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Safety: Taking steps to protect your most important assets

Cleaning plastics for recycling



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by MAURA KELLER

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Predicting the future is like forecasting the weather. You think you know what's going to happen – then it changes. Within the recycling arena there is a lot of attention paid to the safety and security of employees, usually in terms of accidents or the likelihood of personal injury. So what are the inherent safety risks in the recycling industry and what steps can companies take in injury prevention of employees?

Jeff Wilke, director of safety at Alter Trading, a leader in scrap metal recycling for over 122 years said one of the biggest risks facing today's recycling industry is the mobile equipment including forklifts, loaders, material handlers and commercial trucks, used within the industry.

“Unfortunately every year our industry sees serious injuries and fatalities involving heavy equipment,” Wilke said. “Unless you have sat in the seat of the heavy equipment you just can't understand that a 6' tall person can hide in many different spots all around this equipment. Most people don't understand the potential deadly hazards of this equipment and walk up to material handlers, loaders and forklifts and will walk behind trucks every day. They expect the operator to see them. We train our employees to always make sure they are seen by the equipment operator anytime they are close to the equipment, or better yet if they can contact them via radio do that and then confirm they will be entering the area.”

Alter Trading uses blue lights on equipment that operate indoors, as these lights will shine in front and back of the equipment and give an early warning that equipment is approaching. Some equipment also has cameras as an added safety feature.

“But none of this technology will eliminate the risk and workers and operators must be alert and actively look out for pedestrians in the area,” Wilke said.

Another key safety risk facing the recycling industry is contamination, from collection to processing to end market. As Veronica Roof, senior compliance specialist, Burns & McDonnell explained, in conducting recycling audits across the country, they have encountered hazardous waste, such as needles, and combustibles, such as batteries and propane tanks, in the recycling stream.

“With single stream recycling collection, most items are collected in



Safety precautions encompass all aspects of the workplace, as reflected by the high 33 percent of injuries being caused by muscular imbalances. PHOTO BY DAVE WILLMAN | DREAMSTIME

cars, but when nonrecyclable items make it into the collection carts, the safety risk increases and can pose significant injury to workers, equipment and the environment,” said Bob Craggs, environmental services business development manager, Burns & McDonnell. “Fires are also a safety challenge in recycling centers and transfer stations nationwide. Vendors are now offering new technologies with artificial intelligence (AI) programs specializing in fire prevention.”

Tracy Rodriguez, injury prevention specialist at Injure Proof said soft tissue injuries are also one of the leading causes of injury. When workers are doing repetitive movements – including sitting in and driving trucks – they form muscular imbalances that cause soft tissue injuries.

“These cause 33 percent of injuries in the workplace, making them the most common cause,” Rodriguez said.

Kris Corbett, director at Atlas Injury Prevention Solutions said that employees within the recycling industry are also prone to excessive high-speed repetition motions, long static postures with lower body, and excessive awkward positions when sorting recycled product. Therefore workers whose jobs lie within sorting and manually touching items are at higher risk of injuries.

“Musculoskeletal Disorder (MSD) injuries are expensive and according to the CDC accounted for 29 to 35 percent of all occupational injuries and illnesses involving days away from work,” Corbett said. “With direct costs approximated at \$20 billion dollars annually

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Penta Medical Recycling repurposes used prosthetics



Penta Medical Recycling has expanded its scope of impact, now reaching six different countries since its inception in 2016. The nonprofit, which began as a project between Yale and Brown University students, now works across the globe with organizations in Vietnam, Thailand, Sri Lanka, Pakistan, Guatemala and Ecuador.

According to the World Health Organization, 85 to 95 percent of the estimated 40 million people worldwide who need prosthetic or orthotic devices do not have access to care. Due to regulations and red tape, prosthetic devices cannot be reused within the U.S. Penta's focus on making use of these discarded devices has led them to team up with local and national prosthetic distributors, manufacturers, care providers, and organizations around the U.S. to collect the prosthetic components and ship them to Penta's partners around the world.

"Quality prostheses can cost tens of thousands of dollars, barring many from affording devices that would enable them to fully function in everyday life," said Henry Iseman, founder and executive director of Penta. "At Penta, we believe mobility is a right, and we are proud to provide safe prostheses to those in need in six countries. We look forward to expanding our partnerships with U.S. organizations, as well as our donor base of amputees, to increase our supply of donated devices and better provide mobility to the growing number of people around the world that Penta is able to reach."

Penta Medical Recycling began its mission in Vietnam in 2016, where approximately 500,000 people are in need of prosthetic devices, and has entered into an agreement to provide the Vietnamese Ministry of Health subsidiary group, the Young Physicians Association, with components as part of a major three year healthcare project to provide 5,000 people with limbs. In addition to this relationship, Penta is now working with government organizations, private healthcare institutions, university hospitals, non-profits and international NGOs.

Today, Penta has shipped over 800 components overseas, equivalent to over \$5m of medical waste, fitted more than 300 people with prosthetic limbs, brought more than 50 clinics on board to donate, and has recruited more than 70 volunteers for various programs. To support Penta's growth the organization embarked on a capital campaign in Summer 2019 to raise \$1m in the next 3 years, and has already raised nearly \$150,000. Financial support for the project initially came from Yale University and Brown University. Penta is now successfully fundraising through private donors, crowdfunding and charitable foundations, having recently gained the support of the Ford Foundation and Bloomberg Philanthropies, among others.

In the next year, Penta's goal is to provide 1,000 more people with prosthetic limbs through its affiliated groups and to provide limbs to amputees in 10 countries.

NWRA wants changes after hearing

The House Appropriations Subcommittee on Interior, Environment, and Related Agencies held a hearing on "Strengthening Community Recycling Programs: Challenges and Opportunities."

"The National Waste and Recycling Association appreciates Congress for holding this hearing. We have worked with Congressional leaders on bipartisan solutions to increase both the quality and quantity of recycled materials with our support for Senator Rob Portman's (R-OH) RECYCLE Act. The legislation would create a

consumer recycling education and outreach grant program within the Environmental Protection Agency in an effort to clean up America's recycling stream.

"Furthermore, we actively opposed proposed legislation that would establish product stewardship or extended producer responsibility financing schemes. On behalf of the private waste collection industry, I urge Congress to pass bipartisan, responsible legislation like the RECYCLE Act," said Darrell Smith, NWRA president and chief executive officer.

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Safety

■Continued from Page 1

these injuries are crippling workers and many are preventable. Injuries to backs, shoulders, wrists, knees – anywhere there is a joint is a potential problem spot that can disable an employee for days or a lifetime.”

Best Safety Practices

To head off the inherent risk facing recycling industry workers, there are some key safety practices that need to be established. One key safety practice is visibility. Wilke recommended that employees wear high visibility/reflective clothing and never approach mobile equipment unless they make eye contact and communicate their travel path to the equipment operator.

Training also is imperative. Operators must be trained of the hazards of the environment, workers and visitors at the yard.

“Many visitors have no understanding of what is happening or the hazards in the operations,” Wilke said. “Train all workers of the blind spots of equipment. We often will put employees that have never sat in the seat of heavy equipment in the seat and then hide several workers in blind spots and ask them to find the employees. This is eye opening for new employees and it

helps them understand why our safety rules are so important.”

To prevent the soft tissue injuries that Rodriguez stresses as an issue, companies should focus on soft tissue injury prevention services, which are the most effective way to combat these injuries. As Rodriguez explained, these services can include ergonomic assessments, group stretching and strengthening programs, having an athletic trainer address pain issues and train employees on proper positioning and form, and any combination of the three.

“When it comes to safety, prevention is much more effective for their bottom line.”

“All told, the industry is increasingly turning to automation and AI to help mitigate safety challenges,” Roof said. “With automated collection, recyclables are mechanically lifted into the collection vehicle, greatly reducing the risk of injury, such as back strain or hand puncture, to workers.”

For processing, the sequence for removal of contaminants and recyclables from the stream is key to offsetting the safety risks. As Roof explained, robots are performing the sorting of materials function to reduce the amount of manual labor needed for the recycling process.

“A ‘best practice’ is to identify materials that threaten sorting workers as early as possible in the recycling process,” Roof said. “By spreading materials out as they are being loaded onto the recycling process line, this allows equipment and workers to remove bulky and other items that pose safety risks before they reach the workers on the sorting line.” This proactive surveillance minimizes safety risks and increases the quality of recyclables recovered. It’s also critical to check that all workers are wearing the proper personal protective equipment (PPE).

Recycling facilities also struggle with plastic bags because they tend to get tangled in equipment, stalling the entire recycling process. “Robots are being designed to pull plastic bags,” Craggs said. “Optical sorters are another helpful AI tool that can determine plastic color and sort plastics accordingly, as well as delineate between 2D and 3D objects. As our industry continues to evolve, AI will increasingly be integrated into daily operations of recycling facilities to bolster efficiency and safety.”

From a physical stress standpoint, Corbett said the best safety practices should include early intervention, ergonomic training, wellness coaching, and stretching.

“Typically, it’s the broad approach of integrated services that gives the best results,” Corbett said. “Utilizing one or two solutions might not get to the root problem or advancements in one area might be diminished by a regression in another. If you really

understand the body mechanics of each individual job, placing current employees, new hires, return to work, and limited duty workers will be easier, better, and lessen the risks of injuries.”

Future Advancements

The statistics don’t lie – solid waste and recycling is one of the world’s most dangerous industries in the U.S. Craggs said by reducing the need for manual labor and utilizing evolving technology, we can reduce collection and processing accidents. So what future advancements will continue to help solve the safety issues within the recycling industry?

“Safety training, awareness and education of the hazards and safe work practices will be an ongoing part of ensuring everyone is safe around heavy equipment,” Wilke said. “I look at seatbelts, the first production installed seatbelt was by Ford in 1956, it was a lap belt and the emphasis was on front seat passengers to wear them.”

Now over 60 years later we have three-point seatbelts, mandatory seatbelt laws and airbags.

“This technology has reduced fatality and injuries but the common factor here is people. People must wear seatbelts and follow the basic safety rules and we must continue to educate train and write laws to make people safer,” Wilke said. “The same goes for working around heavy equipment. All the technology in the world won’t eliminate injuries or fatalities because people are a huge part of the process.”

Prevention of soft tissue injuries also is starting to take hold. Safety managers are realizing that prevention is much more effective for their bottom line than paying for multiple injuries. “I think that in the future, we will see a big increase in these types of services and a decrease in the amount of injuries workers are experiencing,” Rodriguez says.

Roof said the future of safety in the industry would need to be a collaboration with the recycling industry, trade associations like the Solid Waste Association of North America and the public. “We will need to invest in education and outreach to inform all about the safety risks faced by the recycling industry,” Roof said. “And what each of us can do to reduce such risks.”

As Corbett pointed out, employment in the recycling industry is at an all-time high and competition for workers is stiff. Promoting a healthy and productive workforce is critical to keeping injury related costs low.

“Many safety measures are minimal in cost and high in return and keeping a potential injury off the books when a quick tip and a new \$20 riser solved the issue is important. A \$100,000 potential injury, plus a recordable claim, verses a few hundred dollars in preventative measures is a huge win for human resources, safety and the worker,” Corbett said. “As the workforce sees more aging employees’ new strategies will have to be utilized to reach them. Setting up safety protocols and wellness checks to keep tabs on this demographic will be important to keeping them healthy and working.”

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Events

March 10th-11th

C&D World. Bally’s Hotel, Las Vegas, Nevada. 866-758-4721
www.cdrecycling.org

March 15th-18th

Southeast Recycling Conference & Tradeshow/SERC. Hilton Sandestin Beach Golf Resort & Spa, Destin, Florida. 850-386-6280
www.southeastrecycling.com

March 23rd-26th

SWANApalooza 2020. Westin Peachtree Plaza, Atlanta, Georgia. 703-449-6418
www.swanapalooza.com

April 16th-18th

United Recycler’s Group. Hyatt Regency, St. Louis at the Arch, St. Louis, Missouri. 888-874-3463
www.u-r-g.com

April 20th-21st

Northeast Recycling Council (NERC) Spring Workshop. Sheraton Hartford South Hotel, Rocky Hill, Connecticut. 802-254-3636
www.nerc.org

April 20th-22nd

Aluminum Association Spring Meeting. The Broadmoor, Colorado Springs, Colorado, 703-358-2960
www.aluminum.org

April 27th-30th

ISRI Convention & Exhibition. Mandalay Bay Resort & Casino, Las Vegas, Nevada. 202-662-8500
www.isri.org

EGLE awards over \$2M to support largest expansion of recycling in Detroit history

The City of Detroit, Michigan is receiving nearly \$1 million in grants to support the largest expansion of recycling in the city's history as part of a \$2.2 million public-private collaboration to increase recycling education statewide in 2020. Liesl Clark, director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE), announced the grants previously.

The effort, which is funded by EGLE and the national nonprofit The Recycling Partnership with special support from the PepsiCo Foundation, will help build on the success of Michigan's national award winning Know It Before You Throw It recycling education campaign that EGLE launched last year.

"Increasing recycling and improving the quality of materials we're recycling is not only the right thing to do for our environment, but it also saves energy, reduces water use, decreases greenhouse gases, conserves resources and translates into local jobs," Clark said.

The aim of the first-of-its-kind Know It Before You Throw It statewide push is to better inform Michiganders on what can – and cannot – be recycled and how to recycle correctly.

Gov. Gretchen Whitmer and state legislators want to double Michigan's recycling rate to 30 percent by 2025

and ultimately reach 45 percent annually. Michigan's current 15 percent recycling rate is the lowest in the Great Lakes region and ranks among the nation's lowest. Equally important, EGLE and its campaign partners across the state are promoting awareness of cleaner recycling practices to reduce the amount of contaminated materials improperly going into recycling bins.

The nearly \$800,000 in grants to Detroit includes more than \$458,000 from EGLE and \$325,000 from The Recycling Partnership that will help fund new services offered this year by the city's Department of Public Works in its multifamily, commercial and public space recycling programs.

"The Recycling Partnership's grant of \$325,000 is its first to Detroit and will help spur a citywide education campaign rolling out in 2020 to increase participation in curbside and multifamily recycling programs," Howrani Heeres said. "It's time for each of us to step up our efforts and increase the quantity and quality of recycling in every Detroit home and business."

