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FOCUS: Electronics

Electronics recycling: An evolving industry



WHAT'S INSIDE

- Connecticut DEEP awards seven recycling grants. Page A4
- California's trash control policy approved. Page A11
- Steel imports captured a record 29 percent of the U.S. market in 2015. Page A14
- High recycled content aluminum alloy created. Page A16
- EPA recognizes electronics manufacturers and retailers. Page B2

Events Calendar..... 4
 Industry Profile: A Closer Look.... 10
 Scrap Metals MarketWatch..... 15
 Salvaging Millions..... 16
 AR Classifieds..... 20
 Equipment Spotlight..... B4
 New Product Showcase..... B6

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Market for recycled glass remains strong despite challenges



Mounds of processed glass await the next step in the recycling process.

PHOTO BY MORENO SOPPELSA | DREAMSTIME

by **MARK HENRICKS**

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Glass recycling has come under increased pressure as rising recycling costs, concerns about contamination, lower international demand for recycled materials and falling oil prices have combined to raise questions about the future role of glass in the recycling industry. Some municipal programs have announced they will no longer collect curbside glass.

In Georgia, for instance, Pratt Industries stopped accepting glass from DeKalb County's curbside recycling program when it opened a new plant in September 2015. The company said it considered glass a contaminant in the stream, because the material damaged its equipment. The company later said it was developing a network of locations where consumers could drop off glass for recycling.

More recently, the city and county recycling agencies in Spartanburg, South Carolina, announced they would end a four year old glass recycling effort and no longer accept glass after March 1, 2016. Curbside collection was not the only thing affected by the change. Residents also will no longer be able to take glass to recycling centers. An official with the county said low prices for recycled glass was the reason for the change.

In other places, lack of consumer and business participation has made recycling glass difficult. The city of New Orleans reported that, of more than 4,000 addresses that were eligible to take part in a curbside glass recycling program it started in downtown neighborhoods in 2015, only 35 to 40 addresses actually participated.

The New Orleans launch included its French Quarter neighborhood, which is home to many bars and restaurants that

generate significant quantities of container glass. That should have helped to make the effort cost-effective. However, under the contract that had been negotiated with the collection company, the low participation rates meant the city was paying an average of \$123 per participant each month to pick up the glass. As a result, the city was questioning the program's viability after just a few months.

Lynn Bragg, president of the Glass Packaging Institute in Arlington, Virginia, acknowledged glass recycling was facing challenges. "While recycled glass markets are strong and remain mostly price stable, increased contamination can make glass difficult and costly to process in single stream MRFs," she said.

However, Bragg said glass container and fiberglass manufacturers maintain a strong demand for recycled glass once it has been processed into cullet, a high quality, residue free crushed glass. "This past year, the glass container manufacturing industry purchased 2.4 million tons of recycled glass for remelting into new containers," Bragg said.

Glass is an important part of the recycling industry. Recovered glass can be remelted and made into new containers. Crushed recycled glass can also be used for construction materials, fiberglass insulation, water filtration systems, sandblasting, road building and landscaping. Glass manufacturers benefit from significant energy savings when mixing cullet in with raw natural materials including sand, soda ash and limestone that are used for making glass.

According to the Environmental Protection Agency, glass represented about five percent of municipal solid waste in 2013. Approximately 34 percent of this glass is recycled, EPA said. That places glass on the

lower end of the recycling range for recycled materials, between consumer electronics at 40 percent and PET containers at 31 percent. Glass is far less often recycled than lead acid batteries, essentially all of which are recycled, and steel automobiles, which have a recycling rate of 71 percent, as well as aluminum beverage containers, 55 percent of which are recycled.

Among the challenges glass faces are its heavy weight, which makes it expensive to haul to processors. Another issue is the fact that glass comes in many different colors that, when mingled together during collections, make it difficult for container manufacturers to produce new bottles of a standard color. The material's brittleness makes it difficult to process without breakages, and its sharp edges and hardness contribute to excessive wear on recycling machinery.

Bragg said her organization has been working with MRFs, haulers, cities, customers and other recycling stakeholders to address glass recycling's issues and try to develop solutions for specific locations. While those in recycling programs are exploring ending curbside glass collection programs, she said consumers want to keep them going. Bragg quoted a 2013 survey by EcoFocus Worldwide that found over 75 percent of respondents said recycling was important to them. She said the same survey found cities and counties want to continue providing glass recycling.

"Keeping glass in the recycling mix, which is on average 25 percent of the total weight of the recycling stream, also helps put communities closer to achieving their solid waste reduction and recycling goals," Bragg said. "Recycling and hauling companies that work to keep glass in their

See **GLASS FUTURE**, Page 6

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Vecoplan christens test lab



Vecoplan, LLC christened a new state-of-the-art test lab. An integral part of their continuing expansion, the lab serves two functions vital to the company's long term goals. "First, it provides a practical hands-on environment to test the feasibility and ensure the quality of our R&D efforts," stated Gary Kolbet, vice president engineering at Vecoplan.

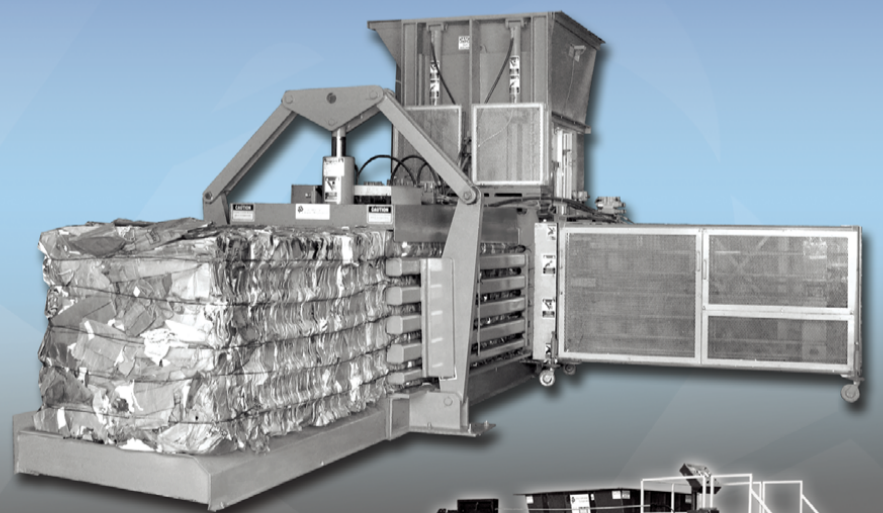
Second, "but just as important, the test lab is set up to provide real world conditions in which customers can view their own waste materials being processed, from feeding through shredding and discharge/separation," added Bob Gilmore, Vecoplan's chief security officer.

The new test lab contains a representative selection of four of Vecoplan's

most popular shredders and a plastics granulator. The lab is also configured with an open slot to allow for the installation of other machines on an as-needed basis. One of the semi-permanent machines is horizontally fed and four are vertically fed via hoppers. The horizontal shredder, a VTH-VU, is equipped with a vibration feed conveyor and pneumatic discharge system.

Other amenities in the lab include customer viewing stations with built in windows, located at key processing points on each shredder. Cameras positioned above each shredder's hopper provide live video feeds of materials as they are being processed in the cutting chamber.

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America Recycles Day should be every day

by CARMEN BECKER

America Recycles Day came and went without much fanfare last year. Yet it is still a powerful reminder to us not only how far recycling has come since it became a mainstream practice in the 1970s, but also that it still faces significant challenges.

Recycling is at a crossroads as commodities' prices are down and processing costs are up. These economics have prompted critics to question the validity of recycling and its future. Yet this comes at a time when we have come to realize that the earth holds a dwindling supply of natural resources to manufacture products, and without recycling and other efforts to preserve those resources that supply may decline more quickly.

In truth, the ups and downs of recycling are nothing new.

"It's a commodity business and has always been prone to some volatility," said Jason Pelz, vice president of recycling, Carton Council, and vice president, environment, Tetra Pak Americas. "Prices and demand have always fluctuated, yet recycling is still typically less expensive than landfilling or burning materials in a waste energy facility: about \$3 per household a month. However, people expect it to be profitable."

Still, one of the most compelling reasons to champion recycling, and continue to pay for this service, is that it's essential to keep materials in the resource stream and available for future use, said Pelz.

So far, recycling has helped to do that. When the U.S. Environmental

Protection Agency (EPA) started tracking recycling statistics in 1960, the national rate was about 10 percent. In 2012, the last year on record, it had risen to 34.5 percent, according to the EPA.

Recycling also has helped industries make strides toward conserving the planet's finite supply of resources. For example, from 1994 to 2012, the number of U.S. households rose by 25 percent while packaging waste declined from 36 percent to 30 percent of the total waste stream, indicating, in part, that recycling efforts are becoming more effective, notes a waste expert in Live Science. Another encouraging fact is in 2012 51.5 percent of containers and packaging in the U.S. municipal solid waste stream were recycled, according to the EPA.

Despite these improvements, the U.S. ranks 10th in recycling globally, ranking behind Austria (63 percent), Germany (62 percent) and others while generating 25 percent of the world's waste, notes Planet Aid. So it's clear there's room for improvement in the U.S. recycling system. A recent report from As You Sow and the Natural Resources Defense Council shows discarded food and beverage packaging that is not recycled amounts to an estimated \$11.4 billion in potential revenue annually.

Food and beverage company professionals want to have their packaging recycled for many reasons, explained Pelz. Some use recycled content in their packaging and need a steady supply of recycled resources. Others make pack-

aging that uses very high-quality materials that are highly desirable recyclables, such as Forest Stewardship Council (FSC) certified pulp. Last year, Tetra Pak became one of FSC's largest multi-site certified suppliers by obtaining certification for 92 facilities worldwide, and sold 43.7 billion FSC labeled cartons.

Also, "there's consumer demand for recyclable food packaging; consumers don't like throwing anything away," said Pelz. "But food and beverage companies count on the existing recycling system to work, and for consumers to actively participate in food packaging recycling."

This can be challenging, since recycling happens at the local level, and the U.S. doesn't have a uniform system. Instead, recycling programs are left up to individual communities to manage and fund.

Increasingly, food and beverage companies' teams are recognizing that local governments can't fix the system singlehandedly, especially given municipal budget constraints and limited jurisdictional boundaries, explains Pelz. For that reason, public-private partnerships are becoming a way to address opportunities to improve food packaging recycling where it happens: at the community level.

Championing best practices is a way to steer recovery and recycling rates in the right direction. Many food and beverage companies are already doing so through public-private partnerships that frame the waste reduction and recycling conversation in the context of

economic value, waste reduction, the environment and jobs, and involve stakeholders along the value chain. One example is The Recycling Partnership, a nonprofit focused on increasing residential curbside recycling, which maximizes public-private partnerships to "make recycling easier for Americans" by increasing accessibility and efficiency.

Such collaboration has been ongoing in the carton industry since 2009, when Tetra Pak co-founded the Carton Council, a group of carton manufacturers united to boost America's carton recycling. As a result of their efforts, over 55 percent of U.S. households – 63 million – now have access to carton recycling.

Corporate support for state policy tools to advance recycling at the local level is also growing thanks to public-private partnerships. The American Institute for Packaging and the Environment, founded in 2011, works to promote policies such as Pay-As-You-Throw waste collection fees and minimum recycling service level requirements.

But America Recycles Day is designed to remind businesses that there is more to do in the U.S. to advance recycling, and it's well worth the effort. Given the need to protect the environment and keep materials in the resource stream, the question to ask is not "should we be recycling?" but rather "how can we do it better and more effectively?"



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Connecticut DEEP awards seven recycling grants

Connecticut's Department of Energy and Environmental Protection (DEEP) announced that 7 communities are being awarded more than \$60,000 in grants to enhance local waste reduction, reuse, and recycling programs.

"Congratulations to these seven towns for advancing their municipal recycling systems and demonstrating a commitment to a 21st century materials management strategy. These communities are taking advantage of DEEP's resources to further reduce the volume of trash we dispose of, conserve natural resources, and find value in our waste stream," said DEEP commissioner Robert Klee.

Klee said these grants are made possible through DEEP's Recycling Incentive Grants Program.

The latest round of grants is being awarded to the following communities:

Town of Branford – \$6,000

Branford implemented the third year of a Holiday Recycling Program aimed at educating residents on the importance of collecting the excess wrapping paper and gift waste for recycling.

Town of Bridgewater – \$3,990

Bridgewater is applying grant funds towards a guard shed at the town's recycling facility which will allow for staff to provide recycling and reuse education and to monitor incoming loads and minimize contamination. They will also be improving their town public space recycling with new recycling bins.

Town of Columbia – \$4,750

Columbia is implementing a resi-

dential organics drop-off program at sites throughout the town and will provide workshops and educational outreach to encourage widespread participation. Remaining grant funds will be used to purchase and test green cleaning products for their municipal buildings.

Town of Greenwich – \$20,000

Greenwich is applying grant funds towards Leaves: Nature's Treasures, a school and community composting outreach and education program. The program includes establishing on-site food scrap and leaf compost systems for schools and educating residents about the benefits of home composting.

Town of Hebron – \$6,000

Hebron is implementing a recycling education campaign to increase residential participation and improve recycling rates at the transfer station.

Town of Mansfield – \$6,800

Mansfield is implementing a Food Too Good to Waste program, modeled after a national program, in four schools to educate families about preventing food waste, proper food storage and preparation strategies, and buying and eating what is bought.

