



# American Recycler

NewsVoice of Salvage, Waste and Recycling

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## FOCUS: Municipal Waste

The expansive effect of the commodities market



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# Anaerobic digestion provides environmental benefits



Today, according to the American Biogas Council, it is estimated that in the U.S. there are about 2,100 sites producing biogas.

PHOTO BY LIANEM | DREAMSTIME

by MAURA KELLER

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The concept of anaerobic digestion is capturing the attention of more and more recycling companies as the industry learns about the inherent benefits that anaerobic digestion offers the environment, while providing another revenue generating option within the recycling industry.

### At Its Core

Anaerobic digestion is a process carried out by a consortium of diverse microbial organisms including hydrolytic, fermentative and methane-forming bacteria. In the absence of molecular oxygen, the synergistic action of these organisms transforms biodegradable organics into a methane-rich gas and a stable fertile residue.

According to Dr. Agamemnon Koutsospyros, Ph.D., professor and graduate coordinator of environmental engineering at Connecticut's University of New Haven, anaerobic digestion systems, at a minimum, include an air-tight vessel that sustains a favorable environment for biological activity upon organic feedstock.

"Reactor performance can be enhanced by integrating provisions for mixing, heating, pH, and temperature control," Koutsospyros said. "Engineered systems also include a variety of pre- and post-treatment subsystems." These subsystems may include organic feedstock pretreatment; a gas collection/purification system to improve energy recovery and marketability; and digested material

withdrawal/treatment to enhance the potential for beneficial applications.

Merrill Kramer, a renewable energy lawyer at Sullivan and Worcester in Washington D.C., who is working with a consortium of Boston area colleges and universities to develop anaerobic digesters to manage excessive food waste, explained that a biodigester is basically a large, fully enclosed collection tank for organic waste.

"Anaerobic means the absence of oxygen," Kramer said. "If you lock anaerobic microbial organisms in a sealed environment without oxygen, but with plenty of food and other organic waste, the microbes produce methane-rich gas through their digestive process."

Essentially, it's the natural process of decomposition technologically revved up to optimal speed and efficiency. The trapped methane gas is then cleaned and used to generate electricity and steam for heating and cooling via a combined heating and power (CHP) or cogeneration system.

"The biogas also can be directly used to produce steam in boilers for hot water and heating," Kramer said. "Leftover organic solid waste can be used as fertilizer, a soil enhancer or be further composted."

Biodigesters are used by municipalities and counties in connection with wastewater treatment facilities and municipal trash disposal. They are also used in the food service and agricultural industries for disposal of organic waste,

and by universities to dispose of cafeteria and other organic waste products.

Bill Camarillo, chief executive officer of Agromin, a composter for over 50 California cities, further explained that anaerobic digestion is a process under zero oxygen conditions using bacteria to digest food waste materials for a minimum of 21 days. The result is production of methane gas that can be used to produce electricity or low carbon fuels.

"Agromin uses natural biological processes and other technologies to convert organic waste streams into electrical power, heat, fertility products and low carbon fuel for private customers and public utilities," Camarillo said. "Through the composting process Agromin's waste-to-energy program incorporates anaerobic digestion, gasification and renewable hydrogen."

Agromin also receives more than 30,000 tons of organic material including food waste each month and then uses a safe, natural and sustainable process to transform the material into soil products. Agromin has pioneered the business of organic waste management through sustainable processing, industry leading technology, compliant recycling and a marketing model that allows the company to provide a loop solution to the largest waste haulers in the country.

"The foundation for Agromin's solutions are based on using natural and biological processes to support sustainable agriculture including the conversion of

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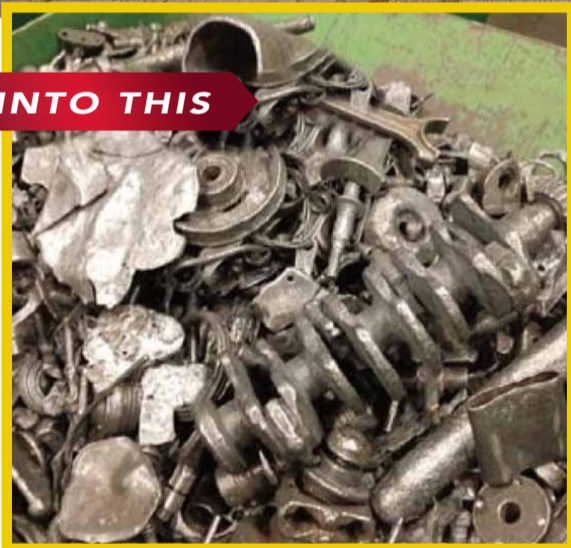
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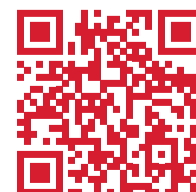
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# Recycled textile associations combat media misconceptions of secondhand clothing

Autumn news coverage in Newsweek and the Huffington Post cast the secondhand clothing industry in a less than favorable light. Trade associations in the U.S. and the U.K. issued a response to clarify the negative coverage presented while reinforcing the worldwide value of the recycled textile movement.