The collaboration between Detroit, EGLE and The Recycling Partnership, with special support from the PepsiCo Foundation, will increase residential access to recycling and collection capacity in Detroit through the purchase of 16,400 curbside recycling

carts and nearly 4,000 multifamily containers. Grant funds also will provide additional collection capacity through commercial, public space and municipal recycling containers of various sizes and a collection vehicle.

Recycling across Michigan is receiving a major boost as state legislators have increased EGLE's funding for recycling projects from \$2 million in FY2018 to \$15 million in FY 2019-2020. The additional funds are being used to support development of recycling markets, increase access to recycling opportunities, and support planning efforts to grow recycling at the local level.

Highlighting the Detroit debut of EGLE's Michigan Recycling Raccoon Squad, a six-member team of recycling champions who serve as EGLE's education ambassadors. EGLE research shows that education is key for residents to learn how to properly recycle. For example:

- 50 percent of Michigan residents mistakenly believe they're allowed to recycle plastic bags in their curbside recycling, which is prohibited by many municipalities statewide.

- 76 percent of Michiganders are unaware that failing to rinse and empty items before putting them in the recycling bin poses a risk of contaminating everything in the bin.

In addition to the Detroit grant, EGLE and The Recycling Partnership

also announced new 2020 grant opportunities across Michigan totaling \$1.5 million to communities seeking to improve material quality in residential curbside and drop-off recycling programs. This commitment from the state of Michigan will strengthen the state recycling system by providing quality materials to manufacturing facilities that depend on them to create new products and ultimately back to consumers who want to buy them.

Any Michigan municipality, township, county or regional authority representing a group of communities currently operating a curbside and/or drop-off recycling program were eligible to apply for up to \$150,000 per grant application. Funding may be used for cart tagging, education and communication, social media, signage and other tactics aimed at reducing contamination.

The economic impact of tripling the recycling rate to 45 percent would support 138,000 new jobs in Michigan's recycling industry, providing \$9 billion in annual labor income and \$33.8 billion in economic output, according to a new study commissioned by EGLE. The recycling industry in Michigan currently generates nearly 36,000 jobs statewide and an annual payroll of \$2.6 billion, a 2016 analysis commissioned by EGLE shows.

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Maine communities detail success in summer recycling internship

Four southern Maine municipalities took to the streets in the summer of 2019, inspecting recycling bins and educating residents about what is and is not recyclable. The pilot program, in partnership with ecomaine, led to lower recycling contamination rates and decreased costs for the towns of Falmouth, Scarborough, South Portland, and Windham.

Staff from each municipality and ecomaine presented their findings and a toolkit at the Town of Scarborough's Council Chambers, in the hopes that their success will inspire other communities to do the same.

By selecting collection routes and monitoring central recycling drop-off locations, interns reached more than 4,200 households with education provided on green, yellow, and red tags. Green indicated that the household was recycling properly; yellow meant that a bin contained a few items that were not recyclable; red indicated too much contamination to be picked up.

Over the course of the pilot's 8 weeks, green tags increased by an average of 19 percent, leading to a reduction in costs by 67 percent, or an average of \$4,000 per town.

"We realized that this was an important investment to make from the outset," said Lucy Perkins, South Portland's sustainability program coordinator. "Though it required some

resources and training at the beginning, we feel that the program was well worth it, and we look forward to seeing the results into the future."

Kevin Roche, chief executive officer at ecomaine, added, "ecomaine is glad to partner with our member communities on important programs like this. We could tell there was lots of enthusiasm in these students from their weeklong training session with us, and the results have been terrific for ecomaine and these four communities."

Questions from attendees for the panel included topics such as budgeting and planning, promotion and publicity, and logistics of selecting a collection route or drop-off location.

The program was initiated in these communities as a result of increasing costs associated with contamination in the recycling stream, following China's National Sword policy to restrict most recyclables from being imported. In order to process non-recyclable materials in its single-sort recycling program, ecomaine has been pushed to enforce its contamination fee structure.

Other communities that wish to explore implementing a similar program in their towns can contact any of the participating municipal staff members or ecomaine for the pilot's toolkit by visiting ecomaine.org/PilotProject19.

Mattress Recycling Council awards \$200,000 in grants to mattress collection sites

The Mattress Recycling Council (MRC), which operates the Bye Bye Mattress program in California, recently awarded \$192,000 in grant funding to 24 mattress collection sites throughout the state. The funds will be used for infrastructure improvements or equipment purchases to increase the recyclability of discarded mattresses and box springs by providing weather protection, or to achieve other efficiencies such as lowering costs and improving safety.

"Providing these grants is just one of the ways we continue to work with the more than 200 mattress collection sites throughout California to increase productivity and divert as much material as possible from state landfills," said Mike O'Donnell, managing director of MRC. "The program serves as a global model for successful mattress recycling and we want to continue that leadership."

This is the second round of MRC grants to mattress collection sites, with both the number of applicants and awards doubling since Cycle 1. Approved Cycle 2 grant projects include the construction of weather coverings and cement pads to protect mattress integrity, mobile loading ramps to help with transportation and storage and forklift attachments to help with storage and loading.

Cycle 2 grant awardees include:

- Billy Wright Landfill (Merced County)
- Bowerman Landfill (Orange County)
- City of Berkeley (Alameda County)
- City of Exeter (Tulare County)
- City of Oakland (Alameda County)

- Conservation Corps of the North Bay (Marin County)
- Foothill Sanitary Landfill (San Joaquin County)
- Fresno Comfort Sleep (Fresno County)
- Goodwill of Silicon Valley (Santa Clara County)
- Habitat East Bay/Silicon Valley (Alameda County)
- Highway 59 Landfill (Merced County)
- Holdoff's Recycling (Modoc County)
- Kings Waste Recycling Authority (Kings County)
- Lovelace Transfer Station (San Joaquin County)
- Mendocino Solid Waste Management Authority (Mendocino County)
- Neal Road Transfer Station (Butte County)
- Western Placer Waste Management Authority (Placer County)
- North County Recycling and Landfill (San Joaquin County)
- Olinda Landfill (Orange County)
- Peñas Disposál (Tulare County)
- Prima Deshecha Landfill (Orange County)
- Urban Corps of San Diego County (San Diego County)
- West Coast Resource Recovery (Contra Costa County)
- The Wilkerson Company (Solano County)

The grant program is part of MRC's annual \$1 million research fund to improve the recyclability of discarded mattresses and build new markets for recycled mattress materials. This initiative also includes evaluating and implementing efficiencies in the mattress recycling process.

More Michigan households can now recycle takeout packaging

Kent County, Michigan became the first Michigan community and sixth nationally to receive an education grant from the Foodservice Packaging Institute to increase awareness of recycling clean and empty cups and takeout food containers.

Kent County will use its FPI Community Partnership education grant to raise resident awareness about what can and cannot be recycled. In addition to paper, cardboard, metals, glass and cartons, Kent County residents can recycle clean and empty plastic cups and containers, and pizza boxes.

"Kent County is committed to reducing landfill waste by 90 percent by 2030," said Kristen Wieland, communications and marketing manager for Kent County Department of Public Works. "FPI's grant helps us educate our community to participate in recycling at home, including clean pizza boxes and plastic cups and containers."

In a recent survey of more than 2,100 Kent County residents, 38 percent of respondents said their motivation to recycle is because it is good for the planet and to keep plastics and other materials out of oceans. About a quarter of the respondents said keeping material out of landfills was their motivation to recycle.

FPI's grant to Kent County was announced at a joint press conference with Michigan's Department of Environment, Great Lakes and Energy. The department has devoted about \$450,000 to assist recycling and recovery in West Michigan. "We were excited and humbled to present our grant alongside EGLE's," said Natha Dempsey, vice president of FPI. "FPI members employ nearly 4,000 Michiganders with a total payroll of more than \$250 million."

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GRF board members Pat Grasso, Jim Nordmeyer, Scott DeFife, Laura Hennemann, Ron Holmes, Mary Ann Remolador accept \$25,000 check from Diageo.

The Glass Recycling Foundation (GRF) announced two major donations totaling \$50,000 from the Owens-Illinois (O-I) Charities Foundation and Diageo North America. The contributions will advance GRF through pilot projects which are leveraging best practices to improve glass recycling.

“We are proud to partner with the Glass Recycling Foundation in advancing community efforts to increase glass recycling. The environment is a focus for the O-I Charities Foundation and this effort, in particular, will help raise the recycled content in future glass containers while also reducing waste and glass’ carbon footprint,” said Jim Adams, board member for the Owens-Illinois Charities Foundation.

“We are confident that these contributions will unlock more investment and partnership opportunities to start funding scalable projects for effective glass recycling. As a company committed to protect the environment and promote responsible packaging, at Diageo we are very excited to see progress being made in the Foundation’s agenda,” said Ronald Holmes, packaging director at Diageo North America and GRF Executive Board member.

“The Foundation is grateful to the O-I Charities Foundation and Diageo North America for their support and commitment to glass recycling in the U.S.,” said Lynn Bragg, GRF board president. “The need for funding is significant; these initial contributions will set the stage for us to consider private-public funding opportunities, pilot projects and educational outreach needs regarding glass recycling.”

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NJ DEP awards \$14 million in grants to enhance recycling efforts

The New Jersey Department of Environmental Protection is awarding more than \$14 million in grants to municipal and county governments to enhance recycling efforts, Commissioner Catherine R. McCabe announced.

The annual recycling tonnage grants are awarded through the state’s Recycling Enhancement Act, which authorizes a \$3 per ton surcharge on trash disposed at solid waste facilities to fund recycling efforts. The DEP allocates this money back to municipalities and counties based on their recycling accomplishments. This year’s grants are based on recycling performance in 2017.

Each year, recipients use these grants to improve recycling rates through a variety of initiatives, including funding recycling coordinator positions, providing recycling receptacles and pickup in public places, upgrading recycling drop-off centers, conducting education and outreach, and implementing curbside recycling pickup programs.

In 2017, New Jersey generated 9.6 million tons of municipal solid waste, with 3.85 million tons recycled, for a 40-percent municipal solid waste recycling rate, compared to 44 percent in 2016.

Overall, New Jersey in 2017 generated 23.4 million tons of solid waste, which includes municipal waste plus construction debris and other types of non-municipal waste. Of this, 14.1 million tons were recycled, for an overall recycling rate of 60 percent, compared to 61 percent in 2016.

The DEP attributes the four percent decline in the 2017 municipal solid waste recycling rate to manufacturers of consumer products, such as drink bottles, continuing to shift to lighter materials such as plastic over glass. Manufacturers are also using thinner and lighter weight plastics. In addition, the volume of newspaper recycled continues to shrink as consumers increasingly rely on smartphones, tablets, and other electronic devices for information.

The 2017 recycling rate does not fully reflect challenges recycling programs in New Jersey and across the nation have been facing since mid-2017 as China and other nations started rejecting recycling shipments that contain non-recyclable materials, an issue known as recycling contamination. Beginning in early 2018, China began banning the importation of most recyclable materials and other nations have followed.

Some examples of recycling contaminants are plastic bags, syringes, auto parts, non-recyclable types of plastic, Styrofoam cups, improperly rinsed and cleaned food containers, food packaging that can’t be cleaned such as soiled pizza boxes, and trash.

To help municipal and county governments address these contamination challenges, the DEP has launched programs to help local governments educate the public on which materials can be recycled and those that cannot. These

efforts include Recycle Right NJ, which provides social media and education materials to recycling programs, and the free RecycleCoach app, which provides convenient access to municipal recycling program information, spelling out what can be recycled on the local level.

The DEP is also making available up to \$1 million in grants for New Jersey’s higher-education institutions to conduct research and demonstration projects to strengthen recycling in the state. Specifically, the new grants will provide funds for projects in each of four categories to:

- Research recycling markets and identify the role government can plan in encouraging recycling while identifying impediments to recycling markets and programs;

- Study the composition of the state’s waste stream – including the amount of the waste stream that is comprised of food waste – to better inform recycling and source-reduction efforts in the state;

- Research, design and implement a solid waste and/or food waste recycling-exchange-reduction-reuse project or demonstration at an institution, and;

- Create a public outreach campaign to educate and motivate residents to reduce the amount of food they waste.

“New Jersey is proud to be the first state to require recycling,” said DEP Assistant Commissioner for Site Remediation and Waste Management Mark Pedersen. “We expect that these grants

will further ongoing recycling efforts in our communities and educate the public about the importance of proper recycling.”

Municipalities receiving recycling tonnage grants of \$100,000 or more are:

Vineland, Cumberland County, \$330,051; Jersey City, Hudson County, \$267,960; South Brunswick, Middlesex County, \$261,467; Paterson, Passaic County, \$236,050; Newark, Essex County, \$220,124; Woodbridge, Middlesex County, \$211,903; Toms River, Ocean County, \$190,415; Parsippany-Troy Hills, Morris County, \$179,992; Edison, Middlesex County, \$172,233; Passaic City, Passaic County, \$160,267; and Hamilton, Mercer County, \$150,719.

Also, Paramus, Bergen County, \$144,982; Secaucus, Hudson County, \$144,738; Logan, Gloucester County, \$143,023; Lakewood, Ocean County, \$140,559; Raritan, Hunterdon County, \$137,008; Fair Lawn, Bergen County, \$135,480; Clifton, Passaic County, \$127,762; Middletown, Monmouth County, \$122,861; Florence, Burlington County, \$119,553; North Bergen, Hudson County, \$116,714; Monroe, Middlesex County, \$114,965; Cherry Hill, Camden County, \$114,682; Brick, Ocean County, \$112,023; and East Orange, Essex County, \$106,334.

For a complete list of recycling tonnage grants, view this article on www.AmericanRecycler.com.

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AUTOMOTIVE

Honda R&D Americas earns Ohio EPA's Platinum Environmental Stewardship Award

Ohio EPA director Laurie A. Stevenson recognized Honda R&D Americas, Inc. (HRA) with the agency's platinum level environmental

stewardship award. The company earned the top award for its emphasis on waste reduction, community service and outreach.

"Through its waste-reduction efforts and recycling initiatives, HRA is well on its way to becoming a zero-waste facility," Stevenson said.