Town of Ridgefield – \$13,000

Ridgefield is launching a residential organics drop-off program at the municipal recycling center. Funds are being used for kitchen collection containers, rental of a dumpster to keep food scraps separated and educational materials.

These grants are the second round of funding DEEP has provided in recent months.

College grant recipients named

Four New York colleges and universities will be receiving grants to fund innovative environmental projects as part of the recently completed round of the College Council Grant Program conducted by the New York State Association for Reduction, Reuse and Recycling (NYSAR3).

Schools receiving grants and the type of project to be funded include:

- SUNY Jefferson Community College – Sustainable textbook project.

- University of Rochester – Plan to reduce, reuse, and recycle plastic bags.

- Wells College – Residence hall in-room and in-bathroom recycling system support.

- Union College – Composting in a new college apartment complex.

The grant program, open to College Council members, is competitive, with applications reviewed by a committee comprised of NYSAR3 members. Projects funded had to involve initiating, improving or expanding source reduction, reuse, recycling, composting, or food waste management projects on campus. Projects also needed to create awareness and interest among students, faculty, and staff, and involve an education component. Grant recipients will provide follow-up reports that show how the grant impacted the targeted project. Grant amounts ranged from \$180 to \$2,700.

Events Calendar

March 9th-10th

GLOBALCON Conference & Expo. Hynes Convention Center, Boston, Massachusetts. 770-447-5083 • www.globalconevent.com

March 13th-16th

28th Annual Southeast Recycling Conference & Tradeshow. Hilton San Destin Golf Resort & Spa, Destin, Florida. 800-441-7949 • www.southeastrecycling.com

March 21st-24th

Carolina Recycling Association's Manufacturers Zero Waste Conference. Wilmington Convention Center, Wilmington, North Carolina. 877-972-0007 • www.cra-recycle.org

April 2nd-7th

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

April 4th-7th

SWANApalooza. Charleston Arena Convention Center, Charleston, South Carolina. 800-467-9262 • www.swana.org

April 12th-13th

NERC'S Spring Workshop. Hyatt Regency Princeton, Princeton, New Jersey. 802-254-3636 • www.nerc.org

April 18th-20th

Aluminum Association Spring Meeting. Fountainbleu Miami Beach, Miami, Florida, 703-358-2960, www.aluminum.org

April 28th-30th

United Recycler's Group Training Conference. Hyatt Hill Country Resort & Spa, San Antonio, Texas. 888-874-3463 • www.u-r-g.com

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Beverage container recycling boosted

Dr Pepper Snapple Group (DPS) will work with industry, government and community partners to achieve a U.S. beverage container recycling rate of 60 percent by 2030. As part of this commitment, the company is entering into a new partnership and continuing another to improve access to recycling across the country.

DPS is investing \$5 million in the Closed Loop Fund over the next 10 years, joining a growing number of businesses supporting efforts to improve post-consumer recycling by providing critical funding for recycling infrastructure. In addition, the company is extending its relationship with Keep America Beautiful through a new three-year, \$1 million commitment primarily to continue efforts to place recycling bins in public parks.

DPS joins 10 other companies in the Closed Loop Fund, which was established in 2014 as a social impact investment fund. Over the next 10 years, the fund will invest \$100 million via zero-interest loans to cities and below market loans to companies for recycling infrastructure to prove the market for single-stream expansion and modernization by maximizing recycling profitability.

“Closed Loop Fund members are collectively acting to make significant investments that will improve recycling, save taxpayer money, create jobs and support the environment at scale across the U.S.,” said Rob Kaplan, managing director of the Closed Loop Fund.

Since its launch in 2013, the Dr Pepper Snapple Group/Keep America Beautiful Park Recycling Bin Grant partnership has supplied more than 2,500 recycling bins to expand access to recycling away from home while helping beautify a variety of park settings, including neighborhood and larger regional parks, beaches, athletic fields and walking trails. Over the next 3 years, through the new agreement, DPS and Keep America Beautiful have set a goal to add 4,000 more bins.

DPS’s participation in the Closed Loop Fund and its work with Keep America Beautiful expand on its efforts to reduce the amount of packaging material that winds up in landfills. Through package light weighting initiatives implemented since 2007, DPS has removed more than 75 million lbs. of plastic from the waste stream. In addition, the company recycles more than 85 percent of the solid waste generated by its manufacturing operations and is working to increase the rate through continuous improvement.

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Glass future

■Continued from Page 1

recycling programs not only provide a valued service for residents, but also help meet demand for recycled glass by manufacturing industries.”

The trend is not entirely away from glass recycling. The city of El Paso, Texas, in January said it was initiating a new glass recycling program. El Paso's program was not curbside, however. Instead, the city encouraged residents to take dry, empty glass bottles and jars to collection stations that would be open 8 a.m. to 4 p.m. Tuesday through Saturday. The collected glass would be pulverized and available free of charge for residents to use for landscaping and other projects.

Similarly, in early 2014 Athens, Texas, announced it was beginning to accept glass for recycling. The city had set up a designated green container marked for glass recycling and located it at a central collection site.

While some systems arrange for central collection of glass, another approach is to set up a separate curbside collection system for glass. In January 2016, Vancouver began supplying gray boxes for consumers to deposit glass for curbside collections. The glass-only containers supplemented the existing yellow bags for mixed paper and blue bins for collection of other materials. The city said the move was necessary because of tighter quality restrictions on recycled materials.

While collection systems experiment with different methods for improving collection of glass, container manufacturers are displaying an increased appetite for glass beverage containers. One of the most rapidly growing segments is craft beer,

sales of which expanded by more than 23 percent last year, according to the Glass Packaging Institute. That's more than 10 times the growth rate of sales of all beer, and craft beers are more likely than other types of beer to be sold in glass bottles than in aluminum cans.

Better recycling technology can help by increasing the cost effectiveness of glass recycling. One way technology can improve the process is by removing more of the contaminants such as ceramics, other recyclables and trash. However, this has largely already been done, according to Bragg. “The vast majority of glass processors have installed both ceramic detection and color sorting technology to properly sort out recycled glass purchased from the materials recovery facility,” she said.

“MRFs can also increase the quality and quantity of glass and other commodities heading through their sorting lines by placing a “glass breaker” at the beginning of the process, instead of the middle or end,” Bragg added. Cities such as El Paso are employing glass pulverizers as part of glass only collection programs to prepare collected glass for re-use by residents.

In Quebec, a glass recycling initiative spearheaded by a nonprofit is emphasizing cleaning and sorting technology as well as market development in an effort to recycle all of the glass generated by the province. The Innovative Glass Works plan will first install improved glass sorting and cleaning equipment in sorting centers as part of a pilot project. Later, the effort will focus on giving financial backing to help find new markets and applications for recycled glass.

The Quebec initiative is using equipment made by Krysteline Technologies, which is based in the United Kingdom,

and distributed by Machinex of High Point, North Carolina. The Krysteline technology uses glass implosion to resize glass and prepare it for recycling. Screeners remove minerals and air density clean up and bulk handling equipment deliver the recycled materials to robotic packaging systems, according to the companies. Suppliers of equipment to the project say it has been proven successful in curbside recycling programs in Australia and Great Britain.

Bragg said she didn't anticipate that many communities would stop collecting glass in single-stream programs. “Keeping glass “in the bin” is a top priority for the glass container manufacturing industry,” she said. “Removing glass from single stream programs causes confusion among residents with respect to what can and should be recycled, and is against their expectations.”

According to the GPI, nearly 30 percent of the recycled glass that is remelted into new containers is sourced from single stream programs. However, Bragg also said that in certain communities it makes sense to collect glass in a type of drop off scheme. She pointed specifically to programs including Ripple Glass in Kansas City, Clear Intentions in Denver, and Momentum Recycling in Salt Lake City.

The Kansas City Ripple Glass program was spearheaded by a local brewing company that was interested in encouraging recycling of glass, including its own bottles. The brewer built a glass processing plant and set up a network of collection stations as far away as Omaha, Nebraska. It found customers for the recycled glass in a local fiberglass insulation maker and an Oklahoma company that remanufactured amber glass into new beverage bottles.

Denver-based Clear Intentions is a business started by a college student to divert glass from landfills and process it into cullet. The result is used to make new bottles as well as flooring materials and fiberglass insulation. The company created a smart phone app called My Glass Valet to help businesses enroll in the glass collection program and schedule collections. The program promises to help business users reduce trash hauling costs and impress customers with their sustainable practices.

Although innovative and community-supported programs can help, the issue of low prices for collected glass is difficult to overcome. Bragg suggested that glass recycling be viewed as a service provided to residents, necessarily involving costs including labor and equipment, rather than as a way to generate a profit.

“Stable commodity prices and any subsequent revenue sharing with communities from the sale of recyclables on the market are important to help defray the cost of recycling,” she said. She noted that glass is not alone and other materials from curbside collection programs have also been impacted by falling prices in recent years. Key factors include the steep decline in the price of oil, and lower demand from Asia. “The glass container industry is concerned with contamination, as are other industries, as these loads bring a decreased value to the broader recyclable markets,” Bragg said.

Long term, Bragg remained optimistic about the prospects for glass recycling. “Market demand for recycled glass remains strong,” she said. “The glass container and fiberglass industries have a steady appetite for quality glass to make new products.”

Glass is an appealing material for recycling because, unlike some materials such as paper, it doesn't necessarily degrade when manufactured into new products and can be recycled endlessly. That is especially true of glass used for beverage containers, which is essentially 100 recyclable while other glass products, such as window panes, are not as readily recycled.

The average U.S.-manufactured food and beverage container has 33 percent recycled content, according to Bragg. Glass container manufacturing facilities can run on as much as 96 percent recycled glass to make new bottles and jars, she said.

Bragg said recyclers should anticipate positive outcomes from several initiatives that will help make glass a more viable recycled material. “The glass container industry is working closely with a range of stakeholders to strengthen glass recycling, and anticipates a new specification for glass coming out of the MRF established later this year,” she said.



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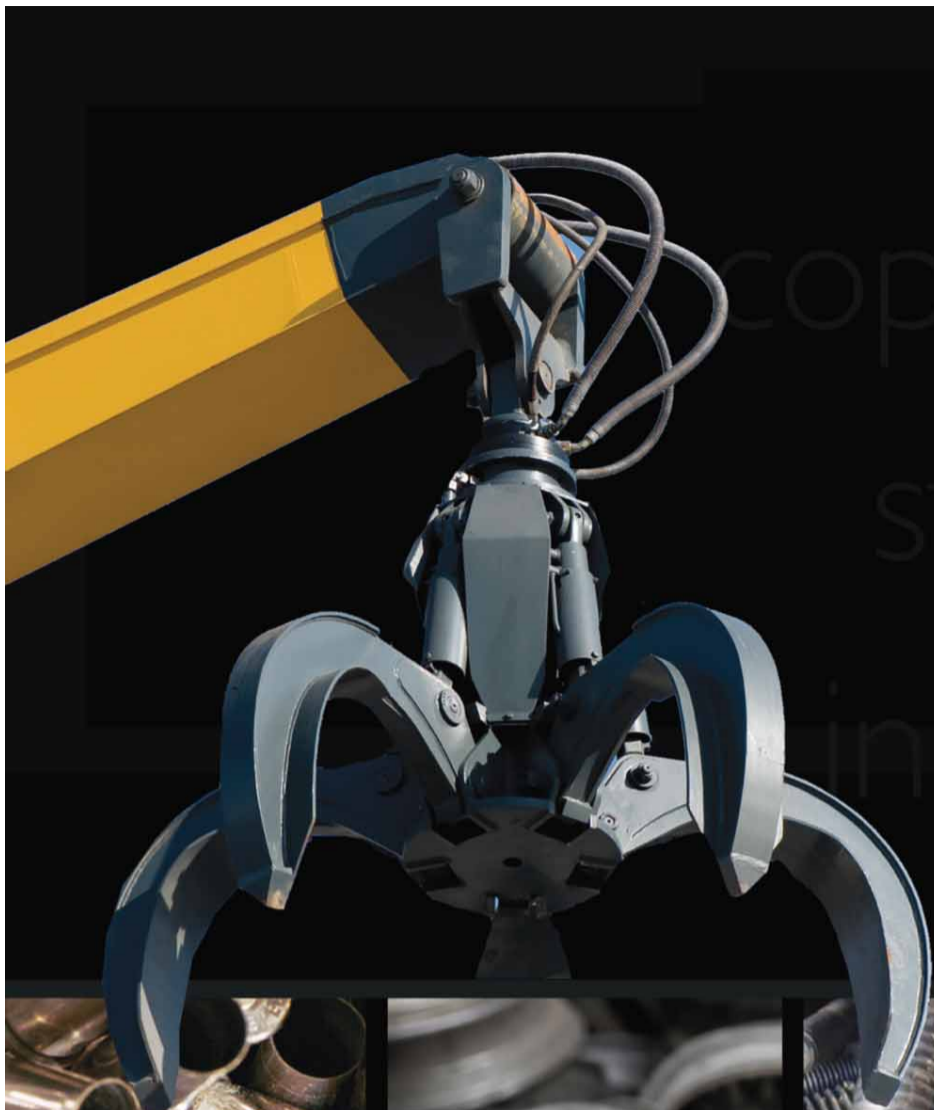
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Weltec erects second biogas plant in South Korea



The construction work for an anaerobic digestion plant from German manufacturer Weltec Biopower was started in South Korea in 2015. The plant site is located about 80 km north of the capital Seoul, in Gyeonggi-do province. The 450 kW biogas plant will begin operation in the early summer of 2016. The highly developed technology with smart control will ensure a high level of efficiency of the second South Korean Weltec plant.