SMART executive director Jackie King and TRA director Alan Wheeler prepared the following joint statement:

The U.S. based Secondary Materials and Recycled Textiles Association (SMART) and U.K.-based Textile Recycling Association (TRA) want the general public to fully understand the tremendous social, economic and environmental value of reusing and recycling unwanted clothing.

According to the Bureau of International Recycling Textiles Division, the recycled textiles industry generates both environmental and economic benefits, reducing the need for landfill space, lessening pressure on virgin resources, slashing pollution as well as energy and water consumption and cutting down the need for dyes and fixing agents. Worldwide, more than 60 percent of clothes can be reused, and another 35 percent are recycled into wiping rags or are converted into basic fibers and made into new products. This leaves less than five percent that must be discarded.

According to a report conducted by the U.S. Environmental Protection Agency (EPA) in 2013, 15.13 million tons of textiles ended up in the waste stream (landfills or incinerators). Of that, 15.2 percent was recovered for reuse or recycling. In total, 12.83 million tons of textiles ended up in the waste stream in 2013.

The spring 2016 Textiles Market Situation Report issued by the non-profit U.K.-based Waste and Resources Action Programme (WRAP) estimates that while 650,000 tons of textiles were collected for reuse and recycling in the U.K. in 2014, an additional 620,000 tons remained in the residual waste stream in England, Wales and Northern Ireland.

There are a variety of factors contributing to the textile waste issue, including high textile consumption, lack of recycling awareness, and lack of infrastructure to manage textile recycling. Developed countries like the U.S. and U.K. continue to consume a high amount of textile products, especially with the rise of the fashion industry.

However, most people do not view textiles as a household recyclable like paper, plastic, aluminum and glass, despite the fact that more than 95 percent of all textiles can be recycled or reused in some way. Further, many do not understand that the term "textiles" encompasses more than just clothing – linens, towels, pillows, footwear, accessories, bags and stuffed animals are all textile products that can be recycled or reused.

In addition to a lack of awareness, many people are unsure of where and how to recycle their textiles. Nonprofit organizations are not the only avenue for this purpose. Our collective membership base is comprised of for-profit companies (as well as the commercial fundraising arms of some U.K. charities such as the Salvation Army, Oxfam and Traid) that contribute to the textile recycling process, including collectors, collection bin operators, wiping manufacturers and fiber converters. Knowing textiles are recyclable is the first step – knowing where your closest recycler and collection bin is located is the next.

Unfortunately, some of the news coverage cited gives the casual reader the impression that dumping good quality clothing in the trash after it has been donated is commonplace, when in reality, only a tiny percentage – the dirty torn rags and the like that cannot possibly be recycled – end up going for disposal.

Additionally, some recent news has centered around the impact of textile recycling on East African countries, implying that the import of secondhand clothing into the region is hurting their local textile manufacturing industry. In reality, there are

numerous countries around the world, including Pakistan, Guatemala and Honduras, which enjoy both robust manufacturing and secondhand industries.

While there were indeed periods during the 1980s and 1990s when African textile manufacturing retracted, this was due to a number of reasons including a drought that affected cotton production; increased availability of cheap cotton lint from Pakistan and India; the collapse of the Kenyan Cotton Board and the resulting withdrawal of subsidies; the import of cheap new textiles from Asia; and the abolition of the World Trade Organization's Multi-Fiber Agreement in 2005, which effectively limited the amount of new clothing China could export to developed countries. Immediately upon abolition of the agreement Chinese producers dominated the global markets. In the first few months of 2005 alone its exports of many textile products grew by 100 percent.

Even if Africa was to ramp up production, it is unlikely that clothing would be affordable for area residents, according to the research-based opinion of TRA. This is further demonstrated by the fact that most, if not all, textiles manufactured in Africa are exported for sale in developed countries, including the U.S. and U.K., as opposed to being sold where they were created. With many in the East African

Community living on the equivalent of \$1.00 to \$2.00 or less per day, secondhand clothing provides many with their only affordable access to quality apparel. A recent article from Rwanda notes that with a given amount of money, a person can purchase 10 pieces of used clothing as opposed to the two pieces of clothing they could afford if forced to purchase it new. According to the same Rwandan report, 80 percent or more of the country's population could not possibly pay to clothe themselves if they had to depend on new apparel alone.