Honda R&D Americas – Honda's second-largest R&D center in the world, located just outside Columbus in Raymond – is responsible for creating advanced technologies and automobile and powersports products for Honda and Acura customers in North America and global markets.

Ohio EPA's Encouraging Environmental Excellence (E3) program recognizes businesses and other organizations for completing environmentally beneficial activities and serves as an incentive for organizations to commit to ongoing environmental stewardship. To earn the platinum award, a business or organization must expand their environmental program beyond their facilities and demonstrate how their environmental stewardship efforts benefit the local community, region, or larger geographic area.

In the past year, HRA installed solar arrays on several campus buildings to reduce their energy usage by 40 percent annually; sent 90,000 pounds of discarded food, paper, and wood to local farmers for soil amendments and composting; and built a 6,600 sq.ft.,

onsite recycling center to increase its waste material sorting by an additional 20 percent.

In addition, last year HRA associates used their annual 40 paid hours of volunteer time to advance environmental education and cleanups in their local communities, which included helping students build birdhouses at the Hardy Center Summer Camp in Columbus and supporting beautification activities at Wayne National Forest and Highbanks Metro Park. HRA also donated hundreds of tables and chairs to InReturn, which will reuse those items by selling them to fund their support of individuals who have suffered a neurological injury, disease, or disorder.

HRA's outreach also extended to nearby universities. In 2018, associates installed an onsite algal farm in which CO2 from HRA's facility is captured and used to grow algae that can be converted into new energy and other valuable products. Last year, associates continued their partnership with Ohio University to research the algae's potential uses and worked with students from The Ohio State University on how algae byproduct can be applied to soil for better carbon capture and plant growth.

SALVAGING Millions

by Ron Sturgeon
Autosalvageconsultant.com

Ask for the sale!

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

Sales just happen if you set up shop and have a product. Right? No. Don't take your sales for granted. Even if a certain amount of income comes almost automatically from walk in sales that seem to happen whether you do anything or not, every business has the potential to increase its sales results. By the way, you know walk-in has dropped precipitously. (Have you planned for it?)

Certainly, you must match your product to your customer. You do that by defining your core customer as I discussed in a prior article. Creating increased sales is mostly science, not art. Salespeople are supposed to have this skill when they come to work for you, but not all of them possess it to the same degree. As a business owner, you should never rely totally on the skill level of salespeople who come into your organization. Learn from every one of them. Investigate on your own the elusive cause behind increased or decreased sales. Read everything you can about how to generate sales. Talk to others in your industry. Follow their advice wherever it may apply. Experiment with and monitor your progress.

You increase sales first of all by monitoring the actual numbers. How will you know something is working if you don't have metrics against which to weigh your results? (Don't forget how important metrics are, as discussed in a prior article.)

The production output of your sales staff is directly related to their belief in you and your company. Give them reason to believe in you. Ask them what you can do to help them

increase their sales. Provide them with ongoing sales training as you can afford it. As a manager, you are the goal setter as well. Set their goals realistically from the numbers you are monitoring and ask them what they think their goal should be. Then, as they reach those goals for you, reward them accordingly. When they don't reach those goals, talk to them about why they think they didn't. Maybe you weren't realistic. Maybe they didn't work hard enough; maybe someone is not asking for the sale.

If you are directly involved in customer sales, then you'll want to be aggressive on the floor or phone by learning to ask for the sale. This is a key ingredient to increasing sales. Never put your customer off for a future sale. Ask them if they are going to pay by credit card or check. Ask them when they would like to have their purchase delivered. Always ask "closing" questions that can't be answered with a yes or no. How you do it is up to you, but don't let them go without asking for the sale.

Observing other businesses within the auto recycling industry as well as businesses in industries where we're the customers, we see that too few salespeople actually ask for the sale.

What happens to a customer who walks away without committing? Watch what happens to you. Given time to think about it, you will likely talk yourself out of it. You will consider other alternatives or reconsider the price. You may just decide not to buy.

Make sure you and those on your staff are selling, not just going through the motions of this vital part of growing a successful business.

If your business has maintained a sustained period of non-growth, chances are realistic that you and your employees have fallen out of the habit of asking for the sale.

Adesa appoints new leadership at four auctions

Adesa, a business unit of global vehicle remarketing and technology solutions provider KAR Auction Services d/b/a KAR Global, has named new general managers at four of the company's wholesale vehicle auction locations: Scott Coleman at Adesa Portland, Kathy Hopkins at Adesa Indianapolis, Eric Jenkins at Adesa Dallas and Mike Phillips at Adesa Buffalo.

Coleman has more than 25 years of automotive sales leadership and has been with Adesa Portland for seven years. He joined the auction in 2013 – part of the Brasher's auction group at the time – as UVA manager. In 2018 he took on the role of general sales manager. Coleman also brings a wealth of experience from holding a variety of sales leadership positions during his 19 years at Enterprise Holdings prior to joining Adesa Portland.

Hopkins returns to Adesa Indianapolis, where she began her career as an account coordinator in 1998. Since then, she has worked her way up in both sales and operational roles within the company. Most recently, she was promoted to vice president of dealer sales for TradeRev in 2019. Hopkins is a familiar face in the auto remarketing industry and is a recipient

of Auto Remarketing's 40 Under 40 and Women in Remarketing awards.

Jenkins first joined Adesa in 2005 as an outside coordinator and condition report writer at Adesa Dallas. Jenkins progressively assumed more responsibility through promotions to fleet lease manager at Adesa Austin, assistant general manager at Adesa Atlanta and general manager at Adesa Birmingham. In 2018, he returned to his home state of Texas as assistant general manager of Adesa Dallas. Throughout his tenure, Jenkins has been recognized for his impressive track record and was honored as one of Auto Remarketing's 40 Under 40 recipients and with the Alabama Independent Automobile Dealers Association Auction Hall of Fame award, both in 2017.

Phillips has more than 30 years of experience in the automotive industry, getting his start in sales at an auto body repair shop and working his way up to store manager. He joined Adesa Buffalo in 1996 as assistant controller and was promoted to controller the next year. In 1999 he was promoted to business manager, overseeing many aspects of auction operations, finance, planning and growth initiatives. Phillips has served as assistant general manager at Adesa Buffalo since 2007.

Remember, only you can make BUSINESS GREAT!

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

PLASTICS

RecycleForce and Brightmark Energy collaborate for recycling

Brightmark Energy, a San Francisco-based waste and energy solutions company, and RecycleForce, an Indianapolis social enterprise that provides electronic recycling services and employs formerly incarcerated individuals, created a multi-faceted collaboration around training, hiring and recycling. Brightmark has committed to hiring RecycleForce-trained individuals for jobs at its Ashley, Indiana advanced plastic recycling plant. Meanwhile, RecycleForce will provide Brightmark with up to 1,700 tons per month of difficult-to-recycle plastics from televisions, computers, car seats, and similar products for processing at its Northeast Indiana facility.

RecycleForce provides 300 formerly incarcerated men and women with workforce training, case management, peer mentorship, and job opportunities each year. Analysis has shown that RecycleForce's benefits to society are significant: reduced recidivism and increased employment produced \$1.20 in economic value for every dollar invested in the program. The recidivism rate of RecycleForce participants is 25 percent versus about 77 percent nationwide.

"We recycle many tons of plastic every year, but when we receive plastics that are contaminated with food waste or other non-recycle materials, they have to be sent to landfills," explained Gregg Keesling, president of RecycleForce. "Our partnership with Brightmark will enable us to instead recycle these plastics and will open up significant capacity for us to attract new suppliers of recyclable materials, and in turn,

increase the amount of feedstock we provide to Brightmark. This means more revenue for RecycleForce – and more revenue means we can counsel, train, and prepare more returning citizens for the workforce."

Brightmark has created a stable and predictable market for residual plastics like those from e-waste, which were previously considered unrecyclable by electronic waste processors. After China and other countries stopped accepting imported U.S. post-use plastics, many recycling processors ended up with a glut of plastics and nowhere to send them but a landfill. Brightmark and RecycleForce's multiyear agreement allows for the annual volume of supplied plastic feedstock materials to grow over time as RecycleForce expands its operations and is able to take on more of these types of materials.

"Right now, I've got 10 semi-trucks worth of plastic sitting here ready to ship out to Brightmark's plant as soon as it's up and running," said Andrew King, inventory and quality control director for RecycleForce. "That's 10 semis worth of product that I haven't been able to process because of the China recycling glut we're facing in the U.S. The second these trucks leave our lot for recycling with Brightmark, we can bring in more materials."

In addition to the feedstock and hiring commitments, RecycleForce program participants will play a key role at Brightmark's Ashley, Indiana plant – they will lead workforce trainings for the facility's new staff on workplace safety, forklift operation, and other operational needs.

New York bag ban now in effect

Starting March 1, 2020, a new bag waste reduction law took effect in New York State.

Types of Bags Allowed

While shoppers can bring any type of bag, including film plastic, many retailers will have reusable bags for sale but may opt to provide paper bags.

The Bag Waste Reduction Law and Who it Affects

Effective March 1, 2020, all plastic carryout bags are banned from distribution by anyone required to collect New York State sales tax. For sales that are tax exempt, plastic carry out bags are still not allowed to be distributed by anyone required to collect New York State sales tax (unless it is an exempt bag). The law will affect anyone required to collect New York State sales tax, bag manufacturers and consumers. Cities and counties will also be involved. Under the law:

- Cities and counties are authorized to adopt a \$.05 paper carry out bag reduction fee. This means that in these areas, a consumer will be charged \$.05

for each paper carryout bag provided at checkout. In areas that have adopted the \$.05 paper carryout bag reduction fee, the fee does not apply to SNAP (Supplemental Nutrition Assistance Program) and WIC (Women, Infants, and Children — a nutrition program) recipients, and they are exempt from paying a paper carryout bag reduction fee for paper carryout bags.

- Stores covered under the NYS Plastic Bag Reduction, Reuse and Recycling Act will still be required to collect plastic bags and other film plastics from consumers for recycling. Film plastics include items such as bread bags and plastic wraps that come over cases of water, paper towels and other similar items.

Exempt Bags

Some bags are exempt under the law, so plastic bags may still be distributed to consumers in a few specific circumstances, such as a bag used by a pharmacy to carry prescription drugs, and produce bags for bulk items such as fruits and vegetables.

CONSTRUCTION & DEMOLITION

Roadmap will lay the foundation for a future of LEED that is regenerative

The U.S. Green Building Council (USGBC) introduced LEED Positive – a vision statement and LEED development roadmap that will lay the foundation for a future of LEED that is regenerative.

"We must do all we can to leverage our tools and resources to scale up reductions in carbon emissions associated with buildings, communities and cities," said Mahesh Ramanujam, president and chief executive officer, USGBC. "LEED must evolve qualitatively and quantitatively. Qualitatively, it must transition from strategies that reduce the harm done by buildings to strategies that cause no harm and are regenerative by design, ensuring our buildings are actually giving back more than they take. And quantitatively it will need to accelerate and increase its impact ten to a hundred-fold by leveraging our Arc performance platform. The future of LEED is LEED positive."

In the 20 years since its launch, LEED has transformed global building practices all over the world. With more than 100,000 projects now engaged, the rating system has catalyzed changes in the building industry related to energy, water, waste, indoor environmental quality and more. From mainstreaming cool roofs, low-VOC paints, building efficiency and commissioning, to providing the proof of concept enabling increases in the stringency of energy codes, LEED has defined green building standards.

The world faces staggering challenges through 2050 in terms of water scarcity, air quality, resiliency and climate change. To help address these issues, the LEED Positive vision will guide USGBC in transitioning LEED from strategies that reduce the harm

done by buildings to strategies that cause no harm.

LEED Positive will encourage development of environmental restoration and repair. The vision is composed of several parts that will work together to guide the development of the LEED rating system, including:

- Proposed LEED Positive targets for energy and carbon reduction that will require new construction to go further and push existing buildings with high energy usage to substantially increase their efficiency efforts;

- Define LEED Positive targets for other LEED credit categories that make up the holistic LEED rating system;

- Continued investment in LEED v4.1 to accelerate implementation and adoption;

- Support category level performance certificates through the Arc platform to provide existing buildings with a pathway to LEED certification.

"Thanks to LEED v4.1, we are seeing increased interest from existing buildings in LEED certification. This is crucial because existing buildings represent our largest market segment, providing category level performance certificates is an important catalyst in further accelerating the transformation of our existing buildings," said Melissa Baker, senior vice president of LEED Technical Core at USGBC.

By reporting performance data and obtaining a score, a project can earn a category performance certificate in each of the categories tracked – energy, water, waste, transportation and human experience – and once a project achieves higher performance scores across all categories, they will be able to pursue LEED certification.

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METALS

Nucor reports 2019 results

Nucor Corporation announced consolidated net earnings of \$107.8 million, or \$0.35 per diluted share, for the fourth quarter of 2019. Included in the fourth quarter of 2019 earnings are non-cash impairment charges of \$66.9 million, or \$0.17 per diluted share. By comparison, Nucor reported consolidated net earnings of \$275.0 million, or \$0.90 per diluted share, for the third quarter of 2019 and consolidated net earnings of \$646.8 million, or \$2.07 per diluted share, for the fourth quarter of 2018.

For the full year 2019, Nucor reported consolidated net earnings of \$1.27 billion, or \$4.14 per diluted share, compared to \$2.36 billion, or \$7.42 per diluted share, in 2018.

“Stronger than expected steel mill segment performance in December was the primary driver for higher actual fourth quarter earnings than we indicated in our mid-December quantitative guidance,” said Leon Topalian, Nucor’s president and chief executive officer. “We believe that the inventory destocking that occurred throughout most of 2019 concluded in the fourth quarter, when customers resumed more normal buying patterns. Additionally, general business conditions improved in the fourth quarter due to a number of factors, including a rate cut by the Federal Reserve, the new labor agreement between the United Automobile Workers and GM, and definitive progress on the trade front.”

“For the full year, strong performance in many of our steel products businesses partially offset the impact of destocking on our steelmaking operations. In particular, our Vulcraft/Verco and Building Systems groups both achieved record profitability in 2019, reflecting both strong execution by our teammates and favorable nonresidential construction market conditions.”

