that any country with which the U.S. has a security relationship is welcome to discuss alternative ways to address the threatened impairment of the national security caused by imports from that country. Also noted, should the U.S. and any such country arrive at a satisfactory alternative means to address the threat to the national security such that it was determined imports from that country no longer threaten national security, the restriction could be removed or modified on steel articles imports from that country and, if necessary, adjust the tariff as it applies to other countries, as national security interests of the U.S. require.

Accordingly, the U.S. will implement a melt and pour requirement for imports of steel articles that are products of Mexico and increase the section 232 duty rate for imports of steel articles and derivative steel articles that are products of Mexico and melted and poured in a country other than Mexico, Canada or the U.S. In order to be eligible for importation free from section 232 tariffs, steel articles and derivative steel articles that are products of Mexico must be melted and poured in Mexico, Canada, or the U.S. These measures will provide an effective, long-term alternative means to address any contribution by Mexican steel articles imports to the threatened impairment of the national security by restraining steel articles imports to the U.S. from Mexico, limiting transshipment, and discouraging excess steel capacity and production. The U.S. will monitor the implementation and effectiveness of the measures agreed upon with Mexico in addressing national security needs, and this determination could be revisited in the future.

Cleveland-Cliffs to acquire Stelco

Cleveland-Cliffs Inc. has entered into a definitive agreement to acquire Stelco Holdings Inc. The acquisition confirms Cliffs' commitment and leadership in integrated steel production in North America, and also brings an additional 1,800 United Steelworkers union employees into Cliffs' workforce. Under the terms of the agreement, Stelco shareholders will receive CAD \$60.00 per Stelco common share in cash and 0.454 shares of Cliffs common stock per share of Stelco common stock (or CAD \$10.00 per share as of July 12, 2024), representing a total consideration of CAD \$70.00 per Stelco share. The transaction has received full support from David McCall, International president of the USW union.

The transaction implies a total enterprise value of approximately \$2.5 billion (CAD \$3.4 billion) for Stelco and represents an acquisition multiple of 4.8x 3/31/24 LTM Adjusted EBITDA with synergies. Cliffs has a clear line of sight to the achievement of approximately \$120 million of estimated annual cost savings with no impact to union jobs. The acquisition is expected to be immediately accretive to 2024 and 2025 EPS. The transaction implies pro forma net leverage of 2.4x 3/31/2024 LTM Adjusted EBITDA. Upon completion of the transaction, Cliffs shareholders will own approximately 95 percent and Stelco shareholders will own approximately 5 percent of the combined company, on a fully diluted basis.

Stelco is an integrated steelmaker consisting of two operational sites, both located in the province of Ontario – Lake Erie Works, the newest and lowest-cost integrated steelmaking facility in

North America and Hamilton Works, a downstream finishing and cokemaking facility. Stelco ships approximately 2.6 million net tons of flat-rolled steel annually, primarily hot-rolled steel to service center customers. The acquisition of Stelco expands Cliffs' steelmaking footprint and doubles Cliffs' exposure to the flat-rolled spot market, with cost advantages in raw materials, energy, healthcare, and currency. Stelco adds capabilities that complement Cliffs' existing operations and product portfolio, while diversifying its customer base across the construction and industrial sectors. The transaction brings substantial integration opportunities, generating synergies associated with procurement, overhead, and public company related expenses.

Voting support agreements for the transaction have been entered into by Fairfax Financial Holdings, Alan Kestenbaum, an affiliate of Lindsay Goldberg and each of the other executive officers and directors of Stelco, which collectively represent approximately 45 percent of Stelco's outstanding shares, pursuant to which such parties have agreed to vote all shares held by them in favor of the transaction, subject to customary exceptions.

Upon closing of the transaction, Stelco is expected to continue operations as a wholly-owned subsidiary, preserving the name and legacy of the business.

The transaction has been unanimously approved by Cliffs' and Stelco's respective boards. The transaction is expected to close in the fourth quarter of 2024, subject to approval by Stelco shareholders, receipt of regulatory approvals and satisfaction of other customary closing conditions.

JSW to enhance blast furnace operations



JSW Steel Limited and JFE Steel Corporation have commenced pilot demonstration of cloud-based Cyber-Physical System (CPS) technologies for blast furnace operations at JSW Steel Vijayanagar Works. Through this digital project, JSW Steel will leverage data science technologies in a cloud environment to enhance efficiency of its blast furnace operations in the manufacturing of steel. This is the first project wherein JFE provides its proprietary CPS capability to JSW Steel through a cloudbased environment. JSW and JFE will be deepening this strategic collaboration through various other digital transformation initiatives in the production of steel to be implemented at JSW Steel in the future. JFE will continue to develop this solution-based service for its partners

across various global markets.

Commenting on the collaboration between JSW Steel & JFE, Gajraj Singh Rathore, chief operating officer - manufacturing of JSW Steel said, "The digital collaboration with JFE to introduce Blast Furnace Cyber-Physical System technologies further strengthens our long-standing partnership with JFE Steel. This technological intervention will enable us to enhance the efficiencies of our blast furnace operations while positioning JSW Steel as a top-runner in data science tech deployment in the global steel sector."