In South Korea, major investments are made in the energy sector, and the development of renewable energy sources has been a top priority for several years. The republic with a population of 51 million is one of the world's 10 largest power consumers. However, the country does not have any significant fossil resources and is forced to import 97 percent of its conventional energy sources.

One of the reasons why Weltec Biopower attracted the attention of the transformer manufacturer, who assumes the role of investor and operator of the new biogas plant, was that the German plant manufacturer had already built a biogas plant in the south of the country back in

2012. However, the customer's final decision in favor of Weltec was based on the fact that the technical plant concept for the new project is custom-tailored to the region's special needs and South Korea's ecological goals. "The sustainable waste disposal concept and the efficient processing of the input substances into high-nutrient fertilizer were decisive factors", explained Harro Brons, the project manager of Weltec Biopower.

This summer, the operator will supply the stainless-steel digester with its capacity of almost 4,000 m³ with 100 tons of organic waste a day, which will be 70 percent pig manure. This feedstock will be converted into biogas and high-quality fertilizer by anaerobic digestion. Subsequently, the fertilizer will be stored in two stainless-steel digestate storage units of 5,590 m³ each until it is used. The generated biogas will be used to operate a combined heat and power plant with an electrical output of 450 kilowatt. The power will be fed directly into the power grid. The heat will be used for heating the company buildings and for internal processes.

Blue Sphere completes acquisition of biogas facilities in Italy

Blue Sphere Corp., which develops, manages and owns waste-to-energy projects, has completed the acquisition of four operating biogas facilities in Italy.

Blue Sphere has acquired 100 percent of the stock of Agricerere, S.R.L., Agriektra, S.r.L., Agrisorse, S.r.L. and Gefa, S.r.L. Individually, each fully operational facility generates one megawatt of electricity per hour which is sold to Gestore dei Servizi Energetici GSE, S.p.A.

The four biogas facilities combined are expected to generate approximately \$9,240,000 in annual revenue. The four biogas facilities combined will generate a minimum of \$4,136,000 in annual EBITDA. The annual EBITDA of each biogas facility is guaranteed by Austep, S.p.A., their operating partner. Pursuant to its agreements with Austep, S.p.A., Blue Sphere expects to receive the annual guaranteed EBITDA, and Austep, S.p.A. will receive any revenues in excess of the guaranteed EBITDA.

The enterprise value of these four facilities as stated by Innovatec, S.p.A. is approximately \$26,400,000.

The company paid approximately \$5,720,000, plus closing costs to acquire all four biogas facilities including the assumption of certain debt associated with the acquisition of each facility. Fifty percent of the cash component of the purchase price plus closing costs was paid at closing, with the balance due three years from the closing date. Blue Sphere was provided with approximately \$3,190,000 of capital from Helios Energy Investments to complete these acquisitions.

These acquisitions represent only 4 transactions of a pipeline of 25 biogas facilities that the company is evaluating for acquisition in Italy alone. With these transactions Blue Sphere has developed a network of brokers, consultants, legal and accounting experts that will allow for further expansion.

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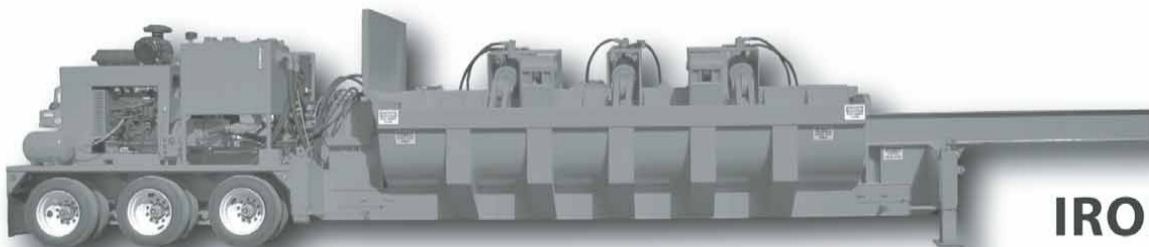
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INDUSTRY PROFILE

A Closer Look

by Donna Currie

Pro Polymers, Inc.

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Smokey Peck, the owner and founder of Pro Polymers, seemed destined to end up in the recycling business. His father started a trash business after WWII, which he later sold to Peck's brother. Peck worked for his brother for 5 years, then moved on to a very large trash company, and stayed there for another 19 years.



—Smokey Peck

He left the trash company to work for Interwest Paper. When the owner of that company retired, Peck bought the company from her. Interwest Paper recycles paper products, picks up paper, accepts paper at its facility, sells to mills, acts as a broker, and rents paper baling equipment.

In 2006, Peck created Pro Polymers as a companion to the paper company because he "saw plastics as an up-and-coming need" for his customers. Peck also owns a third recycling-related company, Pro. Baler Services, which sells balers, compactors, and related products.

Between the 3 companies, there are about 38 employees, including Peck's son and nephew. Other members of the management team also have relatives working for the company, giving it a "family" feel.

Peck said the best part of his business is resolving companies' waste reduction issues, and that "we see behind-the-scenes in manufacturing, retail and government." Some of his largest customers are in the automotive and the bottle manufacturing industries, but they service a wide variety of industries.

Pro Polymers recycles every type of plastic except PVC, picking up from local customers "or it is delivered to us," Peck said. They have five semi-trucks and three service vans for the local pickups, and serve an eight state area around their home state of Utah. Since the plastics are coming from manufacturers, it is generally clean material which needs little or no sorting. "We typically promote clean streams," he said. "We don't promote single-stream."

When the material comes in, the plastic is inspected, weighed, and then granulated and sold. "Value versus cost" is one of the largest challenges in the business, Peck said, as well as issues of contamination of the incoming product which can increase labor costs or lower the value of the regrinds.

In the years he's been in business, Peck said that his customers have sometimes had unusual products to recycle, like "blue foot," which are the foot covers used in hospitals. When he first received those foot covers, he baled them and sent them overseas for recycling. Now he's able to re-sell them to companies that do carpet cleaning.

Peck said that when he first started Pro Polymers, it was a brokerage company, but now they're "actually processing and creating a zero-waste culture." His eventual goal is to get all of his customers as close to zero waste as practical, but said that sometimes it's an expensive proposition to achieve zero waste.

Peck said that some materials cost more to handle or recycle than they are worth, and "waste-to-energy is pretty costly," so it's not economical for some companies to eliminate all materials from going to landfills.

Still, some customers are willing to absorb the cost to achieve zero waste and some are also willing to pay extra for certification that materials are burned in waste-to-energy facilities. Peck said that he can supply those certifications, when required.

Most of Peck's customers achieve a rate of approximately 50 to 60 percent landfill free, and he's always looking for ways to affordably recycle more materials. His companies also work toward reducing their own materials that are landfilled.

While Pro Polymers focuses on plastics, they also pick up paper, cardboard or whatever else the customer doesn't want. While paper products are easily handled by his own Interwest Paper, the company also partners with other local recyclers to handle materials that are outside their expertise, like metal, glass, e-waste, and even food products, while still giving the customer one contact for all of their recycling.

"We help manage it and ship it off," he said. "We're the only company that can do it all."

PLASTICS

Joint effort to recycle more plastic expands membership

The American Chemistry Council (ACC) shared that LyondellBasell has joined its Flexible Film Recycling Group (FFRG), a collaboration working to double the recycling of post-use polyethylene film by 2020.

The FFRG represents materials suppliers, brand owners, retailers and recyclers, and its Wrap Action Recycling Program (WRAP) works directly with states, municipalities and retailers committed to increasing plastic film recycling through store drop-off programs.

Additionally, North Carolina will be the second state to officially partner with WRAP. North Carolina's decision comes on the heels of successful WRAP programs launched in the State of Wisconsin and in Vancouver, Washington.

"Much of the infrastructure to recycle polyethylene wraps and bags is already in place," said Scott Mouw, of the North Carolina Department of Environmental Quality (NCDEQ). "Working through WRAP will expedite our efforts to educate residents about opportunities to recycle and divert more valuable plastics and reduce waste."

Through this program, WRAP and North Carolina will implement a series of campaign initiatives using effective

communications tools and best practices to support community outreach efforts on plastic film recycling. The program will also work to encourage commitment by more retailers to collect a broader mix of polyethylene film materials from consumers. Additionally, the program will work to expand collection and recycling of commercial film (pallet wrap and transport packaging) from small- to mid-sized businesses.

Joining the NCDEQ and the FFRG in launching the new North Carolina WRAP initiative are the GreenBlue® Sustainable Packaging Coalition (SPC), and the Association of Plastics Recyclers (APR).


Plastic film is one of the fastest growing areas of recycling with collection surging by 11 percent in 2013 to 1.14 billion pounds, according to the 2013 National Postconsumer Plastic Bag & Film Recycling Report. This marks the highest annual collection of plastic film – 74 percent increase – since the survey began in 2005.

Recycled polyethylene film can become durable outdoor lumber for decks and fences, shopping carts, or new packaging.

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Doctor: "Nine."




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WASTE

Bennington awards outreach contract to NRRRA

The Bennington County Solid Waste Alliance, Vermont, has awarded an outreach and education contract to Northeast Resource Recovery Association (NRRRA) to provide Solid Waste Implementation Plan services to schools, institutions and businesses within the region. This includes the towns of Arlington, Bennington, Dorset, Glazenbury, Manchester, Pownal, Rupert, Sandgate, Searsburg, Shaftsbury, Stamford, Sunderland and Woodford.

NRRRA will be surveying selected entities to offer free assessment and training in waste reduction, recycling, composting and household hazardous waste to assist Alliance towns in becoming compliant with the standards set by Vermont's Universal Recycling Law (Act 148).

All 25 schools in the Alliance region will be offered free membership in NRRRA's School Recycling Club, with access to events, competitions and the Team Earth Program. Support will be offered to existing or developing "Green Teams" at each school. Targeted schools will be offered free on-site workshops.

Business, institutions and town officials will be canvassed to determine their current waste reduction, organics diversion and recycling needs, including public space programs, major events and the volume of material generated. Select businesses and institutions will receive support to improve diversion rates to meet goals as well as Act 148 deadlines.

California's trash control policy approved

The U.S. Environmental Protection Agency (EPA) approved the State Water Resources Control Board's new water quality standards for trash in California's waters. The standards are part of the state's new Trash Control Policy, designed to keep trash out of streams, lakes, bays, estuaries, coastal and ocean waters in California to protect people and the environment.

As much as 80 percent of the trash that ends up as marine debris is generated on land. With these new requirements, California is not only protecting its own waterways, it will be shrinking the Great Pacific Garbage Patch, the massive vortex of marine debris in the Pacific Ocean.

The Trash Policy provides a phased approach to eliminate trash in California's waters by 2026. Much of

the trash generated on land is transported to waterways via storm drains. The policy calls for the use of trash capture devices in areas that generate large amounts of garbage. California's municipalities and other storm water permit holders must comply by either installing full trash capture systems, or by using equivalent devices coupled with programs such as increased street sweeping and educational outreach.

This trash capture approach has already proven successful in the Los Angeles and San Francisco Bay Regions. The Los Angeles Region has waterbodies, including the L.A. River that will approach the zero trash standard in 2016. The recently updated San Francisco Bay stormwater permit has a target date of 2022 for zero trash, having already passed its 40 percent reduction milestone.

The new Trash Policy amends the Water Quality Control Plans for ocean waters, inland waters, enclosed bays and estuaries of California, and prohibits the discharge of trash to state waters through storm drain systems, as well as transportation and industrial facilities and construction sites that are regulated under National Pollution Discharge Elimination System (NPDES) permits, making them enforceable and reportable. EPA approved these water quality standards under its federal Clean Water Act authority.

The EPA's Pacific Southwest Region administers and enforces federal environmental laws in Arizona, California, Hawaii, Nevada, the Pacific Islands and 148 tribal nations – home to more than 48 million people.

Republic Services makes organizational changes

Republic Services, Inc. made changes to its organizational structure and customer engagement model.

Republic has realigned its field support functions by combining two organizational layers into one. This includes the elimination of its 3 regions, the consolidation of its 20 areas into 10 and the streamlining of select roles at its Phoenix headquarters. Republic will reinvest and deploy resources into its area levels through the creation of 10 area offices equipped with an enhanced team of operators and functional support roles.

As part of the improvements, Republic will be consolidating its call center operations. Over the next two years, the company will consolidate over 100 customer service locations into three customer resource centers.

The new state-of-the-art facilities and the technology deployed will provide its customer service employees with the tools and capabilities they need to provide better service to customers across a myriad of touch points, including voice, email, text, social channels and live chat.

Republic plans to invest approximately \$20 million in 2016 to design and implement its customer resource centers and other customer-focused initiatives, and expects these initiatives to contribute approximately \$10 million of annual cost savings beginning in 2018. Additionally, the company anticipates annual cost savings of approximately \$25 million from the organizational realignment. The costs to implement the initiatives and savings from the realignment were included in the company's 2016 preliminary outlook.