The average scrap and scrap substitute cost per gross ton used in the fourth quarter of 2019 was \$275, an 8 percent decrease compared to \$299 in the third quarter of 2019 and a decrease of 23 percent compared to \$359 in the fourth quarter of 2018. The average scrap and scrap substitute cost per gross ton used for the full year 2019 was \$314, a decrease of 13 percent from \$361 for the full year 2018.

Overall operating rates at the company’s steel mills remained flat at 83 percent in the fourth quarter of 2019 as compared to the third quarter of 2019 and decreased compared to 88 percent in the fourth quarter of 2018. Operating rates for the full year 2019 decreased to 84 percent as compared to 91 percent for the full year 2018.

Nucor’s liquidity position remains strong with \$1.83 billion in cash and cash equivalents and short-term investments as of December 31, 2019 and an untapped \$1.50 billion revolving credit facility that does not expire until April 2023.

Commerce finds import dumping of fabricated structural steel

The U.S. Department of Commerce (Commerce) reported the affirmative final determinations in the antidumping duty (AD) and countervailing duty (CVD) investigations of imports of fabricated structural steel (FSS) from Canada (AD only), China and Mexico, and a negative final determination in the CVD investigation of FSS from Canada.

Commerce determined that producers and/or exporters from Canada, China, and Mexico have sold FSS at less than fair value in the U.S. at rates of: 0-6.70 percent, 61.71-154.14 percent, and 0-30.58 percent, respectively.

In addition, Commerce determined that producers and/or exporters from China and Mexico received countervailable subsidies at rates of 27.34-206.49 percent and 0.01-68.87 percent, respectively.

Because Commerce reached a negative CVD determination with respect to producers and/or exporters from Canada, this investigation is terminated and no CVD duties will be collected on imports from Canada.

In 2018, imports were valued at an estimated \$722.5 million, \$897.5 million, and \$622.4 million, respectively.

The petitioner is the American Institute of Steel Construction Full Member Subgroup (Chicago, Illinois).

AD and CVD laws provide American businesses and workers with an internationally accepted mechanism to seek relief from the harmful effects of unfair pricing of imports into the United States. Commerce currently maintains 515 AD and CVD orders which provide relief to American companies and industries impacted by unfair trade.

Glencore closes Brunswick smelter

Glencore Canada Corporation announced the permanent closure of the Brunswick Lead Smelter in Belledune, New Brunswick. The decommissioning process will begin immediately and the smelter will cease all operations by the end of the year.

“The decision to cease lead smelting operations at our Brunswick Smelter was a very difficult one. Despite years of efforts by committed employees and a strong management team, the smelter has been uneconomic since the closure of the Brunswick Mine in 2013. We

have thoroughly assessed all our options and come to the unavoidable conclusion that the smelter is simply not sustainable, regardless of the recent labor dispute,” said Chris Eskdale, Glencore’s head zinc and lead assets.

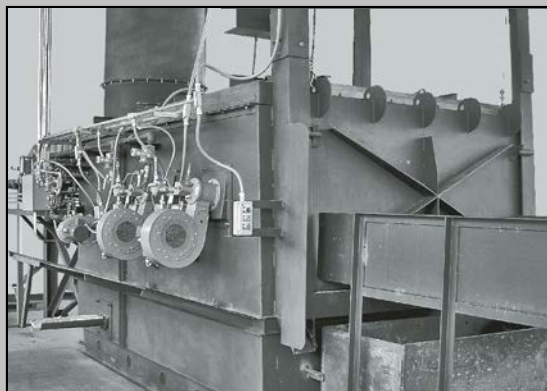
The Brunswick smelter opened in 1966 and employs approximately 420 people. All affected employees will be treated with fairness and respect through the closure process. Glencore intends to provide pension, severance and outplacement support services for all employees.

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METALS

Steel import permit applications increase in January 2020

Based on the Commerce Department's most recent Steel Import Monitoring and Analysis (SIMA) data, the American Iron and Steel Institute (AISI) reported that steel import permit applications for the month of January totaled 3,352,000 net tons (NT). This was a 45.6 percent increase from the 2,303,000 permit tons recorded in December and a 115.8 percent increase from the December preliminary imports total of 1,553,000 NT.

Import permit tonnage for finished steel in January was 1,559,000, up 15.7 percent from the preliminary imports total of 1,347,000 in December. The estimated finished steel import market share in January was 17 percent.

Finished steel imports with large increases in January permits vs. the December preliminary included reinforcing bars (up 133 percent), sheet and strip all other metallic coatings (up 108 percent), heavy structural shapes (up 108 percent), wire rods (up 80 percent), sheets and strip galvanized hot dipped (up 45 percent) and mechanical tubing (up 39 percent).

In January, the largest finished steel import permit applications for offshore countries were for South Korea (159,000 NT, down 5 percent from December preliminary), Japan (76,000 NT, up 14 percent), Turkey (50,000 NT, up 646 percent), Germany (50,000 NT, down 40 percent) and Taiwan (42,000 NT, up 42 percent).

EMR opens metal recycling plant

European Metal Recycling (EMR), headquartered in Warrington, UK, is a global leader in recycling, handling around 10 million tons of scrap metal each year from a wide range of sources delivered from the general public, local trade, industry and local authorities and they also collect on request, as well as provide a complete service to local industry in terms of their scrap/waste disposal routes.

The 1.25 acre Darlington site will add to the EMR presence in the North East with existing sites in Middlesbrough, Marske, Hartlepool, Blaydon, Burnopfield, Sunderland and Tyne Dock. To mark its new location, the site will fly an EMR blimp airship.

The new site incorporates a special depollution rig for the safe removal of engine oil, fuels and liquid from end of life vehicles prior to their recycling

"As such we will play an important part in ensuring vehicles are disposed of safely, responsibly and efficiently, and we can pay the customer the best price" said area manager, Andrew Sheppard.

"But of course, it is not just old vehicles that EMR will be recycling. By providing a facility where both the general public and trades people can turn their waste metals into an income, we are confident that the plant will pay a significant role in improving the local environment."

Steel imports down 17 percent in 2019

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)

	DEC 2019	NOV 2019	2019 Full Year	2018 Full Year	% Change 2019 Annual vs. 2018
SOUTH KOREA	168	188	2,576	2,764	-6.8%
JAPAN	67	85	1,242	1,383	-10.2%
GERMANY	83	55	1,048	1,339	-21.7%
TAIWAN	30	31	828	1,069	-22.5%
VIETNAM	13	28	663	1,110	-40.2%
NETHERLANDS	53	70	550	613	-10.3%
CHINA	26	20	544	696	-21.8%
BRAZIL	13	11	534	479	11.4%
All Others	896	844	13,057	16,241	-19.6%
TOTAL	1,347	1,331	21,042	25,694	-18.1%

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 1,553,000 net tons (NT) of steel in December 2019, including 1,347,000 net tons (NT) of finished steel (down 0.5 percent and up 1.2 percent, respectively, vs. November final data). For full year 2019 total and finished steel imports are 27,905,000 and 21,042,000 NT, down 17.3 percent and 18.1 percent, respectively, vs. 2018. Finished steel import market share was an estimated 15 percent in December and is estimated at 19 percent for full year 2019.

Key finished steel products with a significant import increase in December compared to November are plates in coils (up 41 percent), hot rolled

sheets (up 27 percent), cold rolled sheets (up 22 percent) and cut lengths plates (up 18 percent).

In December the largest volumes of finished steel imports from offshore were from South Korea (168,000 NT, down 11 percent from November final), Germany (83,000 NT, up 51 percent), Japan (67,000 NT, down 21 percent), The Netherlands (53,000 NT, down 24 percent) and China (26,000 NT, up 29 percent). For full year 2019, the largest offshore suppliers were South Korea (2,576,000 NT, down 7 percent vs. the same period in 2018), Japan (1,242,000 NT, down 10 percent), Germany (1,048,000 NT, down 22 percent), Taiwan (828,000 NT, down 23 percent) and Vietnam (663,000 NT, down 40 percent).

Steel shipments up in December

The American Iron and Steel Institute (AISI) reported that for the month of December 2019, U.S. steel mills shipped 8,021,250 net tons, a 4.6 percent increase from the 7,665,006 net tons shipped in the previous month, November 2019, and a 2.8 percent increase from the 7,804,093 net tons shipped in December 2018. Shipments for 2019 are 96,178,278 net tons, a 0.9

percent increase vs. 2018 full year shipments of 95,279,566.

A comparison of December shipments to the previous month of November shows the following changes: hot rolled sheets, up 16 percent, cold rolled sheets, down 2 percent and hot dipped galvanized sheets and strip, down 4 percent.




Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$267.00	258.00	259.00	275.00	302.00
#1 Bundles	per gross ton	255.00	241.00	257.00	255.00	294.00
Plate and Structural	per gross ton	251.00	234.00	251.00	249.00	284.00
#1 & 2 Mixed Steel	per gross ton	184.00	217.00	228.00	231.00	265.00
Shredder Bundles (tin)	per gross ton	125.00	130.00	161.00	139.00	150.00
Crushed Auto Bodies	per gross ton	125.00	130.00	161.00	139.00	150.00
Steel Turnings	per gross ton	83.00	80.00	87.00	139.00	158.00
#1 Copper	per pound	2.39	2.37	2.35	2.29	2.29
#2 Copper	per pound	2.20	2.20	2.24	2.18	2.13
Aluminum Cans	per pound	.56	.54	.49	.50	.50
Auto Radiators	per pound	1.35	1.21	1.41	1.49	1.42
Aluminum Core Radiators	per pound	.54	.47	.40	.40	.39
Heater Cores	per pound	1.04	1.03	1.01	1.02	1.11
Stainless Steel	per pound	.55	.55	.49	.46	.52

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

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

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WASTE

U.S. Ecology Detroit North hazardous waste relicensing, expansion approved

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has approved a hazardous waste renewal and expansion operating license for U.S. Ecology, Inc.'s Detroit North facility under Part 111, Hazardous Waste Management, of the Natural Resources and Environment Protection Act of 1994.

In approving the license, EGLE determined that U.S. Ecology's facility satisfied all technical design, construction, and operating standards as set forth in Michigan Administrative Code Rule R 299.9101 and federal law. The operating license has been developed to protect public health and the environment by minimizing the risks associated with the hazardous wastes being stored and treated at the facility.

EGLE's renewal decision comes after a long application review process, which included enhanced public participation and engagement. EGLE intends to continue this process, which resulted in significant changes to the final operating license. Comments and observations from the local community

clarified concerns of people near the facility and provided an opportunity to address the concerns to the best of EGLE's ability under state and federal law.

Based upon the comments, EGLE added conditions to the license including limiting the number of hazardous waste vehicle deliveries to 45 per day, designating a specific truck route to and from the facility, and providing an updated waste analysis plan.

Also in response to public comments and concerns, EGLE has posted an Environmental Report Card on the U.S. Ecology Detroit North Hazardous Waste Licensing Information webpage where stakeholders can monitor facility emissions, including effluent and ambient air.

EGLE's license allows the company to operate its storage and treatment facility on Georgia Street for the next 10 years, before seeking a renewal. The renewal date is January 29, 2030, with a reapplication date of August 2, 2029.

I was at a magic show, when after one particularly amazing trick, someone screamed out, "Wow, how did you do that?"

"I would tell you," answered the

magician predictably, "but then I'd have to kill you."

After a moments pause the same voice screamed out, "can you tell my mother-in-law?"

Republic Services reports 2019 financial results

Republic Services, Inc. reported net income of \$289.3 million, or \$0.90 per diluted share, for the 3 months ended December 31, 2019, versus \$301.0 million, or \$0.92 per diluted share, for the comparable 2018 period. Excluding certain benefits and expenses, on an adjusted basis, net income for the 3 months ended December 31, 2019, was \$291.7 million, or \$0.91 per diluted share, versus \$260.0 million, or \$0.80 per diluted share, for the comparable 2018 period.

For the year ended December 31, 2019, net income was \$1,073.3 million, or \$3.33 per diluted share, versus \$1,036.9 million, or \$3.16 per diluted share, for the comparable 2018 period. On an adjusted basis, net income for the year ended December 31, 2019, was \$1,075.1 million, or \$3.34 per diluted share, versus \$1,014.9 million, or \$3.09 per diluted share.

"The Republic Services team finished the year strong, and we are well positioned for continued success in 2020. By focusing on delivering superior service to our customers and increasing employee engagement, we profitably grew our business and outperformed our adjusted EPS and free cash flow guidance for the year," said Donald W. Slager, chief executive officer. "In 2019, we invested over \$525 million in value-enhancing acquisitions to expand our leading market position and increase the scale of our service offerings. Our acquisition pipeline remains strong, and we could see another outsized year of investment in 2020."

Full Year Highlights:

- Full year EPS was \$3.33 per share, and adjusted EPS was \$3.34 per share, an increase of 8 percent over the prior year. Adjusted EPS exceeded the company's upwardly revised full-year guidance range.

- Full year cash provided by operating activities was \$2.4 billion and adjusted free cash flow was \$1.2 billion. Adjusted free cash flow exceeded the company's full year guidance range.

- Cash flow invested in acquisitions was \$526 million, or \$463 million net of divestitures. The year-to-date annual revenue acquired, net of divestitures, was approximately \$181 million.

- Full year cash returned to shareholders through dividends and share repurchases was \$891 million and total shareholder return was 27 percent.

- Full year core price increased revenue by 4.7 percent. Core price consisted of 5.7 percent in the open market and 3.2 percent in the restricted portion of the business. This is the highest level of core price the company has achieved in over a decade.

- Full year revenue growth from average yield was 2.8 percent, driven by small-container yield of 3.9 percent.

- Republic continued to convert CPI-based contracts to more favorable pricing mechanisms for the annual price adjustment. The company now has approximately \$780 million in annual revenue, or 31 percent of its legacy \$2.5 billion CPI-based book of business, tied to the water-sewer-trash index or a fixed-rate increase of 3 percent or greater.