Millions of tons of secondhand clothing are in demand and being purchased globally, while very little, if any, apparel manufactured in developing countries is sold within those countries. The secondhand clothing that U.S. and U.K. exporters ship into East Africa is prepared and selected specifically to meet the price and quality demands of East African populations. They are not unwanted goods dumped in the African market.

Ultimately, consumers should not walk away from these misleading articles thinking they might as well throw away their old clothing. The secondhand clothing industry dramatically helps close the loop on post-consumer textile waste, and provides many people around the world with the only affordable access to quality apparel.

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# Maine company awarded \$100,000 for project to develop green ceiling tiles

An Orono, Maine business was awarded \$100,000 from EPA for work developing green ceiling tiles. Revolution Research, Inc. was one of 13 businesses nationwide receiving a total of \$1.3 million for technologies aimed at helping to solve environmental issues.

The funding for Revolution Research, which is part of EPA's Small Business Innovation Research program, will help design the manufacturing process for a bio-based, "green" ceiling tile that is durable, non-hazardous and compostable, with higher insulation properties.

Suspended ceiling tiles have been widely used in construction because they offer flexibility and easy access to utilities. But most of the available tiles absorb water, which leads to sagging,

staining, and mold/mildew growth. They also contain potentially hazardous chemicals and release airborne fibers when broken or cut. In the U.S., 10 million square feet of old ceiling tiles are discarded annually, most of them not compostable or recyclable.

Revolution Research hopes to design the manufacturing process for a bio-based, "green" ceiling tile that is durable, non-hazardous, and compostable and that provides higher insulation properties than now available. This innovative process will use nanocellulose, a widely-available byproduct of the forest products industry as the primary raw material and will develop a process to treat the panels for flame retardancy, water resistance and

mold/mildew resistance using non-hazardous enhancements.

One other New England business was awarded a Small Business Innovation Grant. TIAX, LLC in Lexington, Massachusetts will develop a technology to decontaminate biological material in railway and subway cars with reduced manpower while protecting workers from exposure.

Each contract for Phase 1 of the Small Business Innovation Research grants provides up to \$100,000 to develop green technology. If the first phase is successful, companies are eligible to apply for a Phase II contract of up to \$300,000 to further develop and commercialize their technology for the marketplace.

# Organizations set to launch FurtherWithFood.org

The Rockefeller Foundation is collaborating with the U.S. Department of Agriculture (USDA), the U.S. Environmental Protection Agency (EPA), and a partnership of 10 private sector and non-profit organizations to create "Further With Food: Center for Food Loss and Waste Solutions," an online hub for the exchange of information and solutions that can help realize the national goal of cutting food waste in half by 2030.

Further With Food (furtherwithfood.org) will be the definitive online destination for stakeholders – such as businesses, government entities, investors, NGOs, academics and individuals – seeking to learn more about their role in meeting the national food waste reduc-

tion target, announced by USDA and EPA in September, 2015. Further With Food will enable coordination among stakeholders and will reduce duplication of efforts.

"Because food waste is one of the most pressing – and solvable – challenges of our time, we launched our \$130 million YieldWise initiative to prove that cutting it in half is within reach," said Judith Rodin, president, The Rockefeller Foundation.

The U.S. spends more than \$162 billion growing, processing and transporting food that is never eaten, costing the average family of four \$1,500 every year.

The participants in the Further With Food collaboration include The Rockefeller Foundation and a public-private partnership composed of USDA, EPA, the

Academy of Nutrition and Dietetics, the Innovation Center for U.S. Dairy, Feeding America, the Food Marketing Institute, the Grocery Manufacturers Association, the National Consumers League, Natural Resources Defense Council, the National Restaurant Association, the World Resources Institute, and the World Wildlife Fund. Keystone Policy Center provided technical assistance to the coalition.



NewsVoice of Salvage, Waste and Recycling

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

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

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## Events Calendar

**January 23rd-26th**

**COMPOST2017: 25 Years and Growing Conference & Tradeshow.** Westin Bonaventure, Los Angeles, California. 301-897-2715 • www.compostingcouncil.org

**March 6th-9th**

**Association of Postconsumer Plastic Recyclers Member Meeting.** Hyatt Regency, New Orleans, Louisiana. 202-316-3046 • www.plasticsrecycling.org

**March 7th-11th**

**CONEXPO-CON/AGG 2017.** Las Vegas Convention Center, Las Vegas, Nevada. 800-867-6060 • www.conexpoconagg.com

**March 12th-15th**

**Southeast Recycling Conference & Tradeshow.** Hilton San Destin Golf Resort & Spa, Destin, Florida. 800-441-7949 www.southeastrecyclingtradeshow.com

**March 14th-15th**

**Tennessee Environmental Conference.** Meadowview Conference Resort & Convention Center, Kingsport Tennessee. 423-854-5485 • www.tnenvironment.com