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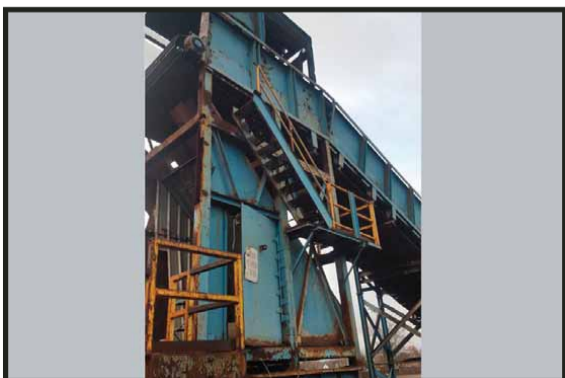
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METALS

Steel imports captured a record 29 percent of the U.S. market in 2015

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,323,000 net tons (NT) of steel in December 2015, including 2,017,000 NT of finished steel (down 5.3 percent and up 3.2 percent, respectively, vs. November final data). Full Year 2015 total and finished steel imports were 38,718,000 and 31,425,000 NT, respectively, down 13 percent and 7 percent respectively, vs. 2014. Finished steel import market share was an estimated 26 percent in December and is estimated at 29 percent for the full year.

Key finished steel products with a significant import increase in December compared to November are wire rods (up 77 percent), tin plate (up 71 percent), cut lengths plates (up 65 percent), heavy structural shapes (up 46 percent), hot rolled bars (up 20 percent) and cold rolled sheets (19 percent). Major products with significant import increases in

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)					
	DEC 2015	NOV 2015	2014 Annual	2015 Annual	% Change 2015 Annual vs. 2014
SOUTH KOREA	235	315	5,449	4,854	-10.9%
TURKEY	167	156	2,199	2,808	27.7%
CHINA	136	64	3,189	2,374	-25.5%
JAPAN	144	165	2,105	2,259	7.3%
GERMANY	122	86	1,278	1,515	18.5%
BRAZIL	69	126	810	1,437	77.4%
TAIWAN	48	60	1,188	1,205	1.4%
All Others	1,097	983	17,532	14,973	-14.6%
TOTAL	2,017	1,954	33,751	31,425	-6.9%

2015 vs. the prior year include reinforcing bar (up 38 percent) and standard pipe (up 13 percent).

In December, the largest volumes of finished steel imports from offshore were from South Korea (235,000 NT, down 25 percent vs. November final), Turkey (167,000 NT, up 8 percent), Japan (144,000 NT, down 13 percent),

China (135,000 NT, up 111 percent) and Germany (122,000 NT, up 42 percent). For full year 2015, the largest offshore suppliers were South Korea (4,854,000 NT, down 11 percent), Turkey (2,808,000 NT, up 28 percent), China (2,374,000 NT, down 25 percent), Japan (2,259,000 NT, up 7 percent) and Germany (1,515,000 NT, up 19 percent).

Nucor Steel Louisiana DRI to resume operations

Nucor Corporation disclosed that its direct reduced iron (DRI) plant in Louisiana resumed operations at the end of January.

The plant temporarily suspended production at the end of last year for planned maintenance and the company decided not to resume production at that time based on market conditions. Nucor's raw materials strategy is built on flexibility. The company constantly evaluates the market for the lowest cost raw material inputs at the quality levels the customers need. Changes in the raw materials market led to the decision to restart plant operations.

Timken declares quarterly dividend

The board of directors of The Timken Company declared a quarterly dividend of \$.26 per share. The dividend is payable on March 3, 2016 to shareholders of record as of February 23.

Steel import market share at 25 percent in January 2016

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 total 2,696,000 net tons (NT). This was a 2

percent increase from the 2,638,000 permit tons recorded in December and a 16 percent increase from the December preliminary imports total of 2,323,000 NT. Import permit tonnage for finished steel in January was 2,093,000, up 4 percent from the preliminary imports total of

2,017,000 in December. The estimated finished steel import market share in January was 25 percent.

Finished steel imports with large increases in January 2016 permits vs. the December 2015 preliminary included standard rails (up 460 percent), oil coun-

try goods (up 91 percent), reinforcing bars (up 74 percent), standard pipe (up 68 percent), line pipe (up 45 percent), cold finished bars (up 24 percent), structural pipe and tubing (up 19 percent), wire drawn (up 11 percent) and plates in coils (up 11 percent).

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METALS

Novelis forms partnership with community college

Novelis disclosed a long term commitment to the Cayuga Community College's Fulton campus to launch an Advanced Manufacturing Institute, including an industrial maintenance technician program and an advanced laboratory and training center. Funded in part by an \$80,000 endowment by Novelis, the institute's mission will be to equip students with manufacturing skills to develop a robust talent pool that will be required to fill the many jobs expected to be brought to the Central New York region.

Novelis and other manufacturers are facing an urgent need in identifying and recruiting qualified personnel as these companies seek to grow in the region. An industry research report from Deloitte Manufacturing Institute concluded that the average time to fill an open position for skilled production coworkers in the US has now reached 70 days. In light of this employment gap, Novelis' commitment to Cayuga Community College will include a newly developed internship program incorporated into the requirements for the industrial maintenance technician program.

"We anticipate needing to fill upwards of 250 operating technician and maintenance technician positions at our Oswego plant over the next 5 years as a result of growth and anticipated retirements," said Chris Smith, plant manager at Novelis Oswego. "This new facility at

Cayuga Community College will provide career pathways for local applicants seeking careers in manufacturing while enabling our Oswego plant to continue to support the needs of our North American automotive customers."

The industrial maintenance technician program will incorporate hands-on training in laboratories that Novelis will also utilize to train its own employees along with students of the college.

Novelis' commitment also includes:

- Equipment to replicate processes found in manufacturing environments.

- Leveraging Novelis' network of vendors to commit discounted lab stations and discounted or in-kind contributions to the construction and maintenance of the lab.

- Utilization of Novelis' subject matter experts during the lab construction set-up and specialty equipment operation, as well as in the design of the Novelis internship program.

- Representation on Cayuga Community College's applicable curriculum advisory committees, allowing faculty and staff to tap in to Novelis' industry-specific expertise.

Novelis' efforts identifying and recruiting qualified personnel will play a critical role as Oswego County continues its efforts to attract and retain a diverse, high-quality workforce to foster economic development and regional support systems.

Alcoa appoints new directors to its board

Alcoa Inc. appointed Ulrich Schmidt, John C. Plant and Sean O. Mahoney to serve on the company's board of directors. These appointments will further strengthen the company as Alcoa prepares to separate into two independent companies in the second half of 2016. With these appointments, the Alcoa board will be expanded to consist of 15 directors.

Alcoa and affiliates of Elliott Management, which hold an economic interest in approximately 7.5 percent of Alcoa's common stock, have entered into an agreement that provides that Elliott will support the company's slate of nominees. Mahoney will be included with the company's slate of director nominees for election at the company's 2016 Annual Meeting of Shareholders and will be added to the class of directors whose term expires in 2016. Schmidt and Plant will be added to the class of directors whose terms expire in 2017 and 2018, respectively.

Alcoa plans to separate into two, publicly traded companies in the second half of 2016. The upstream company will comprise five strong business units that today make up global primary products: bauxite, alumina, aluminum, cast products and energy; the innovation and technology-driven value-add company will include the global rolled products, engineered products and solutions, and transportation and construction solutions businesses.

Ulrich "Rick" Schmidt is the former executive vice president and chief financial officer of Spirit Aerosystems Holdings, Inc. He served on the board of directors of Precision Castparts Corporation from 2007 until January 2016. Schmidt joined Spirit Aerosystems from Goodrich Corporation in 2005, where he served as executive vice president and chief financial officer from 2000 to 2005.

Plant is the former chairman of the board, president and chief executive officer of TRW Automotive, which was acquired by ZF Friedrichshafen AG in May 2015. Under his leadership, TRW employed more than 65,000 people in approximately 190 major facilities around the world and was ranked among the top 10 automotive suppliers globally. Plant was a co-member of the chief executive office of TRW Inc. from 2001 to 2003 and an executive vice president of TRW from the company's 1999 acquisition of Lucas Vary to 2003.

Mahoney has extensive experience in capital markets and business strategy across a variety of companies and sectors, including industrial and automotive. He is a private investor with over two decades of experience in investment banking and finance. Mahoney currently serves on the boards of Delphi Automotive plc, Cooper-Standard Holdings Inc., and Formula One Holdings, as well as the post-bankruptcy board of Lehman Brothers Holdings Inc.




Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
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Plate and Structural	per gross ton	165.00	165.00	177.00	198.00	200.00
#1 & 2 Mixed Steel	per gross ton	170.00	175.00	170.00	165.00	170.00
Shredder Bundles (tin)	per gross ton	100.00	105.00	100.00	125.00	130.00
Crushed Auto Bodies	per gross ton	100.00	105.00	100.00	125.00	130.00
Steel Turnings	per gross ton	84.00	82.00	85.00	90.00	110.00
#1 Copper	per pound	1.88	1.82	1.82	1.86	1.94
#2 Copper	per pound	1.72	1.74	1.73	1.74	1.80
Aluminum Cans	per pound	.55	.53	.56	.55	.51
Auto Radiators	per pound	1.30	1.39	1.38	1.35	1.30
Aluminum Core Radiators	per pound	.42	.48	.50	.50	.46
Heater Cores	per pound	.97	.99	.99	1.04	1.10
Stainless Steel	per pound	.40	.41	.40	.39	.43

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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AUTOMOTIVE

High recycled content aluminum alloy created

Novelis disclosed that its RC5754 alloy, a new automotive product designed to contain up to 75 percent recycled content, has been successfully integrated into the structural components of high volume production passenger vehicles.

RC5754 was developed with Jaguar Land Rover and serves as a key component of Jaguar's REALCAR (REcycled ALuminum CAR) project. First introduced in the new Jaguar XE, the RC5754 alloy will also be featured in all new and legacy Jaguar Land Rover models.

Learnings from the collaboration of Novelis and Jaguar Land Rover in developing this new product are documented in "Collaboration for a Closed-Loop Value Chain," a case study issued in January following the companies' participation in the University of Cambridge Institute for Sustainability Leadership's

Postgraduate Certificate in Sustainable Value Chains.

Launched in 2008 by Jaguar Land Rover, the REALCAR program is a multi-stakeholder initiative established to create a closed loop vehicle production model that recycles automobiles at the end of their lifecycles. The RC5754 aluminum alloy, uniquely developed by Novelis to serve the REALCAR program, is designed to absorb higher levels of processed automotive aluminum scrap than ever before.

With more than 40 years of experience in the automotive industry, Novelis pioneered many of the common aluminum alloys used in automotive manufacturing today – including 6111, 6016 and the original 5754 – in addition to its own Novelis Advanz™ family of alloys. The RC5754 alloy further enhances the Novelis portfolio.

Complaint filed against Volkswagen, Audi and Porsche

The U.S. Department of Justice (DOJ), on behalf of the U.S. Environmental Protection Agency (EPA), filed a civil complaint in federal court in Detroit, Michigan against Volkswagen AG, Audi AG, Volkswagen Group of America, Inc., Volkswagen Group of America Chattanooga Operations, LLC, Porsche AG, and Porsche Cars North America, Inc. (collectively referred to as Volkswagen). The complaint alleges that nearly 600,000 diesel engine vehicles had illegal defeat devices installed that impair their emission control systems and cause emissions to exceed EPA's standards, resulting in harmful air pollution. The complaint further alleges that Volkswagen violated the Clean Air Act by selling, introducing into commerce, or importing into the United States motor vehicles that are designed differently from what Volkswagen had stated in applications for certification to EPA and the California Air Resources Board (CARB).

"Car manufacturers that fail to properly certify their cars and that defeat emission control systems breach the public trust, endanger public health and disadvantage competitors," said Assistant Attorney General John C. Cruden for the Justice Department's Environment and Natural Resources Division. "The U.S. will pursue all appropriate remedies against Volkswagen to redress the violations of our nation's clean air laws alleged in the complaint."

Consistent with EPA's Notices of Violation, issued on September 18, 2015 for 2.0 liter engines, and November 2, 2015 for certain 3.0 liter engines, the complaint alleges that the defeat devices cause emissions to exceed EPA's standards during normal driving conditions. The Clean Air Act requires vehicle manufacturers to certify to EPA that their products will meet applicable federal emission standards to control air pollution. Motor vehicles equipped with illegal defeat devices cannot be certified.

The complaint alleges that Volkswagen equipped certain 2.0 liter vehicles with software that detects when the car is being tested for compliance with EPA emissions standards and turns on full emissions controls only during that testing process. During normal driving situations the effectiveness of the emissions control devices is greatly reduced. This results in cars that meet emissions standards in the laboratory and at the test site, but during normal on-road driving emit oxides of nitrogen (NOx) at levels up to 40 times the EPA compliance level.

The complaint further alleges that Volkswagen also equipped certain 3.0 liter vehicles with software that senses when the vehicle is undergoing federal emissions testing. When the vehicle senses the test procedure, it operates in a "temperature conditioning" mode and meets emissions standards. At all other times, including during normal vehicle operation, the vehicles operate in a "normal mode" that permits NOx emissions of up to nine times the federal standard. In total, the complaint covers approximately 85,000 3.0 liter diesel vehicles sold in the U.S. since the 2009 model year.

The filing of a civil complaint under Sections 204 and 205 of the Clean Air Act seeks injunctive relief and the assessment of civil penalties. A civil complaint does not preclude the government from seeking other legal remedies. The U.S. will seek to transfer its case and fully participate in the pretrial proceedings now initiated in the related multi-district litigation in the Northern District of California. The United States' investigation is ongoing, in close coordination with CARB. EPA and CARB have been in active discussion with Volkswagen about potential remedies and recalls to address the noncompliance, and those discussions are ongoing.