- The company continued to reprice and de-risk its recycling collection and processing businesses. Through the end of the year, the company repriced approximately 36 percent of its recycling collection contracts and 55 percent of its contracted recycling processing volume. The company also implemented a recycling processing charge to its open market customers. As a result, the company's earnings sensitivity to changes in recycled commodity prices is expected to decrease in 2020.

Landfill pricing rose in 2019

The average cost to landfill a ton of municipal solid waste (MSW) rose to \$53.5 last year. That's a 2.5 percent increase from the year before. But that only tells part of the story. The average price charged by the private sector rose by nearly 6 percent to \$60 per ton. That compares with \$47.2 which is the average price per ton charged by municipally owned and operated landfills, according to Waste Business Journal (WBJ).

On the other hand, landfill volumes have increased rather modestly over the last several years. Last year, 308 million tons of MSW were landfilled, up 2.5 percent from the year before. Over the last ten years landfill volumes have increased 1.7 percent on average.

Price increases reflect both the growing economy and modestly increased demand for disposal but also increased costs of disposal. Tumult in

the recycling markets has forced companies to raise prices at the gate and on collection contracts to cover the increased costs to handle recycled materials as commodity prices have fallen.

Prices have risen even more dramatically in the Northeast as available landfill capacity there continues to shrink and as more waste must be exported to the Midwest and southeast. For that reason, the Northeast continues to be the most expensive region in the country for landfilling waste. The average price there rose by 3.8 percent last year to \$78 per ton. That compares with only \$36.3 per ton on average in the western states that have plentiful landfill capacity. In the Midwest, prices rose by 3 percent last year to \$57.5 per ton as more waste coming in from the Northeast exerts pressure on local capacity and pricing.

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WASTE

Virgin Islands solid waste program is approved

As part of its continuing efforts to help the Caribbean develop solid waste program capacity, the U.S. Environmental Protection Agency (EPA) has approved the U.S. Virgin Islands' municipal solid waste landfill permit program. This approval is a significant accomplishment and enables the expansion of existing landfills, construction of new landfills and design and operational flexibilities such as alternative daily cover and alternative financial assurance mechanisms. These authorities are essential to ensure safety and sustainable management.

Before making its final decision to approve the U.S. Virgin Islands' program, EPA took public comments for 60 days and held three public hearings in July of 2019. Most commenters supported the approval and several requested clarifications on the roles associated with USVI's solid waste management and implications of approval. EPA has provided responses, including the overview of the statutory role of the USVI and the federal government and the compliance with landfill regulations established to protect human health and the environment.

"I am very pleased that we were able to finalize our decision to authorize the U.S. Virgin Islands' solid waste landfill permit program," said EPA regional administrator Pete Lopez. "This approval empowers the USVI government to make necessary improvements to its solid waste management system and facilitates the Territory's path toward a resilient future. EPA is working continuously with the USVI to help it build capacity to reduce waste, prepare for managing waste from future storms, increase recycling, and promote a comprehensive and robust solid waste management program."

The EPA is continuing to assess landfills throughout the Virgin Islands and Puerto Rico. Working with federal, territorial, community and education partners, EPA has convened stakeholders, facilitated dialogue, provided technical resources and supplied key information to empower local decision-makers to move ahead with a solid waste management program for the Caribbean. To support these efforts as part of the USVI's hurricane recovery, \$10 million in supplemental funds have been allocated to the territory.

The results of a municipal solid waste characterization field study are expected to be released in February 2020 which will aid in developing and updating waste management programs and evaluating ways to reduce and manage waste and cut disposal costs.

Phoenix City Council approves residential solid waste rate increase

The Phoenix, Arizona City Council approved staff's recommendation to increase the current monthly residential solid waste rate of \$26.80.

The increase will be phased in over two years, which means residential customers will notice an additional \$3.75 on the April 2020 bill and then another increase of \$3.24 in January 2021.

The decision to approve the increase in the solid waste monthly rate was based on feedback from the public gathered by Phoenix Public Works staff, who implemented a community outreach strategy during the months of December 2019 and January 2020.

The results of the survey, which was available online and as hard copies in Spanish and English, revealed that nearly 60 percent of the respondents were in favor of maintaining the current level of service they receive for an additional \$6.40 per month; and more

than 60 percent preferred the rate increase to be phased in over two years. Ninety percent were satisfied with the city's delivery of its solid waste services, indicative of the department's focus on providing excellent customer service.

The survey results indicated the top three solid waste services valued most by customers are: 1) weekly trash service; 2) weekly recycling service; and 3) quarterly bulk trash service, and 90 percent value recycling and other waste diversion.

During the two months of community outreach, Public Works staff received more than 5,800 surveys and garnered 11,000 unique views on its dedicated informational webpage, phoenix.gov/trashandrecycle.

During the City Council meeting, staff also recommended to increase the refuse tipping fee. The current tipping

fee of \$38.25 is what third party customers pay to dispose waste at the city's transfer station and eventually, the landfill. Like the residential solid waste rate, that rate has remained unchanged for 11 years.

The first increase on the refuse tipping fee will be an additional \$3.75 effective FY2019-20; the second increase will be an additional \$2 effective FY2021-22; the third increase will be an additional \$1 effective FY2023-24.

Phoenix has a goal to achieve a 40 percent waste diversion rate by the end of 2020 through its Reimagine Phoenix initiative. Phoenix presently has a 36 percent waste diversion rate and will continue its educational outreach, recycling and other waste diversion programs to achieve its goal.

EPA grant supports solid waste projects

Recently, the U.S. Environmental Protection Agency (EPA) gave an Environmental Justice Small Grant to the Pueblo of Zia for a solid waste project. The project, carried out by the Pueblo of Zia Department of Environmental Resources (DER) and the Zia Youth Environmental Collaboration, will address litter, illegal dumping, and scrap tire piles within Pueblo lands. Goals include teaching Pueblo youth to document and report solid waste concerns using photography, holding workshops on recycling and waste control, and organizing two community cleanup days.

"Environmental justice small grants can return big results for organizations that best know their communities and their needs," said regional administrator Ken McQueen. "The DER's creative outreach programs will help the Pueblo of Zia build awareness and strategically address solid waste issues."

As part of the project, the DER will loan 20 cameras with GPS capability to Pueblo teens and young adults so they can document possible violations of the Solid Waste Disposal Act, such as excessive littering or illegal dumpsites. The DER will meet with the youth to evaluate their findings, including visits

to the most detrimental sites to discuss effects on the environment as well as potential prevention measures. The DER will use the data to compile a database of illegal dumpsites and tire piles for future removal and monitoring.

Since its inception in 1994, EPA's Environmental Justice Small Grants Program has awarded more than \$26 million in funding to over 1,400 local and tribal organizations working with communities facing environmental jus-

tice issues. The Environmental Justice Small Grants Program supports and empowers communities working on solutions to local environmental and public health issues. The program is designed to help communities understand and address exposure to multiple environmental harms and risks. Environmental Justice Small Grants fund projects up to \$30,000, depending on the availability of funds in a given year.

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BUSINESS BRIEFS

Bühler appoints new chief human resources officer

■ Irene Mark-Eisenring will take charge of Bühler's executive board function of chief human resources officer from Dipak Mane effective September 1, 2020. Mane is stepping out of this function to pursue other important management tasks within the organization, supporting the chief executive officer and the executive board.

Mark-Eisenring joined Bühler in 2016 as head of corporate personnel development. She has been responsible for setting and implementing strategies in the fields of global human resources (HR) development, HR marketing and employer branding, talent and performance management, strategic recruiting, and diversity and inclusion. Mark-Eisenring has a broad human resources background, with a 20 year track record of managing HR projects and holding leading HR roles, primarily in the financial industry.

Mane has significantly contributed to increasing the market leadership position of Bühler over the past decades. Mane has held leadership roles at Bühler since 1992. As a successful business-unit manager and in building the business for Bühler in India, he was instrumental in creating a leading position for Bühler in the market for rice processing technologies, among others. In 2015, Mane assumed the function of CHRO and member of the executive board. He successfully shaped Bühler's global HR strategy over many years. At the same time, he collaborated closely with Mark-Eisenring so she could take over as his successor. Mane will assume new, important management tasks within Bühler.

Frontline expands in Singapore and Malaysia

■ Frontline International continues its worldwide expansion by announcing a new partnership with Mii Foodservice for distribution in Singapore and Malaysia. In addition, Frontline's Smart Oil Management® solutions have been approved for a Singaporean government grant program that can cover half of customers' cost of equipment purchases.

Frontline is a global leader in cooking oil management solutions, helping to create safer workplaces, provide brand protection, and automate the complex science of fried-food quality. The company manufactures equipment for handling fresh oil, filtration and used oil to help customers manage, monitor and make money from their cooking oil.

The Singaporean government grant, known as a Productivity Solutions Grant (PSG), covers up to 50 percent of the cost of certain Frontline equipment purchased by qualifying customers within the country. Eligible Frontline equipment must transfer oil directly from the fryer to a used oil containment tank without an intermediate caddy (Frontline's Direct-Plumbed® system). The containment tank must be equipped with fill-level sensors, Frontline's exclusive M3 data management system and diagnostic functions.

Prospective customers can get a quote from Mii Foodservice before applying for the PSG through Singapore's Business Grants Portal.

With installations on six continents, Frontline International is the only U.S.-based manufacturer of oil management equipment that maintains the equipment quality certifications to sell internationally.

Loeering attachments to be offered in North America

■ Loeering, an ASV Holdings Inc. brand and skid-steer attachment manufacturer, announced a new agreement with Schibeci, an Australia-based specialty equipment manufacturer. Under the agreement, Loeering customers in North America will have access to improved productivity from a selection of innovative skid-steer and compact track loader attachments branded as Loeering Power Attachments. The products include milling and grinding attachments designed and built for the construction, roadworks and flooring industries.

The Loeering Power Attachments line initially includes the ST600 and ST1000 asphalt milling attachments, the Polyplaner 300 and 600 grinding attachments, and the Power Profiler 2500 and 2500R concrete milling attachments. The attachments will be co-branded with Schibeci and continue to be manufactured by Schibeci in Australia and stocked in the U.S.

The ST600 and ST1000 are versatile attachments that give contractors in the construction and roadwork industries the ability to complete milling and stabilizing applications with the same tool. The Polyplaner 300 and 600 are single head grinders ideal for surface removal, including road markings and trip hazard removal. The Power Profiler 2500 and 2500R are designed for bulk removal of concrete, ceramic tiles and epoxy mortar toppings.

Bunting chooses master rep for Western Canada

■ Bunting is a global company, serving customers and delivering high quality magnetic products. Bunting has recently contracted Chris Heming to serve as Bunting's new master rep for the western provinces of Canada.

Heming is the co-owner of the Canadian Copacking Group (CPG) and CPG Automation, as well as the co-founder of Farsight AI.

Heming's brother, Kevin Heming, also works at CPG and will be supporting Chris Heming with his Bunting sales outreach. CPG Automation provides integration and technology deployment to industries across Canada, and has service in Vancouver, Saskatoon, Winnipeg and Toronto. CPG also provides extensive consulting services.

To continue Bunting's strategic plan of export growth, Heming will be representing all standard Bunting products within the Western provinces of Canada. Products include material handling, magnetic separation, and metal detection equipment. He will be calling on all traditional industry segments, including food, grain milling, plastics processing, recycling, metalworking and more.

To succeed in life, you need three things: A wishbone, a backbone and a funnybone.

—Reba McEntire

Busterud appointed to EPA Region 9 as administrator

■ U.S. Environmental Protection Agency (EPA) administrator Andrew Wheeler announced the appointment of John W. Busterud as administrator for Region 9. Busterud will oversee federal environmental protection efforts in: Arizona, California, Hawaii and Nevada.

John Busterud comes to this role with over 30 years of experience as an environmental and energy attorney. Most recently, he was senior director and managing counsel, environment and real estate, law department, Pacific Gas and Electric Company (PG&E), in San Francisco, California from 1985-2016. At PG&E, he managed a broad practice including air and water quality, hazardous materials compliance and remediation, endangered species, and legislative and environmental policy matters. During his tenure at PG&E, Busterud served as an industry representative on EPA's Clean Air Act Advisory Committee from 2012 to 2017.

Busterud is also a retired U.S. Army Colonel with multiple combined, joint and interagency assignments, including active duty deployments in support of Operations Iraqi Freedom, Enduring Freedom and Combined Forces Command on the Korean Peninsula.

Busterud has most recently served as a board member for the California Council for Environmental and Economic Balance, vice chair of the California Veterans board and chair of the Foundation for Relief and Reconciliation in the Middle East.

KAR Global adds Galvin to its board of directors

■ KAR Auction Services Inc. d/b/a KAR Global announces the addition of Carmel Galvin to its board of directors. Galvin brings more than 25 years of talent and culture leadership experience from her work with global organizations in the technology and online sectors.

Galvin has served in executive leadership and C-suite roles at Autodesk, Glassdoor, Advent Software and Deloitte over her career in human resources. As an HR executive, she has led diversity and inclusion, employee engagement and culture management efforts at companies with varied locations, languages and cultures across the world.

For the past two years, Galvin has overseen all people functions across the globe for Autodesk – a publicly traded 3D design, engineering and entertainment software company – as chief human resources officer. Prior to joining Autodesk, Galvin served in a similar capacity at Glassdoor, where she developed and drove the company's global talent strategy and worked directly with its board to establish executive compensation, equity programs and succession planning initiatives. She began her HR career in 1991 at IBM in Ireland.

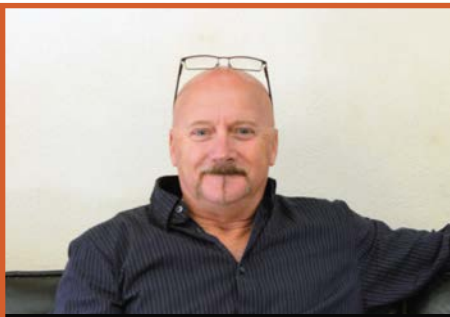


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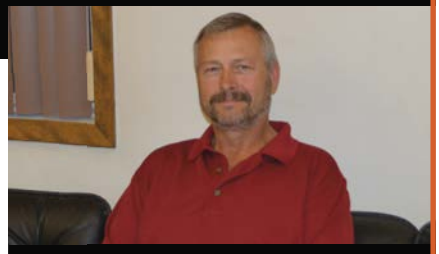
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PETER VOSSEN, SPECIAL PROJECTS MANAGER
30 YEARS OF EXPERIENCE



JEFF STUCKELBERG, ROBOTICS WELDER
15 YEARS OF EXPERIENCE

BUSINESS BRIEFS

KAR Global names Price its first chief people officer

■ KAR Auction Services Inc. d/b/a KAR Global announced Lisa Price, KAR's executive vice president of human resources, will take on the expanded role of chief people officer. Price is the first to hold this title and will increase her focus on KAR's company culture, its employer brand and employees' safety and security.