JSW Steel & JFE will jointly operate the cloud-based data science technology called Blast Furnace Cyber-Physical System (BF CPS) at JSW Steel Vijayanagar Works. The BF-CPS intervention will enable JSW Steel to visualize and predict the blast furnace operations as well as aid in abnormality predictiveness through hot metal temperature control model & channeling prediction. This will enable JSW Steel to reduce operational impediments at its blast furnaces resulting in agile and stable operational outcomes. It is expected to contribute to reduction of CO2 emissions in blast furnace operations. JFE introduced this technology across all of its seven blast furnaces and continuously achieve highly-efficient and stable operations.

CMC reports reduced earnings

Commercial Metals Company (CMC) announced financial results for its fiscal third quarter ended May 31, 2024. Net earnings were \$119.4 million, or \$1.02 per diluted share, on net sales of \$2.1 billion, compared to prior year period net earnings of \$234.0 million, or \$1.98 per diluted share, on net sales of \$2.3 billion.

Peter Matt, president and chief executive officer, said, "Our business continued to generate strong financial results during the third quarter, with core EBITDA, core EBITDA margin, cash flows, and net earnings all at levels well above long-term averages. Each of these metrics also improved sequentially as we benefited from a healthy start to the 2024 construction season and solid operational performance across our footprint. Fundamentals remain good within our North American markets, supporting stable to modestly improving steel product margins, healthy shipment levels, and steady downstream backlog volumes. Encouragingly, we are realizing the impact of infrastructure activity on the demand for CMC's early phase construction solutions, and expect the magnitude of this impact to grow over the next several years."

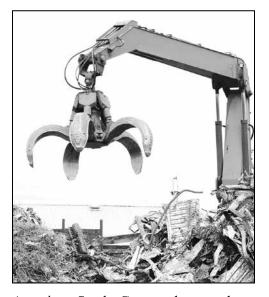
The company's balance sheet and liquidity position remained strong. As of May 31, 2024, cash and cash equivalents totaled \$698.3 million, with available liquidity of nearly \$1.5 billion. During the quarter, CMC repurchased 931,281 shares of common stock valued at \$51.8 million in the aggregate. As of May 31, 2024, \$458.6 million remained available under the current share repurchase authorization.

On June 19, 2024, the board of directors declared a quarterly dividend of \$0.18 per share of CMC common stock payable to stockholders of record on July 1, 2024, representing an increase of approximately 13 percent on a year-overyear basis. The dividend to be paid on July 10, 2024, marks the 239th consecutive quarterly payment by the Company.

Business Segments – Fiscal Third Quarter 2024

Despite historically high levels of rain, North American demand for CMC's products was good during the quarter, showing a typical seasonal uplift from the winter months into spring. North America Steel Group finished steel shipments, which include steel products and downstream products, increased 12.3 percent on a sequential basis but were down modestly compared to the prior year period. Rebar supply and demand were in balance at quarter end as stronger seasonal consumption reduced pockets of excess inventory that had developed within certain regions following disruptive second quarter weather. The construction pipeline remained historically strong, with a large number of potential projects entering the market, as new contract awards continued at a seasonally appropriate pace. Consequently, downstream backlog volumes were generally stable compared to the prior quarter. Demand from industrial end markets, which is important for merchant products, was in-line with the prior year's third quarter.

Adjusted EBITDA for the North



America Steel Group decreased to \$246.3 million in the third quarter of fiscal 2024 from \$367.6 million in the prior year period. The earnings reduction was driven by lower margins over scrap costs on steel and downstream products, partially offset by improvements in controllable cost performance. During the quarter CMC incurred \$11.8 million in costs, net of depreciation, related to the commissioning of its Arizona 2 micro mill, compared to costs of \$7.3 million during the prior year period. The adjusted EBITDA margin for the North America Steel Group of 14.7 percent was consistent with the year-to-date average of 15.5 percent.

Europe market conditions in the third quarter were similar sequentially, maintaining the marked improvement that emerged during the second quarter compared to late fiscal 2023 and early fiscal 2024. Long-steel consumption remained substantially below historical levels, but better demand in certain end market applications, regional supply discipline, and lower inventories across the supply chain improved steel pricing stability. The Europe Steel Group reported an adjusted EBITDA loss of \$4.2 million, continuing the trend of improved financial performance. On a sequential basis, financial results benefited from higher margins over scrap, increased shipment volumes, and lower controllable costs per ton. Europe Steel Group's average selling price increased \$8 per ton from the second quarter of fiscal 2024, while scrap costs decreased by \$5 per ton, leading to a \$13 per ton margin expansion.

Emerging Businesses Group third quarter net sales of \$188.6 million were unchanged from the prior year period and up 20.9 percent on a sequential basis. Adjusted EBITDA for the segment of \$38.2 million was similarly unchanged on a year-over-year basis and was more than double the second quarter level. Sequential improvement in net sales and adjusted EBITDA were driven by seasonally higher construction activity and robust project specific shipments of geogrid solutions and Performance Reinforcing Steel. Sales mix contributed positively to sequential adjusted EBITDA growth, with a greater percentage of geogrid volumes composed of CMC's highest margin proprietary offering. Demand conditions in the North American markets remained strong during the quarter and CMC experienced good levels of order entry for delivery in future periods.







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