To see a list of the affected models, view this article on www.AmericanRecycler.com.

SALVAGING Millions

by Ron Sturgeon
Autosalvageconsultant.com

Tools for success – an ongoing series

Weekly meetings are key

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 get to college, so I know you can achieve maximum success, regardless of your education.

Have an agenda. Review it; require reports from each one on what they got done since last week's meeting and what they will get done next week. I keep my agenda in my iPhone and add to it each week as I walk around and or think of things. The morning of the meeting, I sync the phone and print it out; it takes less than five minutes weekly to do the agenda. You will be amazed how busy everyone gets the day before the meeting to make sure they can report out done the next day. Employees love structure, don't let them B.S. you otherwise.

My good friend and business partner Clint Georg taught me this in the late 1980s. The same day every week, we convened a meeting with all the stakeholders/managers. Sometimes we invited other department heads or key players. This leverages off of your sense of urgency, which was last month's article.

I had a MBWA. That's a degree in Management By Walking Around. In

the beginning, I had a small pocket notebook, later an electronic rolodex, then a Treo, then an iPhone. When I saw something that needed attention or that needed to be explored, I put it down, adding it to the "standard" agenda of things like sales, etc. When it came time for the meeting I could just print that out and immediately had a current list of things to discuss. But wait, we always started the meeting by discussing what was discussed the prior week with updates. Our meetings were on Wednesday, and you can't imagine how busy folks were on Tuesday and even staying late. They knew they needed to report out on their initiative. It's a wonderful way to get everyone else engaged in solutions with a sense of urgency.

You know the drill, right? You ask Johnny last month to clean up the area around the waste oil drum, and figure out a way to minimize that mess in the future. That was two months ago, and has it been done? Imagine if you gave him that assignment last week, and he knows that he must report his progress in seven days, and it won't be overlooked? Wow, the power of weekly meetings. What a great way to get and stay ahead of your competition!

Always have an agenda to minimize length of meetings and keep everyone focused.

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.

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AUTOMOTIVE

GM adds more landfill free facilities

Making shoe soles and washing solvent drenched rags instead of discarding disposables are two ways General Motors (GM) is approaching its goal of becoming a zero waste manufacturer.

With the addition of six landfill free sites in Mexico and England, the company's landfill free count totals 131 facilities.

Luton Assembly and Ellesmere Port Assembly achieved landfill free status, making all 18 Opel/Vauxhall manufacturing plants in Europe landfill free, which means daily waste is recycled, reused or converted to energy.

The addition of two engine plants, a warehouse, and technical center at GM's Toluca, Mexico complex mean all of GM de Mexico assembly, engine and transmission plants plus various non-manufacturing operations – a total of 16 facilities – send no waste to landfills.

The Toluca facilities work closely with resource management suppliers to

find higher uses for their byproducts, such as turning polystyrene foam packaging into footwear. GM takes the material to a warehouse where it is baled and sent to be crushed and densified into pellets. Those pellets are combined with other polymers to create shoe soles.

Getting all employees in a plant to sort their waste in the appropriate bins can be a challenge. These new landfill-free sites used a variety of tools to educate and inspire, from recycling courses to training videos that help employees understand the environmental benefits and business case. The teams conduct audits to identify improvement opportunities, and recognize employees who drive progress. Some plants designate a green champion in each part of the plant to drive participation.

Since the first GM plant achieved landfill free status 10 years ago, the company has been using evolving and cost effective technology to chip away at

tough waste streams. Hiring a waste management company specializing in challenging byproducts versus general waste was key to Ellesmere Port Assembly's success. The partnership gave the team a better understanding of options for material such as paint residue and sealants used in the car assembly process.

Ellesmere Port is also in a trial project to wash rags used to wipe up solvent instead of using disposable rags, potentially cutting rag waste to zero.

Other new landfill free facilities include the Uzbekistan Engine plant; a Chevrolet sales office in India; an IT Innovation center building (Georgia); a Howell spare parts operation (Michigan); and customer care and aftersales facilities in Cincinnati, Willow Run (Michigan), Rancho Cucamonga (California), Woodstock (Ontario, Canada) and Langley (Vancouver, Canada).

GLASS

Game Day Challenge a win for glass

Ardagh Group, Glass – North America, a division of Ardagh Group, shared the glass recycling results from the GameDay Recycling Challenge.

The GameDay Recycling Challenge, sponsored by Ardagh, is a national program administered by a partnership of the College and University Recycling Coalition (CURC), RecycleMania, Keep America Beautiful (KAB) and the U.S. Environmental Agency's WasteWise.

During the GameDay Recycling Challenge, participating colleges and universities were ranked based on the quantity of recyclables, food organics and other materials diverted from the landfill at college football stadiums and tailgating areas during the 2015 season.

Thousands of fans from 99 schools across the U.S. scored points for their campuses and the environment by recycling or composting nearly 2.5 million pounds of game day waste. Participating schools recycled 2.1 million pounds of bottles, cans, paper, cardboard and other materials, in addition to composting 457,000 pounds of food organics.

The national winners of the 2015 GameDay Recycling Challenge were:

- Diversion Rate (Recycling organics recovery as a percentage of total trash) – Ohio University (95.71 percent).

- Total Recycling – Louisiana State University (86,400 lbs.).

Al-jon founder's death is a loss to the industry

Jon H. Kneen, the 'Jon' of Al-jon Manufacturing, died in his home in Naples, Florida, on January 26, 2016, at the age of 89.

After returning from World War II, where he walked among the first Americans at Hiroshima, he returned to the family farm. His entrepreneurial spirit was already alive as he helped modernize the farm. He went on to co-found Al-jon, a manufacturer of recycling equipment, in Ottumwa and would grow

that company to be an important contributor to the economic health of southeast Iowa and the manufacturing community. His accomplishments led him to serve as chair of the Iowa Association of Business and Industry, director of the National Manufacturing Association, a member of the Chicago Federal Reserve Bank Advisory Council.

His heart for helping others started at a young age. That heart was rarely seen by people outside the family other

than those he helped which was the beauty in his gifts. However, when people were hurt and struggling he was always there to support them. The more visual opportunities he had to serve came through his roles at IHCC, Iowa Wesleyan College and the University of Iowa.

"Good people are not born... they are built through hard work, commitment to others and a foundation built in family."

—Jon Kneen 1926-2016

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BUSINESS BRIEFS

Kolberg-Pioneer honored with Founder's Award

■ Kolberg-Pioneer, Inc. (KPI-JCI and Astec Mobile Screens) was recently recognized for outstanding performance with the Astec Industries Founder's Award for 2015.

The Astec Industries Founder's Award was established in 2014 to annually recognize the top performing individual subsidiary of Astec Industries. Kolberg-Pioneer, Inc. is one of three Astec Industries companies that make up KPI-JCI and Astec Mobile Screens, a worldwide leader in manufacturing equipment for the aggregate, construction and recycling industries.

Kolberg-Pioneer, Inc. is the second Astec Industries company to be honored with the award. Last year, Johnson Crushers International – which is part of KPI-JCI and Astec Mobile Screens – was named recipient of the award.

Donaghy named marketing manager for Fuchs

■ Elaine Donaghy has been appointed as the marketing manager for Fuchs at Terex in addition to her responsibilities with Terex Washing Systems, where she has worked since 2012. She will be responsible for the worldwide marketing function of Fuchs material handlers and will work closely with the sales, engineering and aftersales teams to fulfill Fuchs ongoing commitment to provide expertise, project management, and technical and service support.

She will work with the Fuchs team to develop and execute marketing strategies and tactics that support business objectives, implement product launches, execute campaigns and events, reinforce branding, achieve profit targets, and devise dealer tools and activities tools and applications to support the Fuchs global dealer network.

MODRoto names J.R. Ryan president and CEO

■ Recycling cart manufacturer MODRoto, headquartered in Madison, Indiana, has named J.R. Ryan president and chief operating officer.

A proven executive with a 30 year track record for driving revenue growth and profitability, Ryan is responsible for the overall business results including strategic direction and growth of the rotational molding company's multiple business units, which include Poly-Trux recycling and laundry carts, Ship Shape material handling containers, Pool Shot Products pool, spa and recreational products, lighted furniture, wedding and event décor, fuel tanks, and custom rotational design and molding services. With successful tenures leading companies involved in textile manufacturing, linen and uniform rental, and management consulting, Ryan brings to the position a rare combination of veteran leadership experience and hands on, operational skills.

At MODRoto, Ryan plans to focus on providing a wide and diverse selection of high quality recycling carts with the superior customer service, speedy production rates and competitive cost structure required to meet the needs of the recycling industry.

A long-time advocate for community service, Ryan served on the board of trustees for the Boys and Girls Clubs, Clifton, New Jersey for more than 10 years, helped raise funds for a multi-million dollar building addition that increased membership by more than 300 percent, and chaired its annual golf outing for several years.

Kevin Kelly chosen as 2016 chairman of NAPA

■ Kevin Kelly took his position as the 2016 chairman of the National Asphalt Pavement Association (NAPA) at a ceremony during the association's 61st Annual Meeting. As chairman, Kelly is responsible for guiding NAPA's efforts to support the asphalt pavement industry.

Kelly is president and chief executive officer of Walsh & Kelly, based in Griffith and South Bend, Indiana. The company operates five permanent asphalt plants and offers civil contracting services, including excavation, grading, and paving, throughout northern Indiana.

Priorities for Kelly's term as NAPA chairman include legislative issues, market share concerns, and pavement performance.

Kelly has long been a strong voice for the asphalt pavement industry, traveling regularly to Capitol Hill to discuss infrastructure and funding issues with members of Congress. He has served on the NAPA legislative and PAC committees since 2007, and he was vice chairman of the MAP-21 Reauthorization Task Force. More recently, Kelly chaired the NAPA Pavement Performance Task Group, which has developed common-sense strategies for mix design and construction practices that can help ensure asphalt pavement performance and durability.

"It's not about having the right opportunities. It's about handling the opportunities right."

—Mark Hunter



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BUSINESS BRIEFS

Caterpillar names new group president

■ Caterpillar Inc.'s board of directors has elected Denise Johnson, currently vice president with responsibility for the Material Handling & Underground Division, as group president of Resources Industries. The appointment follows the recently announced retirement of Ed Rapp.

Johnson joined Caterpillar in 2011 as the general manager of Caterpillar's Specialty Products business unit where she had responsibility for nearly 20 facilities around the world. She came to Caterpillar after a 22 year career with General Motors. A year later, she was elected vice president of the Diversified Products Division with responsibility for industries including forestry, paving and on-highway trucks. In 2013, she became vice president of the Integrated Manufacturing Operations Division overseeing major operations in Caterpillar's largest division at the time. She was named to her current role in 2014.

Johnson graduated from Michigan State University with a bachelor's degree in mechanical engineering. She earned dual master's degrees in mechanical engineering and business administration from the Massachusetts Institute of Technology. Johnson is a member of numerous outside boards.

Her move is effective April 1, 2016. Johnson's successor will be named at a later date.

Sonoco Recycling makes leadership changes

■ Sonoco Recycling's Mike Pope has been promoted to general manager and president of Sonoco Recycling, LLC.

Pope most recently served as commercial director for Sonoco Recycling and has been an instrumental part of the Recycling leadership team for the past five years.

American Textile Recycling acquires collection facility

■ Clothing recycler American Textile Recycling Service (ATRS) has acquired a clothing collection facility in Indianapolis.

ATRS, based in Houston, Texas, purchased the clothing and shoe collection facility formerly owned by Retail Management Specialists of Eastern Missouri LLC, which operates Red Racks and Team Thrift stores.

Genesis names Mike Booth regional manager

■ Genesis Attachments chose Mike Booth as regional manager for the Northeast and Mid-Atlantic.

Booth will cover New York, New Jersey, Connecticut, New Hampshire, Vermont, Maine, Massachusetts, Rhode Island, Delaware, Maryland, Virginia and eastern Pennsylvania for the demolition, scrap and material handling industries.



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PAGE	ADVERTISER
A6	American Weigh Scales
A11	Beka-Max of America Inc.
A4	C&D Recycling Association
A16	Call Shaughnessy
B7	ClearSpan Fabric Structures
A8	Cole Integrated Systems
A12, B8	DADE Capital Corp.
A18	Federation of NY Solid Waste Assoc.
A7	Government Liquidation
B4	Granutech-Saturn Systems,
A6	Herbold
A2	International Baler
A3	Mill Power Incorporated
A14	Moley Magnetics, Inc.
A10	Northeast Resource Recovery Assoc.
A24	OverBuilt, Inc.
A9	Recycling Equipment Sales, Inc.
A15	Recycling Services Intl., Inc.
A23	RM Johnson Co., Inc.
A3	SAS Forks
A5	Sierra International
A17	SSI Shredding Systems, Inc.
B3	SWANA
B5	Sweed Machinery
A2	Taylor Machinery Corp.
A16	United Catalyst
A11	United Recyclers Group LLC
B2	VZN Group, LLC
A19	Waste Expo 2016

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BUSINESS BRIEFS

Covanta acquires Chief Industrial Services

■ Covanta Environmental Solutions, has acquired Chief Industrial Services, a privately-held environmental services company located in Wisconsin. The acquisition will expand and complement Covanta's existing capabilities in the Midwest, following the 2015 acquisition of Milwaukee-based Advanced Waste Services.

This most recent acquisition adds two locations to Covanta Environmental Solutions' current asset base and increases a portfolio of services and customized solutions to current and future customers. Chief specializes in tailored non-hazardous waste management and industrial cleaning services for industrial and commercial customers in the Midwest.