Prior to taking on her new role as chief people officer, Price was charged with bringing human resources, payroll, benefits and compensation departments enterprise-wide into alignment with KAR's strategic and operational goals. As part of her expanded 360°-view of people and employees, Price will also assume leadership of KAR's safety and security teams.

Price initially joined ADESA, a business unit of KAR, in 2005 as corporate counsel, responsible for everything from employment litigation to compliance risk management. In 2007, she was promoted to vice president of litigation and employment counsel for KAR. She assumed the role of executive vice president of human resources for the company in 2013, making the leap from a successful 14 year legal career.

Prior to joining ADESA, Price spent six years in private practice at Stewart & Irwin focusing on employment law, litigation and compliance. Price holds a bachelor's degree cum laude from Ball State University and earned her Doctor of Jurisprudence from Indiana University School of Law.

ARA president to join All Auto Recalls

■ The Automotive Recyclers Association (ARA) announced that current ARA president, Chad Counselman, stepped down from his leadership position on the ARA executive committee to join All Auto Recalls in Australia.

Counselman will remain on the board of directors and current first vice president, Scott Robertson, will step in to serve the remainder of Counselman's term. Robertson will begin his own presidential term as scheduled in November 2020 during the 77th Annual ARA Convention & Exposition.

Counselman shared with the board of directors and entire ARA membership that he has accepted a business opportunity in Australia and will be relocating his family to Melbourne in the coming weeks.

"I feel strongly that the ARA membership deserves a leader that can devote the necessary time and resources to guiding the Association. While my family and I are excited about this new opportunity in Australia, due to time zone differences and other commitments, it would make it very difficult for me to serve the members to the best of my ability as president. As such, I am stepping down and know that incoming president, Scott Robertson, will do an excellent job representing the membership. I look forward to continuing to serve the industry as a Board member and will continue to be actively involved in ARA," Counselman stated.

NWRA makes several personnel changes

■ Darrell Smith, president and chief executive officer of the National Waste and Recycling Association (NWRA), promoted three staff members and expanded the responsibilities of two more to better serve the association's members.

Gabrielle McManus has been promoted to human resources director and executive support to the chief executive officer.

Jonathan Taylor will now serve as manager, government affairs and sunbelt region. The addition of the sunbelt to Taylor's portfolio will allow him to help vice president for state affairs, Abby Blocker, to manage the expansive region's chapters from coast to coast.

Teddy Greissing was promoted to manager, government affairs and NWRA PAC. Greissing adds NWRA's political action committee to his responsibilities, an area with which he has previous experience, as the association seeks to further grow its PAC and help the industry punch above its weight politically.

Brandon Wright, vice president for communications and media relations will lead the Maryland chapter while Steve Changaris, vice president, northeast region will add Pennsylvania to his portfolio.

Casella Waste Systems appoints Battles to board

■ Casella Waste Systems, Inc., a regional solid waste, recycling and resource management services company, has appointed Michael L. Battles to Casella's board of directors.

Battles is currently the executive vice president and chief financial officer of Clean Harbors, Inc., a provider of environmental, energy and industrial services throughout North America. Battles joined Clean Harbors in September 2013 as senior vice president, corporate controller and chief accounting officer and was appointed as Clean Harbors' chief financial officer in January 2016. Battles previously served in a variety of senior financial positions at PerkinElmer Inc., a global leader in human and environmental health. Battles holds a BS in Business Administration with a concentration in Accounting from the University of Vermont and is a certified public accountant.

A man walked into a bar and said, "Give me a beer before the problems start!"

He drank the beer and then ordered more, always saying it the same way, "Give me a beer before the problems start!"

After the fifth beer the bartender was totally confused and asked the man, "When are you going to pay for these beers?"

The man answered, "Now is when the problems start!"

SWANA welcomes new marketing director

■ The Solid Waste Association of North America (SWANA) welcomed Anthony Viardo as their new director of marketing & digital communications.

Viardo comes to SWANA from the U.S. Energy Storage Association (ESA) – a non-profit trade association advocating for the clean energy sector – and after working three years as director of marketing and communications at the National Association of Clean Water Agencies (NACWA), which represents the public clean water sector. While at NACWA, Viardo helped to shape and ultimately get passed into law the federal Water Infrastructure Improvement Act of 2019, which codified the U.S. Environmental Protection Agency's "Integrated Planning" approach to infrastructure investment; and also to shape Congress' Fiscal Year 2018 Omnibus Spending Package, which greatly increased federal water infrastructure investment nationwide.

Viardo also has experience in the trade publishing industry and as a television journalist, after earning a Master's degree in Broadcast Journalism from the University of Maryland, College Park.

SCS Engineers becomes ESOP owned

■ SCS Engineers, a national environmental consulting and construction firm, recently achieved a significant milestone when it completed a transaction to become 100 percent employee-owned through its employee stock ownership plan (ESOP).

SCS Engineers established its ESOP in 1986, and recently purchased a small number of outstanding shares from minority shareholders, achieving 100 percent ownership through the ESOP trust.

An employee stock ownership plan (ESOP) is a qualified retirement benefit plan that gives employees a stake in the company through stock allocation. It provides a method for the company workforce to accumulate capital for retirement at no cost to the employee.

Exodus Machines appoints new vice president of sales

■ Exodus Machines expanded its leadership team with the appointment of Rich Currie as the new vice president of sales. As Exodus prepares for founder and current president, Bruce Bacon to transition to retirement by cutting back to part-time, the leadership team identified the need to create a new position that would oversee the sales and marketing efforts of Exodus Machines and its divisions.

Currie has over 18 years of experience in the demolition and scrap recycling equipment industries. He was most recently the vice president of specialty sales for Stanley Infrastructure, with responsibility for the Jewell, LaBounty and CWS product lines.

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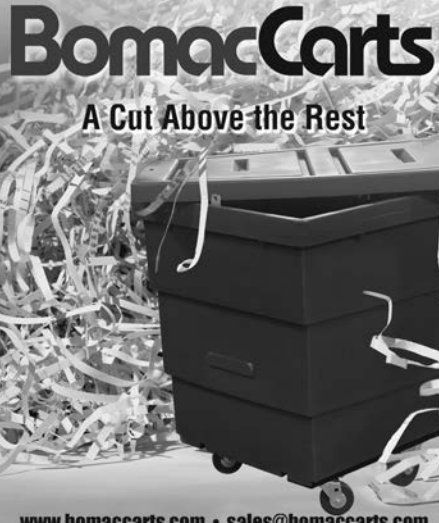
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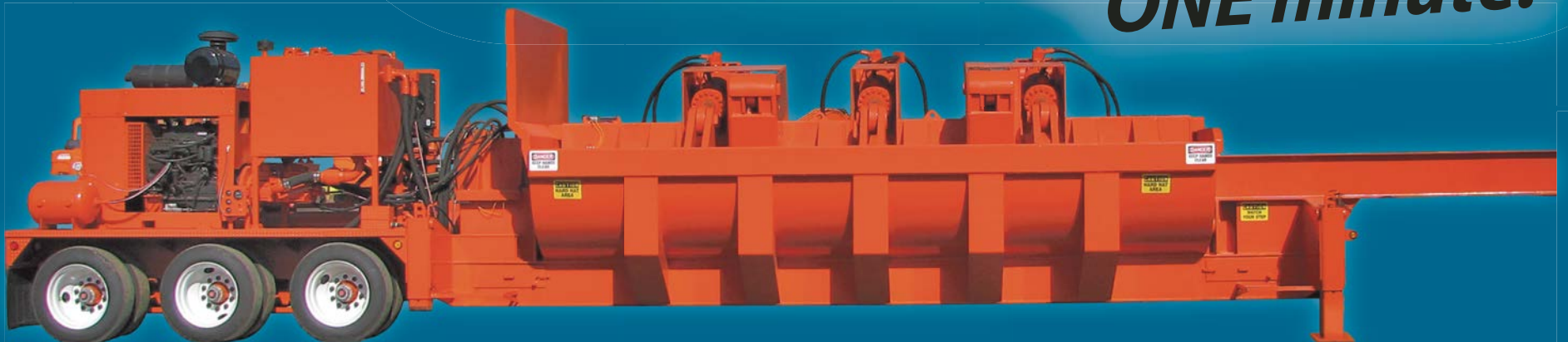


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Cleaning up our plastics for recycling

by MAURA KELLER

mkeller@americanrecycler.com

Consider this: A shocking amount of plastic waste ends up in America's landfills. Specifically, Americans produce about 35 million tons of recyclable plastic garbage each year, with only 10 percent being recycled. And the amount that is recycled faces a difficult process for a myriad of reasons – including a mix of plastics with different properties, multi-layered packaging and plastic purification issues.

David Rakowski, a circular economy expert at PA Consulting, an innovation and transformation consultancy worked with the PA Consulting team to launch a report that examines how consumer packaged goods (CPG) companies and retailers are delivering sustainable plastics and packaging solutions.

“One of biggest challenges with plastics recycling is sorting and cleaning of plastics,” Rakowski said. “Mechanical recycling is the lowest energy form, lower than chemical (the emerging recycling technology). Whereas chemical will handle pollutants to a certain level and bring them back to virgin, the mechanical is far more sensitive to them.”

Rakowski pointed out that with the move to thinner plastics and films, another challenge emerges surrounding the purification of plastics in the recycling process.

“Though less energy and material is required to make the plastic – because it is thin – you have much more surface area to mass ratio so it takes more energy to clean less plastic, tipping the scales in the opposite direction,” Rakowski



IBM Research's VolCat chemical recycling process makes PET monomer out of mixed post-consumer waste.

said. “This whole recycling business is one big systemic question, you play with something in one place and it impacts something somewhere else.”

To combat the problem of cleaning plastics, particularly plastics containing polyethylene terephthalate (PET), which is commonly used in food packaging, IBM created a technology called VolCat. This catalytic chemical process can turn PET into a renewable resource by “digesting” PET using a precise combination of chemicals, heat and pressure.

Plastic containers, bottles and PET-based fabrics are collected, ground up and combined with a chemical catalyst in a pressure cooker. Using at

least 200° Celsius and a small amount of pressure, the catalyst is able to digest and clean the plastic particles, while separating containments including glue, dirt, food residue, dyes and pigments. The end product is a white power, called a monomer, which can then be fed directly into a polyester reactor to make brand new plastic products.

As IBM stated, “In the coming years, advancements like VolCat will make plastics recycling more efficient and more versatile in treating more material types than its predecessors. Unlike traditional mechanical recycling, future plastics recycling will break down both colored and clear plastics, as well as dirty and clean containers, producing a

high quality final product that is 100 percent recyclable.”

For consumers, this purifying technology will mean that they will no longer have to rinse, sort and separate containers to be transformed into new and renewable material.

Biopharma Recycling

Not surprising, biopharma plastic recycling isn't as simple as recycling ordinary plastic. In fact, approximately 30,000 tons of biopharma single use plastic products are landfilled or incinerated each year. One of the key reasons for this lack of recyclability is that biopharma plastics often contain a mixture of silicon, polyethylene and polypropylene – materials that are difficult to separate. In addition, purifying these types of

plastics has also proven to be very difficult.

As Jacqueline Ignacio Hollands, global manager, customer sustainability solutions, at MilliporeSigma explained, when it comes to plastic purification, it's important to define cleaning versus decontamination or sterilizing.

In the typical recycling infrastructure, cleaning plastics is commonly employed after plastic types are separated and then shredded. Food waste, labels and other debris are washed from the plastic shred before being further refined into a recycled plastic pellet.

“In contrast, plastic waste from the biopharma manufacturing process can often be classified as biohazardous. In these cases, “cleaning” is typically done first by autoclaving – sterilizing or sanitizing – the material, then sending it to burial or incineration,” Hollands said. “Recycling this plastic waste has been a challenge within the current recycling infrastructure due to the mixed plastics contained in the devices themselves, even when autoclaving has rendered the material non-hazardous.” Recycling the mixed plastics requires additional steps in the process or specialized equipment that doesn't exist, so recycling these materials is not financially feasible.

MilliporeSigma's Biopharma Recycling Program uses a shred and non-heat sterilizing process that renders the biohazardous classified material non-hazardous. This sterilized shred is then used in the manufacture of a compounded plastic lumber, all within the

See PLASTICS, Page B7

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Austin expands to recycle more foam packaging

Austin Resource Recovery (ARR), a department of the City of Austin, received a \$45,000 grant from the Foam Recycling Coalition (FRC). This grant will increase the city's capacity to manage and process more post-consumer foam polystyrene, including foodservice packaging and protective packaging for recycling.

Austin's Recycle & Reuse Drop-Off Center (RRDOC) currently serves single family residents and multifamily complexes. Most services are at no cost, but some services have a fee, including services offered to the business community.

Austin's Universal Recycling Ordinance requires businesses to provide access to recycling. With the ordinance in place, the RRDOC saw a large increase in the amount of foam collected and processed at its facility – an increase of nearly 8,000 pounds per month.

"We are excited to see more material coming to our facility. With such an increase in the volume of foam, we were struggling to keep up," said Andy Dawson, assistant division manager. "With this grant from the Foam Recycling Coalition, we will purchase a second densifier to help supplement our current equipment and allow us to handle a greater volume of foam coming from businesses."

To communicate with residents about this program, ARR has taken the initiative to provide outreach material to nearly all 195,000 residential customers in Austin. The city will continue to inform residents and businesses through social media sites and monthly utility bill inserts to relay new information about their recycling program.

The grant is made possible through contributions to FRC, which focuses exclusively on increased recycling of post-consumer foam polystyrene.