**March 27th-29th**

**Aluminum Association Spring Meeting.** The Ritz-Carlton Reynolds, Lake Oconee Lake Oconee Trail Greensboro, Georgia. 703-358-2960 • www.aluminum.org

**March 27th-30th**

**SWANApalooza 2017.** Reno Convention Center, Reno, Nevada. 800-467-9262 • www.swana.org

**May 21st-24th**

**NY Federation of Solid Waste Association's Solid Waste & Recycling Conference with Trade Show.** The Sagamore, Bolton Landing, New York. 518-813-5126 • www.nyfederation.org

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# Republic named to Climate A List

Republic Services, Inc. has been named to the Climate A List by the Carbon Disclosure Project (CDP), a leading international non-profit organization dedicated to measuring and disclosing environmental information, in the CDP 2016 Global Climate Change Report. Less than 10 percent of companies worldwide who submit the disclosure questionnaire are named to the Climate A List. This year, only 194 companies from around the world made this elite list.

“As a leader in the U.S. waste and recycling industry, we take our commitment to regenerate the planet with the materials we are entrusted to handle every day very seriously,” said Donald W. Slager, president and chief executive officer. “We are honored by this latest recognition, and the continued validation of our social, environmental and governance programs. These programs allow us to build a more profitable business and enhance long-term value creation.”

Republic’s sustainability commitments are reflected in the way it does business and are guided by the five elements of its sustainability platform: Operations, Materials Management, Communities, Safety and People. Through its Blue Planet™ platform, Republic defined its approach to sustainability through the practices and programs outlined in its 2015 Sustainability Report, which includes working to reduce the carbon footprint of its own operations and those associated with the materials they collect, while increasing growth opportunities. Republic’s four sustainability goals include:

1. Commodities: to add an additional 150,000 tons per year or more of recycling capability through 2018.

2. Energy: to develop at least two landfill gas-to-energy projects per year through 2018.

3. Fleet: to reduce fleet emissions from its direct operational impacts by 3 percent by 2018.

4. Safety: to reduce its OSHA recordable rates by 7 percent per year.

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# 2017 Collegiate RecycleMania registration opens

Registration for new and returning colleges and universities is now open for the 2017 RecycleMania, a collegiate recycling competition.

Now in its 17th year, RecycleMania pits colleges and universities against one another to see which will claim the championship in the fight to reduce, reuse, recycle and compost the most on campus. The 2017 RecycleMania competition, managed by national nonprofit Keep America Beautiful, will begin on February 5 and continues for eight weeks in conjunction with the final weeks of the collegiate basketball season and tournament games.

In 2016, RecycleMania featured 350 schools participating from 48

states in the U.S., the District of Columbia and Canada, engaging a combined population of 4.8 million students. The American contingent of schools represented nearly one in four U.S. college students. Richland College, a two year community college in Dallas, Texas, was crowned the Grand Champion of the 2016 RecycleMania competition with a recycling rate of more than 82 percent.

Participating universities and colleges, large and small, as well as public and private, included Harvard University, University of Massachusetts, University of Michigan, University of Missouri-Kansas City,

Brigham Young University, Stanford University and Occidental College.

Colleges and universities traditionally compete in several categories based on the weight of recyclables, food organics and trash collected across campus. Each week, schools report their data and the rankings are updated. Educational activities, displays and other outreach efforts rally students and staff to participate.

The 2017 RecycleMania tournament will feature competitions focused on recycling electronics and diversion efforts at home basketball games, as well as a new pilot category – “Race to Zero Waste” – which will rank schools based on comprehensive waste

diversion from an individual campus building.

RecycleMania is made possible through the generous sponsorship support of The Coca-Cola Company, Rubbermaid Commercial Products®, US EPA WasteWise, College & University Recycling Coalition and National Wildlife Federation – Campus Ecology, with comprehensive program management by Keep America Beautiful.

Since the competition launched in 2001, millions of students from over 760 colleges and universities have recycled and composted roughly 820 million pounds of material during the tournament timeframe.

## Anaerobics

■Continued from Page 1

organic waste streams into non-chemical fertility, renewable energy, water saving and erosion control products,” Camarillo said. “The high solid and high liquid digestion resulting from anaerobic digestion adds another option for the recycling industry when determining the best value for the customers they serve.”

Since the company’s founding, Agromin has been responsible for diverting more than five million tons of organic waste from landfills. A growing portion of the green materials that Agromin converts is food waste collected from grocery stores, restaurants and government facilities – amounting to over 400,000 tons a year.