Atlas Copco to construct new LEED certified facility

■ Atlas Copco is breaking ground on a new 180,000 sq.ft. facility in Rock Hill, South Carolina to meet the growing customer demand. The \$20 million project will serve as the new production and assembly facility for Atlas Copco's North American Construction Technique division. Atlas Copco expects the new facility to open in April 2017.

Atlas Copco's new building will be located in one of Rock Hill's newest mixed use developments, Riverwalk Business Park, and will replace the company's original facility in Rock Hill.

CTW Equipment joins network of Bandit dealers

■ Bandit Industries has added CTW Equipment Company to its network of authorized Bandit® whole tree chipper dealers in the U.S.

CTW, based in Williamston, North Carolina, will offer customers Bandit's complete lineup of whole tree chippers, in addition to service from factory trained technicians and Bandit-approved replacement parts.

CTW is owned by Wayne Cale and Ben Twiddy, two well-known veterans of the logging industry in North Carolina.

Caterpillar names Rimco dealer for Cuba

■ Caterpillar Inc. has selected Rimco, a privately owned Puerto Rico-based company, to be the Cat dealer for Cuba. Currently, Rimco serves as the Cat dealer for Puerto Rico and the Eastern Caribbean. Upon easing of trade restrictions, customers in Cuba will be able to purchase Cat products through Rimco in accordance with U.S. and Cuba regulations.

Caterpillar, an advocate for change in policy toward Cuba for nearly two decades, will continue its work with the Administration and Congress to end the embargo.

While steps remain until relations are fully normalized, including lifting the embargo, Rimco and Caterpillar will continue preparations to best serve the Cuban marketplace with construction and mining equipment, power systems, marine and industrial engines.



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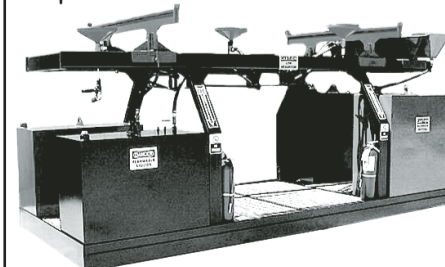
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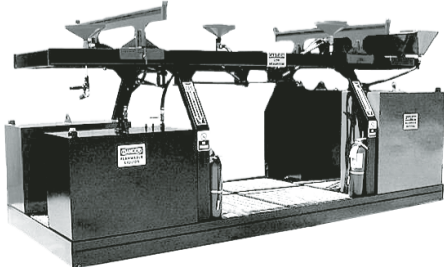
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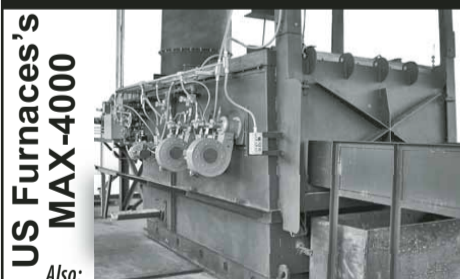
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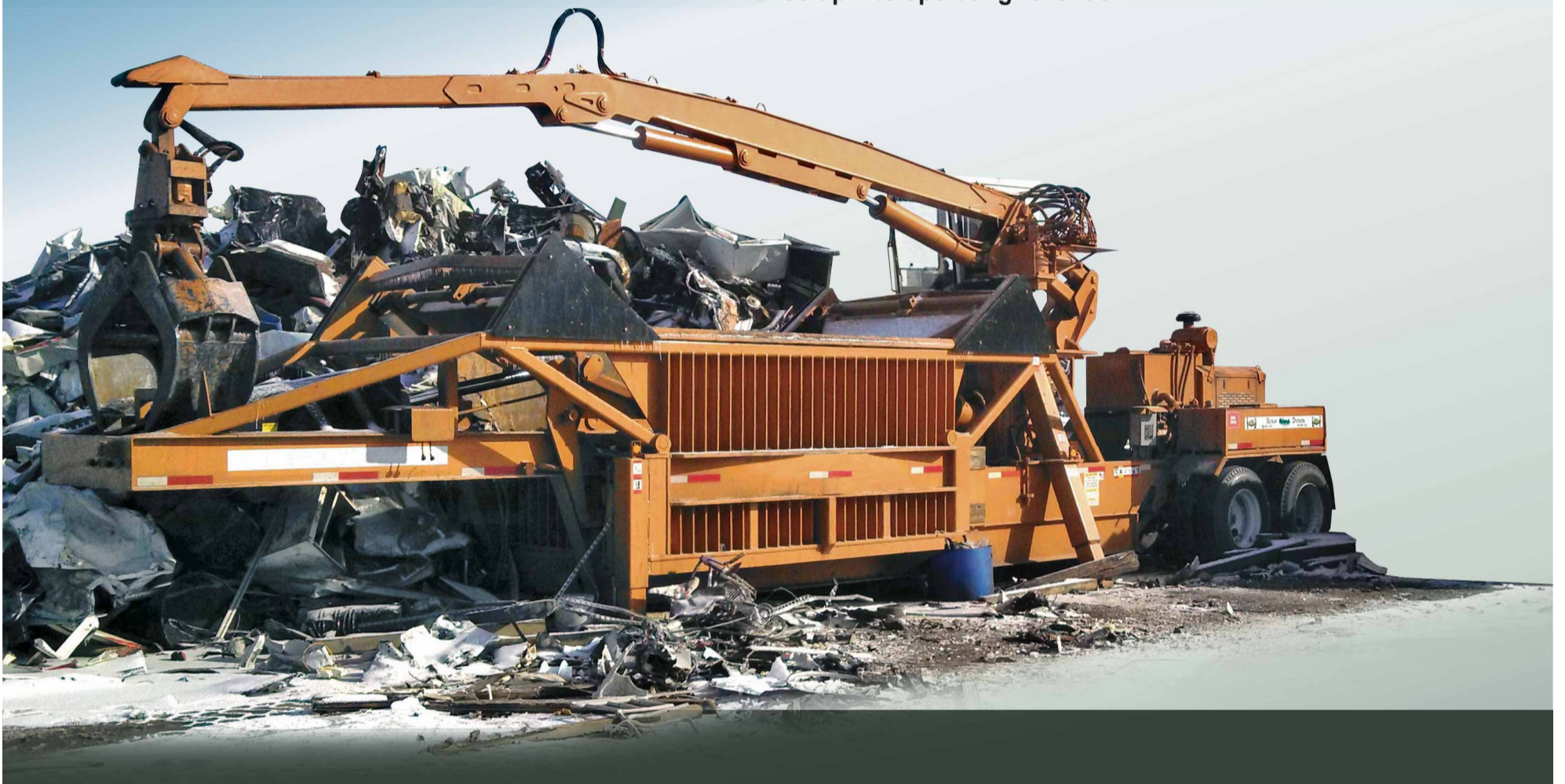
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Electronics recycling: An evolving industry

by MAURA KELLER

mkeller@americanrecycler.com

Here's one thing we know: The core tenet of a successful electronics recycling business is minimizing total sourcing and processing costs while improving backend efficiencies and vendor relationships. Combine that with an ever-evolving industry, a constantly changing consumer base, and emerging recycling laws, and you can understand challenges that electronic recyclers are facing.

According to the Institute of Scrap Recycling Industries (ISRI) in 2011, the U.S. electronics recycling industry processed more than 4.4 million tons of used and end-of-life electronics equipment. More than 70 percent of the collected equipment is manufactured into specification grade commodities – including scrap steel, aluminum, copper, lead, circuit boards, plastics, and glass. These valuable commodities are then sold to basic materials manufacturers in the U.S. and globally as raw material feedstock for new products, such as steel, copper, aluminum, plastic and glass.

At the International Electronics Recycling Congress 2015, Eric Harris, associate counsel for ISRI, discussed the issue of sustaining the U.S. electronics recycling industry. He indicated that the 2014 electronics study by ISRI showed that over 70 percent of the volume processed by the electronics recycling industry ultimately becomes commodity grade scrap. In the U.S. market alone, more than 4 million tons of electronics are processed annually in this \$20 billion industry. And while the industry has experienced tremendous growth in the last 10 years, there are some short and long term challenges facing the industry.

Dr. Mike Biddle, a member of the board of directors at the Green Electronics Council (GEC) and founder of MBA Polymers, said that electronics recycling experienced rather spectacular growth for a number of reasons, such as a rapid rise in metal prices after their collapse in 2009; the proliferation of electronics worldwide; growing recognition globally



A Valley City Electronic Recycling facility employee oversees electronics as they move through the recycling process.

PHOTO COURTESY OF VALLEY CITY ELECTRONIC RECYCLING

of the need to handle end-of-life electronics responsibly; and relatively low barriers to entry in this business compared to many other recycling businesses.

"Today, most recyclers are still facing difficult times for a variety of reasons," Biddle said. "These include significant drops in commodity prices of nearly all material classes over the past 12 to 18 months."

Electronics recyclers also continue to suffer from "leakage" of some of their feedstocks, which are sometimes exported to developing world countries for "low cost" informal recycling.

"As we know, while the labor and byproduct and waste disposal can be 'low cost' in monetary terms, it is often not low cost in human, health and local-eco-system terms," Biddle said. "Also, in a continuous drive to lower prices, electronics manufacturers have learned to use less expensive materials and lower amounts of expensive materials like precious metals."

According to Jason Kehr, president of Valley City Electronic Recycling in Kentwood, Michigan, one of the biggest concerns facing the electronics recycling industry are cathode ray tube (CRT) disposal and the continuous decline in commodity pricing.

"First, will there continue to be a downstream solution for CRT disposal? Secondly, will that solution be cost effective?" Kehr said. "Commodity pricing continues to decline, making it harder and harder to be profitable from a pure recycling standpoint."

The Consumer Electronics Association 2014 study of the U.S. CRT market showed that as of 2014, approximately 44 percent of households reported disposing a CRT TV within the past 5 years, 45 percent indicating they donated or gave it away, 41 percent reported they recycled it, and 20 percent threw it in the trash. As of 2014, 46 percent of households still have at least one CRT, which equals an estimated 7 billion pounds.

Resa Dimino, senior advisor for policy and programs at

the Product Stewardship Institute, agrees that the safe and proper management of CRTs is one of the most significant concerns to the industry to date.

"While ample market outlets for CRTs exist, they are costly," Dimino said. "Companies who hold on to CRTs hoping for a better, less expensive option risk violating federal rules on CRT storage. The high cost of CRT management, and the low scrap material values are impeding the growth of the electronics recycling industry."

In states with Extended Producer Responsibility Programs (EPR) for used electronics, recyclers need to be aware of the legislative framework and must understand the recycling financing schemes, and related risks and benefits.

Dimino was part of the team at the New York State

environmental agency that developed that state's electronics recycling law in 2010 and subsequently worked at an electronics recycling company implementing the programs established through New York's and Connecticut's electronics recycling laws. More recently, she's been analyzing electronics recycling markets and issues with the implementation of state e-waste recycling laws for the Product Stewardship Institute.

"Electronics reuse is a current area of focus, since the value of reused electronics is high, and material scrap values through recycling are not," Dimino said.

Related to the increase of reuse programs, Kehr has seen growth in terms of asset management and data security opportunities.

"I attribute this to the continuing education of customers," said Kehr. "More customers are realizing that while recycling comes at a cost, the benefits of protecting their company data and more importantly the environment, outweigh this cost. Data security breaches have been all over the news the last couple of years and I think more customers are in tune with the ramifications of these types of breaches and are taking all necessary precautions to avoid having their companies be the next headline."

Indeed, Ashley Turner, director at Gadget Valuer, said the recycling industry is a lucrative business if done right, but there are some key issues recyclers must tackle.

"Offering secure data wiping is a must for any credible company," Turner said. "Consumers need the reassurance that when they send off personal gadgets, their data will be completely erased so there can be no threat of fraud."

Kehr said that electronics recyclers need to continuously evaluate their processes and look for areas where they can increase efficiency. Whether that is in shipping and receiving department, in their recycling process or their sales process, recyclers need to be constantly looking for that improvement that will give



PHOTO COURTESY OF VALLEY CITY ELECTRONIC RECYCLING

EPA recognizes electronics manufacturers and retailers for management of used electronics

The U.S. Environmental Protection Agency (EPA) recognized leading electronics manufacturers and retailers for their contributions in diverting electronics from landfills as part of the Sustainable Materials Management (SMM) Electronics Challenge.

"Sustainability of our global resources requires business practices that incorporate environmental and economic considerations throughout the products lifecycle — from extraction and manufacturing, through use and finally end of life," said Mathy Stanislaus, assistant administrator for EPA's Office of Land and Emergency Management. "Our Electronics Challenge participants are corporate role models and I encourage others to follow their lead by implementing these best practices."

In 2013, the U.S. generated some 3.1 million tons of electronics waste. Not only do those discarded electronics contain potentially dangerous chemicals and pollutants if improperly disposed of, they also have precious metals, rare earth materials, plastics and glass that can be recovered and recycled. This increases the economic

competitiveness and reduces costs, as well as environmental impacts, of securing and processing new materials for new products.

Leaders from Best Buy (Gold Tier Award), Dell (Gold Tier), LG Electronics (Gold Tier), Samsung (Gold Tier), Sony (Bronze Tier), Sprint (Gold Tier) and Staples (Gold Tier) gathered in Washington, D.C. to celebrate their environmental achievements, which include diverting 224,263 tons of used electronics from landfills in 2014. Of that, more than 99.7 percent (223,743 tons) was sent to third-party certified recyclers.