Plastic Oceans International revives education program

Plastic Oceans International, a nonprofit organization dedicated to solving plastic pollution, has relaunched Rethink.Refill., an education program that empowers youth, prevents plastic pollution and delivers clean drinking water to underserved schools worldwide.

Rethink.Refill. provides water refilling stations and reusable bottles to teach students about plastic waste. They participate in a solution that eliminates single use plastic bottles from the waste stream.

The program operates at five schools in the U.S. and Mexico. Rethink.Refill. was recently implemented at three Mesa Public Schools, including Crismon Elementary, Ida Redbird Elementary and Washington Elementary in Mesa, Arizona. Plastic Oceans Mexico implemented the program at Chumpón and Tres Reyes community schools in Sian Ka'an, Quintana Roo.

"Plastic pollution affects everyone, regardless of socioeconomic standing, and Rethink.Refill. levels the playing field," said Julie Andersen, global executive director, Plastic Oceans International. "By reaching underserved communities, more youth are better equipped to evaluate their plastic usage, affect change, and improve upon solutions from an early age. Education and data are a powerful combination to empower the next generation."

Rethink.Refill. offers a quantifiable way to track the amount of plastic pollution students prevent from entering the environment. They can track their school's success and use it as a tool to encourage other members of their community to join in plastic pollution prevention.

Plastic pollution affects everyone on the planet, so Rethink.Refill. focuses on underserved schools to ensure that more youth are educated and afforded learning opportunities to



Kids in Mexico's Sian Ka'an area celebrate their reusable water bottles and filtration pots.

tackle and solve the problem. The program aims to benefit communities with unsafe water that experience poverty, and which lack education and resources to address plastic pollution.

Schools can purchase additional reusable bottles for students and faculty at the Rethink.Refill. program wholesale cost to enhance plastic pollution prevention. This is where Rethink.Refill. offers a social entrepreneurship component. Reusable bottles can be sold as a school fundraising tool. Profits can support the school, be donated to Rethink.Refill. or benefit another cause.

Plastic Oceans seeks mission-aligned funding in order to implement Rethink.Refill. Companies have a vested interest to solve plastic waste by supporting youth education and strengthening the local communities where they operate.

Footprint sponsored the program for Mesa Public Schools, because the Arizona-based tech company focuses on eliminating plastics through sustainable packaging, particularly from food and the oceans. Tommy Hilfiger sponsored the program in Sian Ka'an to raise awareness about the worsening plastic pollution problem, and its environmental and health impacts.

Plastic Oceans works with schools to tailor and implement Rethink.Refill. Secondary companies maintain the water refilling stations in schools once the program is operating.

A woman came up behind her husband while he was enjoying his morning coffee and slapped him on the back of the head.

"I found a piece of paper in your pants pocket with the name 'Marylou' written on it," she said, furious. "You had better have an explanation."

"Calm down, honey," the man replied. "Remember last week when I went to the dog track? That was the name of the dog I bet on. The note was just to remind me!"

The next morning, his wife snuck up on him and smacked him again.

"What was that for?" he complained. "Your dog called last night!"

Millions provided to clean up rivers and prevent ocean waste

Nine river clean-up programs across the world have been selected to receive a total of \$11 million over the next three years as part of a unique partnership between The Coca-Cola Foundation and the Benioff Ocean Initiative at the University of California Santa Barbara's Marine Science Institute.

The partnership combines The Coca-Cola Foundation's commitment to support behavioral-change projects regarding recycling and the Benioff Ocean Initiative's expertise in developing innovative ways to collect and analyze waste from our rivers and oceans and address the plastic crisis.

The programs selected for funding span four continents: Asia, Africa, North America and South America.

Dr. Douglas McCauley, professor at UC Santa Barbara and director of the Benioff Ocean Initiative, said, "Scientists have made great strides in identifying how important rivers are in carrying plastic waste to the ocean. We are so thrilled to now use this research to strategically mount an intervention to this global problem."

The Marea Verde project to clean up the Matias Hernandez River in Panama is the first to be awarded funding, in recognition of its innovative application of cutting-edge technology, creative and comprehensive outreach strategy, and strong interdisciplinary leadership team.

"Panama contributes to marine trash with an estimated 100,000 plus tons per year," said Mirei Endara, co-founder of Marea Verde. "Since October 2017, we have manually captured and prevented over 1,100 tons of trash from reaching the ocean just from the Matias Hernandez watershed and river mouth. From the characterization pilots carried out in our river site, we know that over 55 percent of this trash is plastics.

"With this funding, we will be able to integrate technology and artificial intelligence into our project, which will help us be more effective in collecting trash at our river site, generate pertinent data and develop the capacity to work with communities in this watershed. Our ultimate goal is to provide best practices that may be replicated in other watersheds in Panama and the world, in an effort to positively impact the river plastic challenge."

Eight other programs – in Vietnam, India, Indonesia, Ecuador, Mexico, Thailand, Jamaica and Kenya – are also being finalized for funding. Details of these, including the specific rivers and locations, will be announced in the future. Each project will both clean up the target polluted river and use data about the captured waste to change behavior in people, local communities and businesses.

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UPCOMING TOPICS

- APR Magnets
- MAY Containers
- JUN Fluid Removal
- JUL Shears

Unifi expands Repreve Our Ocean line

Unifi, Inc., a leading innovator in recycled and synthetic yarns, will introduce a new product and further product expansion to the marketplace. The new additions, consistent with meeting sustainability and performance demands, include Repreve® cationic-dyeable polyester and expanded Repreve Our Ocean™ offerings.

Unifi has long produced quality offerings to meet the demand for heather yarns that create an exciting aesthetic appeal. Combining sustainability and innovation now allows for a revolution in the heather market. Repreve cationic-dyeable delivers 100 percent Repreve heathers and solids to the market.

Offering deeper and brighter colors, as well as improved colorfastness, it can be used in a variety of constructions and across all market segments, from woven to knit to warp knit. The dyeing of these yarns may offer energy savings as compared to some traditional disperse-dyed polyester by utilizing lower temperatures.

Unifi continues to see strong interest in Repreve Our Ocean offerings since launch, as more customers are serious about reducing ocean plastic waste. Repreve Our Ocean is made with plastics collected within 50km of waterways or coastal areas in developing countries or regions.

Biomass, recycling and regulatory reform top AF&PA advocacy priorities

The American Forest & Paper Association (AF&PA) board of directors announced advocacy priorities the association will pursue to ensure the pulp, paper, packaging, tissue and wood products industry's continued growth and ability to create American manufacturing jobs.

"President Trump and the U.S. Congress recently made great strides in finalizing the U.S. – Mexico – Canada (USMCA) trade agreement, and we are grateful for this commitment to ensuring free and fair cross-border trade," said AF&PA president and chief executive officer Heidi Brock. "Paper and paper-based packaging are the most-recycled materials by weight from municipal waste streams in the U.S., and AF&PA will support policies that allow this environmental success story to continue. Policy conversations related to biomass, paper recycling, regulatory reform and transportation infrastructure should strengthen our industry's ability to provide consumers with recyclable, renewable and sustainable paper products."

Mark Sutton, International Paper chief executive officer and AF&PA board chair, continued, "The paper industry has some of the most comprehensive quantifiable sustainability goals of any U.S. manufacturing industry in Better Practices, Better Planet 2020. It is imperative the U.S. Congress, state legislatures and other stake-

holders recognize the industry as a top 10 manufacturing employer in 45 states across the country, with an impressive track record of leadership in environmental and forest stewardship. As challenges related to waste continue to be discussed nationwide, we ask that elected officials recognize paper is part of the circular solution."

AF&PA's 2020 advocacy priorities include the following

Carbon Neutrality of Biomass:

Paper and wood products manufacturers use as much of the tree as possible to make paper, packaging and wood products, while remaining residuals are used as a renewable energy source (biomass) to power mills. The carbon neutrality of biomass harvested from sustainably-managed forests has been repeatedly recognized by studies, agencies, institutions, legislation and rules around the world. AF&PA has for many years advocated for science-based policies that acknowledge the carbon neutrality of biomass and provide regulatory certainty to level the playing field for global competition and the protection of rural American jobs.

Continued Success for Paper Recycling at the State and Federal Level:

Efforts to ban, tax or restrict access to paper products discourages the use of products that are recyclable, compostable, reusable and made from

renewable and recycled material. AF&PA supports Senators Rob Portman (R-OH) and Debbie Stabenow's (D-MI) RECYCLE Act, which recognizes that educating consumers on the right ways to recycle is one of the best ways we can increase the quantity and quality of paper in the recycling stream.

Regulatory Reform:

U.S. paper and wood products manufacturers have spent billions of dollars on regulatory compliance and are estimated to spend billions in new capital expenditures over the next decade. Measures that streamline the permit process and reduce cost and uncertainty of regulations remain a top priority.

Transportation Infrastructure:

Paper and wood products manufacturers face a nationwide shortage of transportation capacity, an aging infrastructure, and inefficient surface transportation policies. As a result, connecting our products, raw materials and consumers is difficult and costly. Specifically, AF&PA encourages necessary infrastructure enhancements, increasing truck weight limits on federal interstate highways and freight rail system reforms that prioritize shippers' concerns.

In addition to these priorities, AF&PA remains engaged in important advocacy discussions related to international trade and climate policy.

Cascades' new 100 percent recycled and recyclable cardboard tray wins award

Cascades, a leader in eco-friendly recovery, hygiene and packaging solutions, has received a DUX Grand Prix Award for its latest food packaging innovation: a 100 percent recycled and recyclable cardboard tray.

The innovative packaging solution won the "Products" category at the DUX Grands Prix Awards which recognize the food industry's successes each year.

Sustainable and robust, this fresh food tray is the first in North America to use a water-based, functional barrier that protects it from humidity, thereby enhancing the packaging's performance without making the cardboard less recyclable. The patented coating is a unique recyclable and compostable alternative to the traditional wax or plastic-based applications widely used in cardboard food packaging, which pose some challenges in terms of recyclability. The tray is made in Québec, Canada.

"A pioneer in recovery and eco-friendly packaging, Cascades is honored to receive this award for a product that gives concrete life to the circular



economy. Favoring the recyclability of the materials means we can do more with less, which benefits both our customers and the environment," said Luc Langevin, president and chief operating officer of Cascades Specialty Products Group.

Launched in December 2019, this innovative product has already received three recognitions. In addition to this DUX Grand Prix award, it has earned the Prix Innovation en Alimentation 2019 from the Conseil de la transformation alimentaire du Québec (CTAQ), and the 2019 Gaïa Award in the fruits and vegetables category.

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EQUIPMENT SPOTLIGHT

Granulators

by MARY M. THORNTON

maryt@americanrecycler.com

In August, NPR published, *The Plastic Tide*, which explores the effects of plastic waste on our environment. Some of the information presented includes the following:

Every year, the average American generates more than 250 pounds of plastic waste. Recycling guidelines among processing facilities vary – as does the equipment used in processing. The downstream markets for plastic are constantly evolving. As an example, a lot of packaging made of plastic ends up in incinerators, landfills and oceans because it isn't designed to be recycled. MRF operators say they're working with manufacturers to design packaging that can be recycled within the capabilities of the current system. Even though plastic bottles are a highly desirable product for recyclers, only about a third find their way into a recycling bin. In situations when plastics do end up in the recycling stream, granulators are often involved in the process of converting that plastic into another form, so that the commodity life of the material continues on.

"Cumberland provides the broadest line of granulators and shredders to meet the growing needs of the plastics and recycling industries. Our granulators have flexibility to process large



Granutech Saturn Systems

volume parts, with the capability to configure the cutting chamber to grind higher density parts. Tangential or offset geometries are available, allowing users to create a machine especially configured to the process needs involved. High quality output makes it easier to utilize the maximum amount of recycled material in your process," said Andre Adams, senior product manager.

Adams added, "Whether the application requires single or four shaft shredders, beside the press or central granulators, our customers rely on Cumberland to deliver their throughput requirements and produce the highest quality regrind available in the industry. Our broad range of heavy duty granulator options are designed for the most demanding applications – from low density fiber to heavy purgings, Cumberland's largest granulators are ready to tackle high capacity size reduction needs. For example, one of our customers processes up to 50,000 pounds per hour (PPH) utilizing 8 heavy duty machines, running 24/7."

He explained that machine users look for reliability, durability, reduced downtime and predictable, easy maintenance. Reliable machines maximize uptime and offer maximum life of wear items like screens and knives. Users also seek better user interface with digital controls, and optimal safety features. Companies in the industry focus on creating a circular economy, to increase the repurposing of single use plastics. The China import recycling ban and social sustainability are also taken into consideration.

Granutech Saturn Systems provides engineering, manufacturing and commissioning recycling systems and solutions, worldwide. Jon Maly is regional sales manager at the firm and he stated, "For the plastics industry specifically, our customers have had great success with our Roto-Grind Series single shaft shredders. Available since the early 1990s, the series includes a heavy duty, high volume, very low maintenance shredder, offered as electric and hydraulic and in 4 different models – the M80, M110, M160 and M240. Available from 60HP to 400HP, these shredders are built to last, as some of our earliest models are still in operation today. With a horizontal ram and feed bin, our roto-grind shredder offers a very quick, efficient metered feeding system. The machine allows for increased rotational cutter access to the material being processed, which increases output volume."

For especially tough materials, Maly recommends Granutech's

See GRANULATORS, Page B5



Cumberland Size Reduction

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Granutech Saturn Shredders

Jon Maly

877-582-7800

www.granutech.com

Herbold Meckesheim USA

David Lefrancois

401-597-5500

www.herboldusa.com

Hosokawa Polymer Systems

Doug Ort

860-828-0541

www.polysys.com

Jordan Reduction Solutions

Richard Pyle

888-733-8248

www.jordanreductions.com

Pallmann Pulverizers Company

Jeff Taylor

973-471-1450

www.pallmann.eu

Rapid Granulator

Jim Hoffman

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www.rapidgranulator.com

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Granulators

Continued from Page B4

hydraulic power options, which offer quicker power ramp up and reversals than traditional electric shredders. He noted that processing volumes for customers range from a few tons per hour to over 20 tons per hour. Volume output is dependent on a number of factors such as material, screen size and machine size. Roto-Grind applications include materials such as bulk film, cast nylon/fiberglass mixtures, glass filled purgings and high volume general plastic scrap.