Today, according to the American Biogas Council, it is estimated that in the U.S. there are about 2,100 sites producing biogas: most of which are operated by municipal wastewater treatment facilities (1,241). About 247 anaerobic digesters are operated by farms, 38 are non-agriculture/non-wastewater, and the balance (645) is represented by landfill gas collection projects.

“Based on the same source, there is huge potential for U.S. growth with an estimated 11,000 sites considered to be ripe for development today,” Koutsospyros said. “It is hard to know the number of anaerobic digesters in the world however, it is estimated to be over a million. A recent study, inventoried 111,000 small-scale tubular anaerobic digesters treating livestock waste in the developing world.”

### The Use of Anaerobic Digestion in the Recycling Environment

Anaerobic digester systems are a form of recycling. Digesters, particularly when the trapped gas is used to generate electricity and steam for heating and cooling, provide a means of recycling organic waste while satisfying multiple goals of reducing its carbon footprint, lowering energy costs, reducing use of fossil fuels, and capturing an important source of renewable energy – methane.

As Kramer explained, anaerobic digesters are a supplement to other forms of recycling. “Food waste in particular is one of the least recovered recyclable materials in the U.S. Unfortunately, too many companies dispose of their organic waste in landfills,” Kramer said. “Other programs such as composting or delivering uneaten food to feed the needy, only begins to solve the problem.”

According to the EPA, food waste is the second largest category of municipal solid waste sent to landfills, accounting for 18 percent of their waste stream. “Left to decompose in landfills, food waste creates methane gas, a lethal greenhouse gas that is the single largest short term contributor to climate change and global warming,” Kramer said. “The EPA has found that, pound for pound, the comparative impact of methane gas on climate change is more than 25 times greater than carbon dioxide.”

The good news is that in today’s recycling environment, a wide variety of organic feedstock and waste streams are amenable to anaerobic treatment including agricultural residues and waste streams, municipal wastewater and wastewater treatment residuals, industrial byproducts and waste streams, municipal solid wastes.

“In recent years, the biofuel and biogas potential of algal biomass is being explored,” Koutsospyros said. “Thus, anaerobic digesters cover a wide spectrum of applications across the municipal, agricultural and industrial sectors.”

For example, the agricultural sector uses anaerobic digesters for the agro-veterinary wastes including crop residues and animal wastes or a combination of both. Municipalities operate anaerobic digesters for the treatment of municipal wastewater residuals, the organic fraction of solid wastes and food waste residues

generated in institutional or commercial dining establishments.

“Although most municipal anaerobic digesters treat wastewater residuals, co-digestion units treating a combination of sludge, solid and food wastes are a relatively recent trend,” Koutsospyros said. “Industries often operate anaerobic digesters to treat wastes produced by alcohol production, bakery, brewery/winery, petrochemical, pulp and paper, slaughterhouse, sugar processing, textile starch and desizing, dairy, food and beverage plants.”

But in its simplest form anaerobic digestion can be done in a large tank or fully sealed tent – anywhere where microbial organisms can be locked in a sealed environment without oxygen, but with plenty of food and other organic waste. The biogas can then be directly used to produce steam in boilers for hot water and heating.

“Many college campuses do this right now,” Kramer said.

According to Camarillo, the recycling industry should pay close attention to anaerobic digestion technologies. “As always with all technology, the more companies that focus on it as a recycling solution, the sooner anaerobic digestion technology will get better, faster and cheaper.”

Kramer added that the disposal of organic waste is a small fraction of the business of the recycling industry, and often is a wasted by-product of other recycling efforts with metals, paper and glass. However, by converting organic trash into electricity, the recycling industry can take advantage of some very attractive governmental incentives such as green energy credits, renewable energy credits, carbon set aside credits and investment tax credits.

“These credits can cover more than 50 percent of the costs of installing a biodigester,” Kramer said. “In addition, the project economics of converting organic trash into electricity and steam include revenues received for the sale of electricity and steam, in addition to renewable energy credits, plus tip fees for waste disposal. Assuming the appropriate economies of scale, anaerobic digestion can be very economically attractive while at the same time solving a pressing social and environmental problem – greenhouse gas emissions and global warming.”

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## NWRA shares white paper on organics recovery

*Study examines components of organics in the waste stream, strategies for implementing programs and growing technology involved.*

The National Waste & Recycling Association (NWRA) has released a free white paper on the State of Organics Recovery.

Most Americans are not aware of the fact that organic waste is the largest portion of waste stream by weight. Yet because of this fact, organics recovery is increasingly seen as an option for increasing recovery of materials in the waste stream.

This 20 page document examines the prospects for increased recovery of the organics fraction of the waste stream. Also reviewed: the components and amount of organic waste, the existing recovery infrastructure, both in terms of operating facilities and the legislative and regulatory framework governing those programs, the technologies used to recover organics and methods to increase organics recovery. Food waste receives particular interest in the white paper.