EPA also honored Dell and Samsung as SMM Electronics Champion award winners for exemplifying exceptional leadership and innovation in the sustainable management of electronics. These two companies serve as examples in demonstrating significant environmental, social and economic outcomes for their organizations and the public that go above and beyond the requirements of the SMM Electronics Challenge.

Dell was honored for creating innovative partnerships with Goodwill

to increase recycling opportunities and with manufacturer Wistron to "close the loop" by using recovered plastics in new computers. Samsung was honored for truly embracing the concept of sustainable materials management, by designing a mobile phone that looks across the product's lifecycle— from using recycled materials in the product, peripherals and packaging, to increasing the longevity of the phone and ensuring it is nearly 100 percent recyclable.

Through EPA's SMM Electronics Challenge, equipment manufacturers and retailers are promoting responsible electronics recycling. Challenge participants strive to send 100 percent of their used electronics to recognized third-party certified recyclers; increase the amount of electronics reused, refurbished, and recycled each year; and publicly report this information. These certifications are based on strong environmental standards for used electronics that maximize reuse and recycling, minimize exposure to human health and the environment, ensure safe management of materials by downstream handlers, and require destruction of all

Craig joins R2 tech advisory committee

Steve Craig, corporate compliance director for Technology Conservation Group, was appointed by Sustainable Electronics Recycling International (SERI) to the R2 Technical Advisory Committee (TAC) and subsequent appointment to the R2 Consensus Body.

SERI administers the Responsible Recycling (R2) Standard and Certification program for electronics recycling. The R2 TAC is responsible for developing revisions to the R2 Standard and the Consensus Body, which is a subset of the TAC, then has the authority to approve these revisions for recommendation to the SERI Board of directors.

The members of the R2 consensus body were selected based on factors such as area of expertise, international representation (where possible), and level of involvement in TAC discussions to date. The Consensus Body is made up of a small number of representatives from the three main stakeholder groups: electronics recyclers, upstream customers of electronics recyclers, and regulatory agencies/public interest groups.

Schmidt joins Commonwealth Computer Recycling

Mary Ann Schmidt has joined the business development team of Commonwealth Computer Recycling LLC (CCR). Schmidt will extend CCR's geographic reach to Central Pennsylvania, where she has built a reputable client base over the last 10 years.

Schmidt previously owned and operated a computer repair and e-waste collection business based in Seward, Pennsylvania. Headquartered in Greensburg, Pennsylvania, CCR operates a DEP permitted and R2 certified recycling facility, and in 2014 opened a transfer station in Aston, Pennsylvania, in partnership with Elwyn Industries.

E-cycleNYC expands e-waste program

The New York City Department of Sanitation (DSNY) and Electronic Recyclers International (ERI) disclosed that New York City's e-cycleNYC (www.nyc.gov/ecycle) program is broadening its scope, and will expand the collection process beyond participating residential buildings.

All New York City residents can now drop off e-waste at one of the five permanent collection points called Household Special Waste Sites. The sites, conveniently located in each borough, are adding e-waste as part of its currently successful collections of batteries, bulbs, paint, and other unwanted household items.

The program's successful residential pick-up component is now serving more than 500,000 households.

The e-cycleNYC program is a public-private partnership between DSNY and ERI. Fully funded by electronics manufacturers, the program is free for NYC taxpayers and participating residential buildings.

ERI's chairman and chief executive officer John Shegerian said, "That our program — already providing responsible, effective recycling of electronic waste for more than 1.25 million people — is now further expanding to provide e-waste recycling to all New Yorkers, is a huge accomplishment. As a native New Yorker myself, it's humbling and rewarding to be able to help so many in our city do the right thing and collect and responsibly recycle their e-waste — the fastest growing waste stream in the world today — and keep toxic electronics out of New York landfills. This project continues to grow in leaps and bounds and we are excited

to play a role in taking it to further heights in the coming year."

Since the average American household owns 28 electronic devices, and 55 percent of households in New York City have no vehicle access to unload their e-waste, there is clearly a need for such a program.

With the program, New York City-area buildings with at least 10 units can receive on-site pickup of stored electronics, including TVs, monitors, computers, laptops, small servers, printers/scanners, tablets/e-readers, mobile phones, MP3 players, VCRs/DVRs/DVD players, video game consoles, cable/satellite boxes, fax machines, keyboards, mice and hard drives.

Depending on the size and type of building, a variety of service options are available, including storage bins, room clean-outs and building events.



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Call2Recycle hits battery recycling collection record

Atlanta based Call2Recycle, Inc., a company that manages battery and cell-phone collection, reported that their collections increased 5 percent during 2015 to a record 12.6 million pounds. Enhanced awareness contributed to record-breaking battery collections in the U.S. and Canada.

“Our battery recycling results are directly linked to the vital support of our program participants, consumers and key constituents,” said Carl Smith, chief executive officer and president of Call2Recycle, Inc. “Without their environmental commitment, we would not be able to continue collecting, and arguably become one of the most successful recycling programs in North America.”

This major environmental achievement marks the 19th consecutive year the organization has generated a year-over-year increase (since collections began in 1996) in the volume of batteries diverted from landfills and recycled. Call2Recycle ensures that these items,

which contain valuable resources, are responsibly recycled to create new batteries and other products, keeping potentially hazardous materials from entering the waste stream.

Not surprisingly, states and provinces with strong participation and commitment from retailers and municipalities have greater collection results. In the U.S., 7.1-million pounds of batteries were collected in 2015. The great lake states and mountain regions saw the most growth at 12 per cent and 11 per cent respectively. California also reached a significant milestone, collecting more than 1-million pounds of batteries for the 5th consecutive year.

Strong retail and municipal presence in Canada fostered the rise of collections in most provinces, which reached nearly 5.5-million pounds of batteries collectively. British Columbia was a major contributor with a 36 per cent increase of collections from last year, totaling almost 1.4-million pounds of batteries.

Fortress Solutions achieves R2:2013 Certification

Fortress Solutions has achieved the distinguished R2:2013 certification for its Leesburg, Florida location. R2:2013 certification, also known as Responsible Recycling Certification, is the highest, globally recognized industry standard for responsible environmental, health, safety, and security aspects of electronics reuse and recycling.

The R2:2013 standard provides a common set of processes, safety measures, and documentation requirements for businesses that repair and recycle used electronics. SERI is the housing body and ANSI-accredited Standards Development Organization for the R2:2013 standard and is responsible for its development and maintenance.

According to Lisa Somerville,

executive vice president and general manager of Florida operations, “We are proud to have achieved certification to the R2:2013 standard, rounding out our well-established quality, health & safety and environmental standards accreditations including TL9000, ISO 9001, ISO 14001 and OHSAS 18001. The R2:2013 certification was supported by a rigorous audit process that confirmed our commitment to the highest benchmark of environmental responsibility in the handling of used electronics.”

The R2:2013 certification comes on the heels of the recent acquisition of Restor Telecom by Fortress Solutions in November of 2015.

Sims offers data breach solution

Sims Recycling Solutions (SRS), a provider of global IT asset disposal (ITAD) services, offered an informative white paper to acknowledge Data Privacy Day. The white paper discusses “Five Things You Can do to Help Avoid a Data Breach During IT Asset Disposition.” This can be downloaded from www.simsrecycling.com/data-privacy-day.

Security gaps tied to improper ITAD are often overlooked, but there are things you can do to ensure that at least during the disposition of IT equipment, those gaps are filled.

“As a Data Privacy Day Champion and experts in secure and responsible IT asset disposition we are happy to share our insights on this topic to help

IT executives protect their stored data,” stated Steve Skurnac, president of Sims Recycling Solutions. “According to a study by data security research organization Ponemon Institute, a single data breach is averaging companies globally an estimated \$3.79 million per incident, which can make an IT decision maker wary when the responsibility of data protection falls on their shoulders.”

Data Privacy Day, celebrated on January 28, is a day set aside by the National Cyber Security Alliance to create awareness about the importance of privacy and protecting personal information. Security experts and professionals are encouraged at this time to share their privacy knowledge with others.

*What did they give the guy who invented the doorbell?
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EQUIPMENT SPOTLIGHT

Size Reduction

by MARY M. COX

maryc@americanrecycler.com

The website of the U.S. Environmental Protection Agency offers plenty of helpful information about how to donate and recycle unwanted electronics. Also noted are some of the benefits that can result from making the effort to recycle: Recycling 1 million laptops saves energy equivalent to the electricity used by more than 3,500 homes in a year. Also, for every million cell phones recycled, 35,000 lbs. of copper, 772 lbs. of silver, 75 lbs. of gold and 33 lbs. of palladium can be recovered. Overall, the highest volume commodities recovered are plastics and metals but the markets for both materials have been struggling. The highest value commodities found in scrap electronics are the circuit boards and nonferrous metals, although conditions have been quite challenging in those specific markets as well.



Granutech-Saturn Systems

Granutech-Saturn Systems manufactures many types and sizes of shredders that are well suited for e-scrap recycling. "The most common is our Saturn® Dual-Shaft and Quad-Shaft slow-speed, high-torque shredders," noted Greg Wright, sales manager. He added, "Many operations use a Saturn dual shaft shredder for initial shredding, then use a magnet for ferrous separation, then use manual pickers stationed post-shred to hand pick items such as circuit boards, small electric motors, stainless steel, copper, and aluminum. It is also important to have pickers on the separated ferrous fraction as electric motors and circuit boards can end up in the ferrous stream. Larger processors may incorporate a Saturn Quad Shaft shredder as a second stage to further reduce material size before sending it to



SSI Shredding Systems, Inc.

an eddy current separator for nonferrous separation. Others may grind material smaller with our Saturn Grizzly or hammermill and utilize more sophisticated separation technologies such as an e-ray. Most of our customer's e-scrap recycling operations have typical processing volumes of between one to five tons per hour but Granutech-Saturn offers equipment that can handle up to 20 tons if required."

Wright also explained that in low commodity price markets, minimizing labor hours per ton processed is critical to the success of an organization. Recovering the plastic fraction as early in the process as possible is also desirable as buyers of this material generally prefer a larger fraction for their separation and processing needs.

In business since the late 1960s, the Granutech-Saturn product line is broad and deep, including grinders and granulators, single, dual and quad shaft shredders, hammermills, crushers, balers and loggers. The Saturn shredder line offers numerous sizes, types, and technologies to meet a variety of applications with optional hybrid-drive, for best of both worlds technology.

Shred Tech offers full turn-key electronic scrap

recycling systems that use both two shaft and four shaft shredders for the reduction of electronics. "We use a combination of high and low speed shredders along with separation equipment to reduce various scrap electronics to a small enough particle size that enables various materials to then be separated and recycled," Ian Richardson, sales engineer, said.

"Of course, with any electronic scrap recycling system, it is ideal if there is a good supply of feed materials. This can often be achieved by partnering with customers who recycle those reclaimed materials. Because electronic scrap comes in many forms and sizes, it is important to select a primary shredder that can handle any kind of electronic scrap you throw at it. The Shred-Tech ST-400E shredder is the industry standard when it comes to reducing big bulky electronics like photocopiers and servers," Richardson stated.

He cited an increasingly common trend: "New electronics are introduced to the marketplace every year and the life cycle of those electronics become shorter and shorter, so the business climate for electronic scrap recycling is poised for growth. Richardson said that Shred-Tech is ready to take on that growth as one of the leading manufacturers in the industry."

SSI Shredding Systems engineers and manufactures industrial shredders and automated systems to process all varieties of electronic scrap – from consumer to commercial grade – for recycling, reclamation and recovery, worldwide. The company has a wide variety of primary and secondary

shredding machines with capacities from 2 to 15 tons per hour as well as fully integrated material recovery systems. "SSI shredders and automated material recovery systems are employed in many of the largest e-scrap processing facilities around the world," commented Dave Fleming, sales and marketing director.

See SIZE REDUCTION, Page B5

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Best Buy makes changes to its recycling program

Best Buy will now charge customers \$25 for each television and computer monitor they recycle at their stores. And in two states – Illinois and Pennsylvania – Best Buy will no longer recycle these particular products because of laws that prevent them from collecting fees.

All other products – such as batteries, ink cartridges, computers, printers and hundreds of other items – continue to be recycled for free.

Best Buy's goal has always been to simply break even on their recycling program, and they're not there. The new fees will help cover the increasing cost of managing TV and monitor disposal through their network of stores, distribution centers and recycling partners. E-waste volume is rising, commodity prices are falling and global outlets for recycled glass, a key component of TVs and monitors, have dramatically declined.

Sunnking organizing 6th Annual e-Scrap for Camp

Sunnking, New York State's first R2 certified electronics recycler, in partnership with Camp Good Days and Special Times, has created a program entitled e-Scrap for Camp to turn old electronics into funds to help improve the quality of life for children, adults and families whose lives have been touched by cancer. 2016 will mark the 6th e-Scrap for Camp fundraising campaign. In the first 5 years, Sunnking diverted over 2 million pounds of electronics from landfills, resulting in more than \$55,000 donated to Camp Good Days.

Businesses and organizations in the Buffalo and Rochester, New York area are encouraged to sign up to collect electronics from their employees, friends and family members for a one week period during the month of March 2016. Sunnking will provide boxes to collect electronics, and will pick them up for free. For every pound of electronics that Sunnking recycles, a portion of the proceeds will be donated to Camp Good Days to fund future programs.