Maly commented on how the industry has been affected by recent events. "As some buyers shut their doors to unrecycled plastics, creating challenges for some suppliers, it has in turn created new usage channels. Increasingly, recycled plastics are used in everything from automotive parts to paint cans. The Roto-Grind series is the perfect solution for reducing tough plastics and films prior to granulation and we are happy to offer our guidance on any plastic type a customer seeks to reduce. One of the major benefits of utilizing machinery from Granutech is our knowledge base and customizations we can provide to ensure that our machine is tailored to your exact need!" The firm's other products include Granutech shredders, MAC balers and Grizzly grinders.

Herbold manufactures a wide range of granulators equally well suited for the efficient size reduction of both paper and plastics. The popular SML



Herbold Meckesheim USA

Series and SMS Series are available in a variety of configurations. With throughputs of around 400 PPH to over 20,000 PPH and motor sizes up to 400 HP, they can meet any recycling requirement. They can also be furnished with a variety of rotor styles equipped with four to nine knives to optimize throughput based on specific application requirements. There are even models that meet the NSA requirements for the destruction of top-secret documents.

As cost savings and productivity are always desirable, it can be beneficial when one machine serves more than one specific application or performs the work of two machines. This can also result in big savings in capital expenditures. As well, the less time a machine is down for knife changes or routine maintenance, the more produc-

tivity can increase. "Herbold Granulators feature a knife jig which allows all knife adjustments to be made quickly and easily outside of the granulator, significantly reducing downtime for knife changes. With access above and below the rotor, Herbold granulators provide unmatched accessibility allowing for fast, easy material changes and cleanouts," David Lefrancois, president commented.

He noted, "Over the last few years we've noticed an increase in the recycling of various films. Unlike three dimensional plastics, films pose challenges for many recyclers. However, the potential value has caused many recyclers to seek film recycling solutions. Herbold granulators can be configured for wet or dry operation to handle post industrial and post consumer films."

Glenroy joins packaging coalition

Glenroy™ Inc., a converter and printer of flexible packaging, has joined the Sustainable Packaging Coalition® (SPC) and How2Recycle® label program. The membership allows Glenroy to expand their sustainable packaging portfolio with How2Recycle labeled store drop off recyclable flexible packaging options.

"As a company solely focused on flexible packaging, we are excited to collaborate with the SPC's How2Recycle program to clearly educate consumers on how to recycle our sustainable packaging," said Steve Nichols, vice president of sales and marketing for Glenroy. "Our culture is rooted in environmental responsibility, and we strive to become more sustainable every day. Joining the How2Recycle program is another step we are taking to make a positive impact on our global environment."

Glenroy has a dedicated team of professionals researching and developing new ways to reduce the environmental impact of its already sustainable packaging portfolio. Glenroy plans to utilize SPC's How2Recycle label program on their new store drop off recyclable products to highlight the sustainable benefits of the packaging and communicate step-by-step instructions to the consumer.

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ASV INTRODUCES VT-70 HIGH OUTPUT POSI-TRACK LOADER

ASV Holdings Inc., a manufacturer of all purpose and all season compact track loaders and skid steers, offers a new mid-frame, vertical lift VT-70 High Output.

The Posi-Track loader features high torque and an efficient hydraulic system for maximum performance with even the most heavy and demanding attachments. That means more productivity for ASV customers in all applications.

The VT-70 High Output features unmatched serviceability, high speed and a vertical lift loader linkage for lift, carry and load tasks.

ASV LLC
840 Lily Lane
Grand Rapids, MN 55744
800-205-9913
www.asvllc.com



FRONTLINE ADDS TOUCHSCREEN CONTROL TO WASTE OIL TANKS

Tanks from Frontline International now feature the addition of upgraded touchscreen control panels with easy-to-read displays, new capabilities and advanced tech compatibility.

Using the password protected touchscreen, users have clear and immediate access to instruction manuals, information about system type, tank status and tank level in an easy-to-read graphic display.

Advanced settings control the opening and closing of the collection valve, service intervals and issue an alert when the tank reaches 75 percent capacity as well as built in safety features.

Frontline International, Inc.
187 Ascot Parkway
Cuyahoga Falls, OH 44223
877-776-1100
www.frontlineii.com



BPS OFFERS AIR SYSTEMS GEARED TOWARDS RECYCLING INDUSTRY

Best Process Solutions offers advanced air systems for the recycling industry, addressing a common challenge to help remove light auto shredder residue (ASR) material from heavy material.

The air system's cyclone, airlock and ductwork work together to yield a cleaner final product. The system features high efficiency circulating fans, abrasion resistant ductwork and cyclone shells, high efficiency cyclone designs and heavy duty rotor air locks.

The air system is customized by BPS application experts to each customer's requirements and operation scale to provide an environmentally conscious solution.

Best Process Solutions
1071 Industrial Parkway
Brunswick, OH 44212
330-220-1440
www.bpsvibes.com



HERBOLD GRANULATORS DELIVER HIGH THROUGHPUT CAPACITIES

SMS Series granulators from Herbold USA are heavy duty knife granulators designed for challenging applications that require high throughput capacities. Various models are available with throughputs from 440 to 17,600 lbs. per hour.

SMS series granulators feature rotor and bed knives mounted at opposing angles. This configuration ensures a uniform cutting gap across the entire length of the knife resulting in greater rotational inertia, reduced energy requirements, and regrind with few fines and improved bulk density.

Herbold Meckesheim USA
130 Industrial Drive
North Smithfield, RI 02896
888-612-7774
www.herboldusa.com



BROKK OFFERS BCP PLANER FOR CONTROLLED MATERIAL REMOVAL

Brokk, a manufacturer of remote controlled demolition machines, offers the BCP Planer Attachment for controlled material removal on walls, floors and ceilings for cleaning, renovation and restoration applications.

The three models in the BCP series are specially designed to work with Brokk remote control demolition machines and offer up to seven times the speed of handheld options while providing greater precision and safety for grinding, brushing or removing concrete, glue, carpet, tile and other materials. Hood and vacuum connections are also available, enabling operation in contaminated environments.

Brokk Inc.
1144 Village Way
Monroe, WA 98272
800-621-7856
www.brokkinc.com



MECALAC INTRODUCES VERSATILE TA3SH SWIVEL SITE DUMPER

Mecalac, a manufacturer of compact construction equipment for urban environments, offers the TA3SH Power Swivel Site Dumper for increased versatility and safety. The site dumper is part of the TA3 range, which is designed for the small to medium jobsite, and is particularly useful in crowded or confined areas.

The TA3SH is 13' long and 6'1" wide. The Power Swivel technology features forward and swivel tipping mechanisms, allowing the load to rotate 90 degrees on either side before being tipped. This reduces the need to move equipment, enhancing productivity.

Mecalac North America
282 Dedham Street
Norfolk, MA 02056
508-921-3076
www.mecalac.com



DOOSAN SHARES DETAILS OF DL280-5 WHEEL LOADER

The Doosan® DL280-5 is part of the popular category of 3 to 4 cu.yd. wheel loaders. It provides operators with enhanced performance and comfort, as well as increased uptime protection. The wheel loader features include an optional wide fin radiator that provides better cooling with larger fin spacing and reduced clogging.

Heavy duty axles deliver additional machine performance in harsh applications such as scrap and recycling. The heavy duty axle allows owners to use solid tires to improve uptime in applications where pneumatic tires are susceptible to puncture.

Doosan Infracore, LLC
2905 Shawnee Industrial
Suwanee, GA 30024
678-714-6000
www.doosanequipment.com



LABOUNTY EXPANDS SHEAR SERIES, ADDS NEW TECHNOLOGY

Stanley Infrastructure announced that LaBounty is expanding its latest line of mobile scrap shears, the MSD Legend Series. LaBounty will begin rolling out four new Legend models, the MSD4000R, MSD4500R, MSD2000 and MSD1500R. New shears are equipped with InSite™ technology, which provides real time data to optimize shear performance and productivity.

Maximizing productivity and uptime, the MSD Legend Series shears are equipped with a full-protection, indexable piercing tip, Dual Max™ Indexable Protection, defending the shear from wear and preventing maintenance and downtime.

Stanley Infrastructure
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503-303-2672
www.stanleyinfrastructure.com



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Eggersmann GmbH offers specialized hopper solutions for plastics recyclers. It is a proven alternative to tower silos.

The customized Feed and Metering Hoppers of the BRT Hartner brand by Eggersmann GmbH are the suitable solution for metering material input in a dosed fashion. The bunkers feature a storage volume of up to 80 m³. At their heart is a moving floor conveyor in special construction design for materials with a high share of fines. They are well suited for years of continuous operation due to their sturdy steel structure.

Eggersmann Gruppe GmbH
Ravenna-Park 2
33790 Halle, Germany
+49 5201 6614 121
www.eggersmann-group.com



TALBERT OFFERS MODULAR 65 TON TRAILER FOR FLEXIBILITY

Talbert Manufacturing, a North American leader in specialized heavy haul solutions, offers the 65SA Modular Trailer. This innovative trailer takes advantage of Talbert's custom engineering experience to incorporate multiple axle configurations based on customer requirements for optimum versatility.

The trailer's unique design features a flip extension to accommodate a tandem or tri axle jeep dolly, allowing for maximum load configurations. The modular trailer maintains a 65 ton rating at half the deck length with a 16" loaded side deck height and 6" loaded road clearance.

Talbert Manufacturing
1628 West State Road 114
Rensselaer, IN 47978
800-348-5232
www.talbertmfg.com

Berkeley Ecology Center supports newly proposed national plastic reduction law

A proposal to drastically curb plastic pollution in the U.S. was presented by U. S. Senator Tom Udall (D-N.M.) and U.S. Representative Alan Lowenthal (D-Calif.). The Break Free From Plastic Pollution Act of 2020 will radically reduce and reshape the production, use and disposal of single-use plastics on a national scale. While many waste companies will oppose this bill, the Berkeley Ecology Center, which runs the nation's first and longest-running curbside recycling program, proposes it will help return recycling to its proper place as a last resort in the "reduce reuse recycle" hierarchy.

Martin Bourque, Ecology Center Executive director, said "It is clear we cannot recycle our way out of plastic pollution. We need a robust new framework like this bill to focus on reducing waste, not just recycling more. When companies feel they are free to pollute the planet, they do. When the government changes the rules to protect communities and the environment, it works.

When Berkeley banned Styrofoam (1986) and plastic bags (2013), everyone said the world would end – it didn't. They said charges on disposables will kill commerce—they don't. We put a \$.05 deposit on beverage bottles (1986), a \$.10 charge on paper carryout bags (2013), and a \$.25 charge on compostable disposable cups (2020); and its business as usual. Today Berkeley benefits from less litter and plastic pollution, and our recycling is cleaner as a result.

In the 50 years since the first Earth Day, the Ecology Center has fought to keep recycling true to its original values; this is the first national bill we have seen make a serious effort to achieve that goal."

Here is what the bill would do:

- Require producers of packaging, containers, and food-service products to design, manage, and finance waste and recycling programs.

- Create a nationwide beverage container refund program.

- Ban certain single use plastic products that are not recyclable.

- Ban single use plastic carryout bags and place fees on the distribution of remaining carryout bags.

- Establish new minimum recycled content requirements for packaging, container, and food-service products.

- Prohibit plastic waste from being shipped to developing countries.

- Protect state and local governments that enact more stringent standards.

- Place a temporary pause on new plastic production facilities until the EPA updates and creates important regulations for those facilities.

The legislation comes on the heels of other national, state and municipal legislation sweeping across the country and the world to tackle single-use plastics. Single use plastics currently account for a vast majority of con-

sumer waste. This waste pollutes ecosystems and communities, contaminates our recycling systems, clogs our storm drains, and litters our business districts.

In January, The Berkeley Single Use Foodware and Litter Reduction Ordinance co-authored by the Ecology Center went into effect banning plastic disposable foodware and placing a \$.25 charge on disposable cups. The law calls for the complete phasing out of single use plastics at restaurants and other food establishments by July 2020, including foodware for dining on site. The ordinance has attracted both national and worldwide attention for its expansiveness and strategic approach. So far it has been replicated in Vancouver, Watsonville, San Anselmo, Santa Cruz County, and San Mateo; and it has been introduced in San Francisco and a number of other cities.

Plastics

Continued from Page B1

same location. The manufacturing process makes the recycler profitable by creating a product with greater value than the sterilized mixed plastic shred.

"Many waste 'autoclave and shred' systems have been on the market for years and are often found within institutions that generate regulated medical waste, such as large hospitals," Ignacio Hollands said. "These systems are being updated, but the result is the same – create a shred that can safely go to landfill or incineration."

There is a slight trend toward placing these systems within the biopharma manufacturing facility. Unfortunately, the challenge for recycling biopharma waste remains as the mixed plastic shred still needs to be separated before it can be recycled in the current recycling infrastructure. As a result, this shred is often incinerated.

What's more, the newer "autoclave and shred" systems are creating a plastic shred with little to no value.

"Only when these systems are paired with separation technology is a higher value, homogenous plastic shred created," Hollands said. "This 'cleaner' plastic shred can be used in the manufacturing of products containing recycled plastic content."

However, as Hollands pointed out, using the autoclave and shred system allows for non-hazardous transportation of the waste. This could reduce costs to the biopharma facility, as shipping bio-hazardous materials is expensive. As separation technologies advance, we may see an opportunity to increase the recycling of biopharma single-use waste.

MilliporeSigma's Biopharma Recycling Program has helped reinvigorate the conversation around sustainability in the biopharma industry.

"When the program launched in 2015, many others in the industry said that this plastic waste could not be recycled. Five years later, we've engaged 15 biopharma companies and recycled over 4,400 tons –and the industry is starting to take notice," Hollands said. "In fact, many biopharma manufacturers are asking how and when they can get the process closer to their operations."

While it is difficult to measure the impact of this program beyond the biopharma industry, Hollands says it serves as a great example of thinking out-of-the-box for recycling.

"If this challenging plastic waste stream can be recycled into plastic lumber, think of what is possible with less complex and more homogenous plastic waste."

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