Key take-aways from this white paper include:

- There is a growing interest in recovering organics and increasing overall diversion from disposal.

- There has been marked success with the recovery of yard waste but less so with food waste at this time.

- The number of states requiring collection of food waste from larger food generators is increasing.

- Those looking to implement a program have many options to develop strategies, including in-facility management devices.

- Groups are advised to analyze local waste stream data rather than rely on national data for their planning.

- In-store food waste management and diversion activities are anticipated to increase in the future, lowering the amount available for recovery activities.

## Recycling program helps two universities turn used gloves into durable goods

The Illinois Sustainable Technology Center (ISTC) at the University of Illinois Urbana-Champaign and Purdue University have diverted almost six tons of waste from landfills through an innovative recycling program that turns used lab gloves and garments into shelving, flowerpots and lawn and garden furniture.

Both institutions were looking for ways to reduce their solid waste streams and enhance their sustainability efforts. They found it in a program called RightCycle by Kimberly-Clark Professional, the first large-scale recycling program for non-hazardous lab and industrial waste.

Since its inception in 2011, RightCycle has diverted more than 350 metric tons of waste from landfills. In its first year, it diverted two tons of waste. The number of customers participating in the program has significantly increased, from just a handful at the start to almost 200 as of July 2016. Kimberly-Clark Professional is continuing to expand the program – bringing it to Western Europe and exploring expansion into other regions.

“We pioneered this program because we recognized that the sustainability goals of our university and pharmaceutical customers included reducing landfill waste, and single-use gloves accounted for a large percentage of that waste,” said Randy Kates, director of the Kimberly-Clark Professional Global Scientific Business. “We needed to find a recycling solution that helped them achieve their goals and enabled their people to be positively engaged in the process.”

RightCycle removes gloves, masks, garments, shoe covers and other apparel accessories from the waste stream and turns them into plastic pellets. These are then used to create eco-responsible consumer products and durable goods, such as lawn furniture, flowerpots and planters, shelving, totes and storage bins.

The Illinois Sustainable Technology Center (ISTC) is a division of the Prairie Research Institute at the University of Illinois Urbana-Champaign. Its mission is to drive statewide economic



growth through sustainability. To fulfill that mission, ISTC conducts scientific research and, in the process, uses a lot of gloves.

“We conducted a waste audit to see how we could go to zero waste in our own building and realized that gloves were about 10 percent of our total waste by weight,” said Shantanu Pai, ISTC assistant sustainability researcher. “We were already effectively recycling other items – glass, aluminum, paper and cardboard.”

With RightCycle, ISTC was able to reach 89 percent compliance for gloves in its labs – even higher than the rate for paper and cardboard recycling. It then decided to take the program a step further, piloting it in the University’s main dining hall and achieving an estimated diversion rate of 90 percent. It is in the process of expanding the effort to all dining facilities and campus labs. In fact, the university has purchased a storage container to house the gloves, so that shipments can be made just once a year.

Since implementing the RightCycle program in 2013, the center and the university have diverted 4,945 pounds, or approximately 320,480 gloves, from landfills.

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## Re-Clothe NY Coalition renews outreach campaign

The Re-Clothe NY Coalition, a collaborative group of recyclers, non-profits, and governments working to increase textiles reuse and recycling across New York State, announced a renewed outreach campaign to encourage residents to donate and recycle their unwanted clothing and household textiles, rather than put them in the trash. This year's campaign dovetails with the adoption of landmark standards for coalition membership that establish common messaging and ensure transparency, data sharing, and the highest, best possible use of donated textiles. These standards, which were facilitated by the Product Stewardship Institute (PSI), serve as the basis for this year's outreach campaign and strengthen the Coalition, one of the first public-private partnerships of its kind and size in the U.S.

"New York State residents trash an estimated 1.4 billion pounds of recoverable clothing and textiles annually, with a market value exceeding \$130 million," said Andrew Radin, chair of the New York Product Stewardship Council (NYPSC) and recycling coordinator from Onondaga County, NY. "The economic benefits of textile recycling don't end there: over 1,000 new jobs could be created statewide if that material was donated for reuse and recycling."

"Today, 85 percent of unwanted clothing is disposed as trash – recycling these textiles would have a greenhouse gas reduction impact equivalent to removing one million cars from America's roads," said Eric Stubin, president and chief executive officer of Trans-Americas Textile Recycling, Inc. "Our company is proud to partner with this collaborative group of other textile recyclers, governments, and non-profits to increase textile recycling statewide."

Textile collection bins accept all household textiles – including clothing, shoes, towels, sheets, hats, pet clothes, and other items – as long as they are

clean, dry, and odorless. Worn, torn, ripped, or stained items are accepted; even textiles that are no longer wearable can be donated for reuse and recycling.