How it works:

•Each participating location will have the opportunity to collect electronics from employees, friends, family and the business for one week during the month of March (Collection week determined by location).

•Collection boxes and pallets will be provided by Sunnking the week prior to scheduled collection at no cost (The dimensions of a box and pallet are approximately W48" x L40" x H48").

•Electronics will be picked up by Sunnking the week after your scheduled collection and recycled at no cost.

•Sunnking will track and record the net weight of electronics recycled from each participating location and will provide a report and Certificate of Donation at the end of the campaign.

•At the end of the campaign Sunnking will donate a portion of the proceeds to Camp Good Days for every pound of electronics recycled.

Size reduction

■Continued from Page B4

Commercial grade e-scrap, typically consisting of items like network servers, printers, mainframes and copy machines, are generally pre-processed using SSI's primary reduction equipment known as PRI-MAX® primary reducers. These heavy duty, low-speed, high-torque shredders combine ripping and shearing technologies to shred, pierce, split, and break apart large, bulky e-scrap to the point where solid metal items and high value sub components can be easily harvested prior to further processing.

SSI offers a variety of technologies with place-in automated recovery systems designed to process and separate materials into marketable commodity fractions. "The 'heart' of these systems is SSI QUAD® technology, which produces well liberated and sized material at high production rates to systems that are designed in a modular format, so

customers can add processes over time as their business grows," Fleming said.

SSI's patented SmartFeed™ system is available in unique system configurations developed to process the "dirty ferrous" materials generated in many automated recovery systems and liberate ferrous and nonferrous metals in that fraction to the extent possible. SmartFeed is a patented method of controlling a dual drive, two-shaft shredder in a way that limits the material feeding into the cutters as well as controls the particle size produced, allowing the shredder to become much less dependent on cutter configuration (i.e., cutter thickness, number of hooks, hook height). Fleming explained that over the last 18 months, he's seen commodity values fall significantly. As a result, the general trend of electronic scrap recycling, as an industry, has been reduced as well. E-scrap recyclers, however, continue to refine their markets to try and harvest additional value from materials wherever possible, with the least amount of capital investment.

EPA honors LG Electronics with award in electronics recycling challenge

LG Electronics USA was recognized by the U.S. Environmental Protection Agency with the 2015 Gold Tier Award, the top-level recognition in the EPA's Sustainable Materials Management (SMM) Challenge.

The Gold Tier Award recognizes LG's contributions to the EPA's SMM Electronics Challenge goals by increasing the amount of used electronics collected for reuse and recycle, striving to send 100 percent of used electronics collected to certified third-party recyclers, and publicly sharing detailed information about its electronic management practices.

William Cho, president and chief executive officer, LG Electronics USA, applauded the EPA's program, which encourages responsible recycling as a key to fighting climate change.

Cho stated, "By using third-party certified recyclers, we're proud to help drive the use of environmentally protective practices. LG's leadership in the SMM Challenge reflects our strong commitment to building a robust market for electronic recycling in the U.S."

The 2015 award recognizes LG Electronics USA's collection and responsible recycling of nearly 25,000 tons of used electronics, diverting solid waste from landfills.


At collection events, LG encourages consumers to replace recycled electronics with new, more energy efficient Energy Star® certified LG TVs and monitors, Cho added.


Supporting its commitment to responsible recycling, LG Electronics Inc. is the world's first "Global e-Stewards Enterprise." The e-Stewards standard, developed by the Basel Action Network, is the world's most rigorous certification program for electronics recyclers. It prevents the export and dumping of toxic electronic waste in developing countries and calls for safeguards to protect private data and to ensure that recycling plant workers are not exposed to toxic materials.

This special recognition from the EPA comes on the heels of other electronics recycling honors for LG, including the e-Cycling Initiative Leader Award from the Consumer Technology Association and the Design for Recycling® (DfR) Award from the world's leading recycling industry group, the Institute of Scrap Recycling Industries. ISRI's highest honor recognizes LG for developing products such as 4K Ultra HD OLED and LED TVs with greener features designed to reduce the environmental load at every stage of the product lifecycle.

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Material is blown directly from the blower into the filter receiver. Dust is then contained within the material. The product can be used with blowers up to 900 CFM with line sizes up to 5"OD. Each unit comes with 6, 100 micron filter bags, a tangential inlet, aluminum construction, internal baffle arrangement, an accumulator tank, solenoids for compressed air blow down and a filter pulse timer panel.

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www.foremostmachine.com

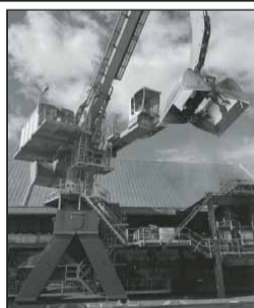


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The 1-Shred-H is the newest addition to the Shred line and provides a small and cost effective grinder while offering the same features of larger models in the Monster Industrial® Shred Series. The grinder is ideal for small facility use in recycling, and small food processing and food waste applications, including food waste pre-conditioning for composting or anaerobic digestion.

The smallest in the Monster Industrial line, this entry-level dual-shafted grinder operates at low-speed and high-torque to deliver very high cutting forces in a small package.

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The attachment structure was also modified to adapt the jaw of the CSB400HD onto the CSB650 head. These custom jaws are equipped with bucket teeth, allowing better penetration and less stress on the grapple structure.

Rotobec
200 Rue Industrial
Saint Justine, Quebec
418-383-3002
www.rotobec.com



SCREEN MACHINE OFFERS CST TRACK MOUNTED CONE CRUSHER

Screen Machine Industries LLC launched a new patented design for their model CST track mounted portable cone crusher. This patent places a screen in front of the cone crushing chamber removing fines prior to crushing, prolonging the life of the cone and associated wear parts while maximizing productivity.

The open feed design placing the screen in front of the cone provides increased ease of maintenance on the screenbox, which is equipped with patented Smooth Start Technology. Fine material that passes through the screen bypasses the cone reducing unnecessary wear.

Screen Machine Industries
10685 Columbus Parkway
Etna, OH 43062
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www.screenmachine.com

ERA is looking for electronic donations for refugees

The Electronic Recycling Association (ERA), Calgary, Canada is requesting that the public consider donating older or unwanted computer equipment that may be refurbished for reuse by newcomers to Calgary. Working with the Calgary Bridge Foundation for Youth (CBFY), ERA hopes to provide computer equipment to dozens of families expected to arrive in the city over the next few months.

"Our goal is to provide the Bridge Foundation with 100 computers throughout 2016 specifically for refugee families," said Bojan Paduh, founder and president of the ERA. "The challenge is that our first priority is meeting the requests of Canadian charities and families, so we are asking the public for help to gather equipment specifically for refugees. Most households and certainly businesses have unwanted or disused computer equip-

ment, all we ask is that they give us a call, let us come pick it up and see if we can reuse it for the refugees arriving in Calgary this year."

ERA specializes in managing retiring corporate IT assets as well as the unwanted computer equipment of individual families. They collect the equipment through pickup services and drop-off depots, test equipment for relevance and then refurbish it as necessary. Much of what ERA is able to recover is then used to support their Canada-wide computer donation program, which provides computer equipment, free of charge, to registered charities, non profits, care facilities and educational institutions.

Organizations and individuals interested in donating unwanted equipment specifically to support refugees through CBFY are advised to contact ERA to book a pickup.

Dynamic Recycling acquires assets of Minnesota Computers Corp.

Dynamic Recycling, headquartered in Wisconsin, has acquired the assets of Minnesota Computers Corp.

Founded in 1987, the acquisition will expand Dynamic Recycling's place in the refurbished computer industry.

Minnesota Computers will maintain their Minneapolis facility, and continue current operations under new ownership.

Dynamic Recycling's environmental sustainability practices go above and beyond industry standards. While

currently R2:2013, ISO 14001:2004, OHSAS 18001:2007 certified, clients rest assured all data is sanitized or destroyed in accordance with NIST 800-88 Guidelines for Media Sanitization, Department of Defense standards (DOD 5220.22-M), and the National Association of Information Destruction (NAID) Standard of Electronic Media Sanitization Destruction.

Dynamic Recycling has adhered to a No Landfill Policy since 2007.

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EPA makes recommendations for additional improvements in electronics recycling

The U.S. Environmental Protection Agency (EPA) released a study assessing the implementation of the two third-party certification programs for electronic waste recyclers in the U.S.

EPA's study found that the certification standards are being implemented by auditors with thorough knowledge of the standards.

"EPA's study affirms that e-Stewards and R2 certification programs are helping to improve the responsible management of used electronics in the U.S.," said Mathy Stanislaus, assistant administrator for EPA's Office of Land and Emergency Management. "We remain committed to continuing the dialogue started by this study to identify opportunities for continued improvement in management of used electronics."

The Responsible Recycling Standard for Electronics Recyclers (R2) and the Standard for Responsible Recycling and Reuse of Electronic Equipment (e-Stewards®) are accredited third-party standards for the management of used electronics to protect human health and the environment. The limited study assessed whether the standards are being implemented transparently and consistently, and if they are achieving the intended results. Both standards include strong environmental requirements that maximize reuse and recycling, minimize exposure of toxics to human health or the environment, ensure safe management of materials by downstream handlers and require destruction of all data on used electronics.

The study's findings are based on the stakeholder interviews EPA conducted and the audits EPA observed,

which reflect a small percentage of all certified electronics recycling facilities and auditors working in the electronics recycling industry. Though limited in number, the audits EPA observed reflected the range of audit types, facility sizes, and services offered by facilities seeking to obtain or maintain certification to the standards.

The study identified a number of strengths in implementation of the standards, such as clear and effective roles and responsibilities among the key implementers, and opportunities for constructive feedback integrated throughout the system. The study also offers recommendations for improving the overall effectiveness of implementation, including providing additional training and guidance materials in key topic areas, providing regular updates to the standards and increasing audit

times to allow for more thorough audits.

The study was conducted in collaboration with the U.S. General Services Administration and the ANSI-ASQ National Accreditation Board. It fulfills a key commitment under the 2011 National Strategy for Electronics Stewardship (NSES), which tasks the federal government to lead by example by encouraging the greener design and responsible management of used electronics. Under this commitment, EPA founded the Sustainable Materials Management (SMM) Electronics Challenge to encourage original equipment manufacturers and retailers to reduce environmental impacts, conserve resources and practice responsible electronics stewardship by using third-party certified electronics recyclers.

Evolving

■Continued from Page B1

them that edge and increase their bottom line.

"A lot of times it might be a small detail, like removing a repetitive step in your processes or automating a certain function that leads to a big time savings, but these small details can make a huge difference," Kehr said.

Embracing Change

Like the electronics industry in general, recycling companies are in a state of flux. Even if one takes commodity prices out of the equation, there are still numerous challenges posed by this fast-changing sector.

"For instance, miniaturized devices, converged products and the use of new materials all present hurdles to effective disassembly and recovery," said GEC's director of marketing, Jonas Allen. "But there's definitely a bottom-line motivation to solve those challenges."

According to research the Green Electronics Council commissioned with Trucost, if the recycling rates for gold, silver and platinum – which currently stand at about 15 percent, 15 percent and 5 percent, respectively – were all increased to 100 percent, the electronics sector could realize \$12 billion in financial and natural capital benefits.

"Although the manufacturers certainly perk up at that figure, it also represents a huge opportunity for companies that develop and offer creative recycling and recovery methods," Allen said.

Improving recovery and recycling has clear environmental benefits as well. For example, data shows that recycling one ton of used cell phones, which amounts to about 6,000 devices, can recover up to 340 grams of gold.

By comparison, one ton of mined gold ore contains just six grams of gold.

"So while improving recovery and recycling certainly has financial benefits, there are also meaningful environmental gains to be realized," Allen said.

In the electronics recycling industry, change is constantly afoot, with change occurring extremely quickly, so it is very important to stay on top of what is happening in the industry.

"This includes maintaining knowledge of your current state recycling laws and how they may affect the way you are conducting business and changes you may need to make to your operation," Kehr said. "This is also true of your certifications, whether you are R2 or E-Stewards, it is important to know these standards inside and out so that you can operate your business appropriately."

Dimino said that recyclers should also source carefully to ensure they get the highest value items, or obtain manufacturer or public sector support to cover the costs of collecting and recycling lower value items.

On the Horizon

While there is a continuous need for electronics recycling, the commodity market is depressed. And, as Biddle pointed out, the future is likely to see growth in factors that make this business challenging including the continued efforts to downsize (miniaturize) electronics and the growth in competition, particularly in lower-cost regions of the world.

"Cost reductions will continue to drive the use of less valuable materials and lower amounts of precious metals," Biddle said.

To help offset these factors the industry is making improvements in recycling technologies – meaning better recovery and lower recycling costs.

"We are also growing consumer interest in green electronics and we are growing interest among manufacturers to embed circular-economy principles to strengthen their businesses and to help better secure their supply lines," Biddle said. "This will lead to more closed-loop relationships between manufacturers and recyclers."

It's also important to remember that the market is cyclical and industry experts hope it is near or at the bottom.

"This makes managing your recycling process effectively extremely

important," Kehr said. "When you are dealing with razor thin margins there is a little room for error. It is important to monitor the markets as well as monitoring what your vendors are paying you for your material."

Dimino agrees. "Closely watch trends in CRT generation and new potential end markets," she said. "Keep an eye on the policy arena. Changes to state electronics recycling laws are on the horizon and those changes could benefit electronics recyclers."

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