"Approximately 40 percent of donated clothing is reused for its original purpose, helping those in need by offering them free and low-cost clothes, shoes, and linens," explained Dan Lilkas-Rain, chair of the Re-Clothe NY Campaign for the New York State Association for Reduction, Reuse, and Recycling (NYSAR3) and recycling coordinator for the Town of Bethlehem, NY. "An additional 30 percent of recycled and donated textiles are cut into industrial wiping and polishing cloths, and the remaining 25 percent are shipped to mills where the textiles are converted to fiber."

In 2014, NYSAR3, the Secondary Materials and Recycled Textiles Association, and the Council for Textile Recycling partnered to launch a statewide textile recovery campaign, eventually named "Re-Clothe NY," the most extensive effort at that time to increase textile recovery nationwide. The 2016 campaign builds on this success.

This year, NYPSC and PSI created new and updated outreach materials to make it easy for local governments, organizations, associations, and community advocates to help the Re-Clothe NY Coalition spread the word about the benefits of textile recycling. The Outreach Toolkit and Media Toolkit include sample social media posts, fact sheets, posters, and media alerts, making promoting textile recycling as easy as copy-and-paste for New York agencies, organizations, and community advocates.

The New York State Pollution Prevention Institute (NYSP2I), which is funded through a grant from the NYS Department of Environmental Conservation, provided the grant to support this campaign.

## Advanced Disposal's Flag Retirement Program collects over 4,500 flags in 2016

Company sees a 77 percent increase

Advanced Disposal, an integrated environmental services company, was honored to retire more than 4,500 American flags the company collected this summer as part of its annual flag retirement program, a free service offered to the communities it serves. In 2015, a total of 2,539 flags were collected and retired.

"Respectfully retiring the American flag is a great way to show our appreciation of the 'stars and stripes' and all it stands for," said Advanced Disposal chief executive officer Richard Burke. "We're proud to be an American company and honored to offer this service to our customers and the communities we

serve. I want to thank everyone who participated, as well as the team members that made it possible."

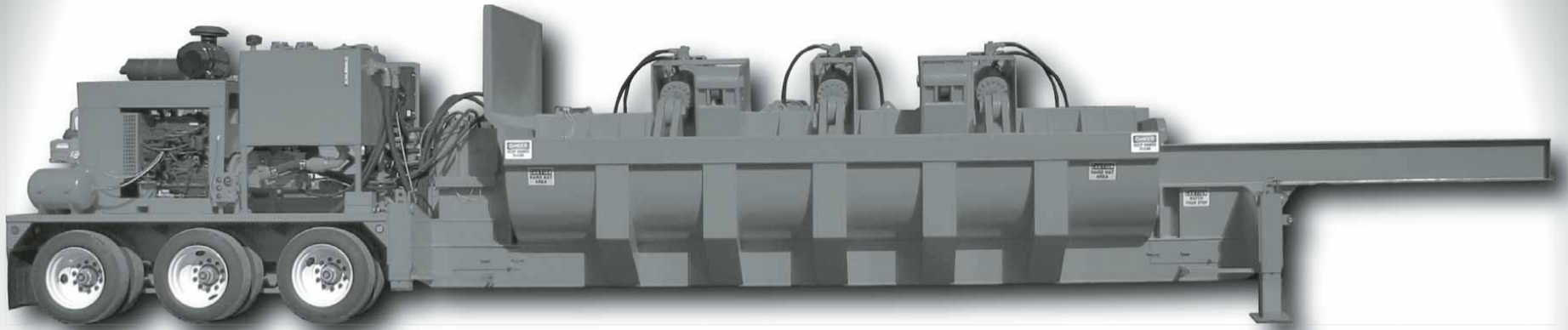
All Advanced Disposal locations collected old, worn, torn and faded American flags for proper retirement. The cotton flags are burned while the nylon flags are repurposed into new nylon material that can be made into another American Flag.

The company plans to do this on an annual basis.

For a direct link to additional information, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).



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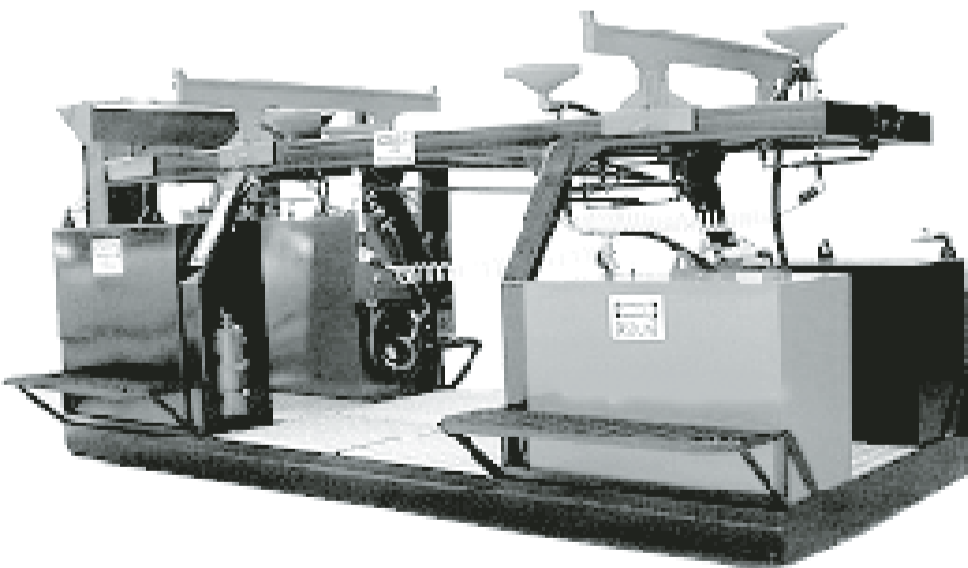
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## PAPER

# Proposed paper bag fee to cost consumers millions

The plastic bag ban outlined by Boston City Councilor Matt O'Malley contains a fee on paper bags that will cost several millions of dollars to Boston consumers, further strapping working families already struggling to get by in one of America's most expensive cities.

O'Malley, a district councilor from Roslindale, chaired the Plastic Bag Ordinance Task Force and unveiled legislation banning thin, single-use plastic bags from being used by grocery stores and other retailers. O'Malley maintained plastic bags are harmful to the environment and clog up landfills for hundreds of years. However, despite there being no evidence of environmental benefit, his bill also calls for a five-cent fee on paper bags.

"The Task Force appears to have a solution in search of a problem," said Gretchen Spear, director, packaging, of the American Forest & Paper Association. "Dozens of communities in Massachusetts have enacted plastic bag bans in recent years, and all but one have opted against a fee on paper bags.

"A \$.05 paper bag fee will cost Bostonians millions of dollars, hitting hard working families at a time they can ill afford it," Spear continued. "Consumers who are sensitive to environmental concerns opt for paper bags because paper bags are recyclable, compostable, and made from a renewable resource."

Paper is the most recycled material in the world, and in the U.S. in 2015, two-thirds of all paper consumed was recovered for recycling. More paper is recovered for recycling by municipal solid waste streams than glass, plastic, steel and aluminum combined.

Additionally, the surcharge will go directly into the retailers' pockets and not be directed for programs to benefit the public.

"The City of Boston should look carefully at the proposed fee and reject it based on both economic and environmental factors," Spear said. "Nearly every other municipality in Massachusetts that has considered a bag ordinance has turned down a paper bag fee. The Task Force's proposal simply goes too far."

## GLASS

# Denver-area companies team up for glass recycling

A successful \$150,000 retrofit at the Alpine Waste & Recycling plant has advanced efforts to recycle glass in the Denver, Colorado area, saving thousands of cubic feet of landfill space.

Broken glass has long been the bane of recycling efforts, with much of the smaller pieces ending up in landfills. Alpine Waste & Recycling on Tuesday will send its first loads of glass remnants to a new facility in Broomfield operated by Utah-based Momentum Recycling. There the glass will be recycled for use in bottle manufacturing and other industries. Alpine is among the first companies to recycle broken glass on a large scale and provide material for the Momentum plant.

Brent Hildebrand, vice president-recycling at Alpine, said the company invested about \$150,000 this summer to retrofit its Altogether Recycling facility in Denver to separate broken glass from its other recyclables.

"We added two conveyors and a blower to separate paper and other debris from the glass, along with a new bunker to store the glass," said Hildebrand. "The efficiencies gleaned from separating broken glass will offset some of the expense of our recycling efforts."

Trucks are expected to pick up 1 to 2 loads (25 tons per load) each business day for transport to Momentum's plant in Broomfield. Each load will save about 18 cubic yards of landfill space.

Denver-based Alpine, which earlier this year was named as a finalist in its "Best of Colorado" category by Colorado-Biz magazine for its innovative recycling and waste collection efforts, will send all its broken glass to Momentum. Momentum will use its optical sorting process to separate the clear glass from colored glass. Along with bottle manufacturing, the glass will be used to make fiberglass insulation and other glass-related products.

## GlassRecycles.org introduced

The Glass Recycling Coalition (GRC) has launched a new website, GlassRecycles.org. The site includes case studies, best practices and building library of resources dedicated to understanding and successfully implementing community glass recycling.

The goal of this collaborative website over time is to provide a national clearinghouse for increasing recycled glass access,

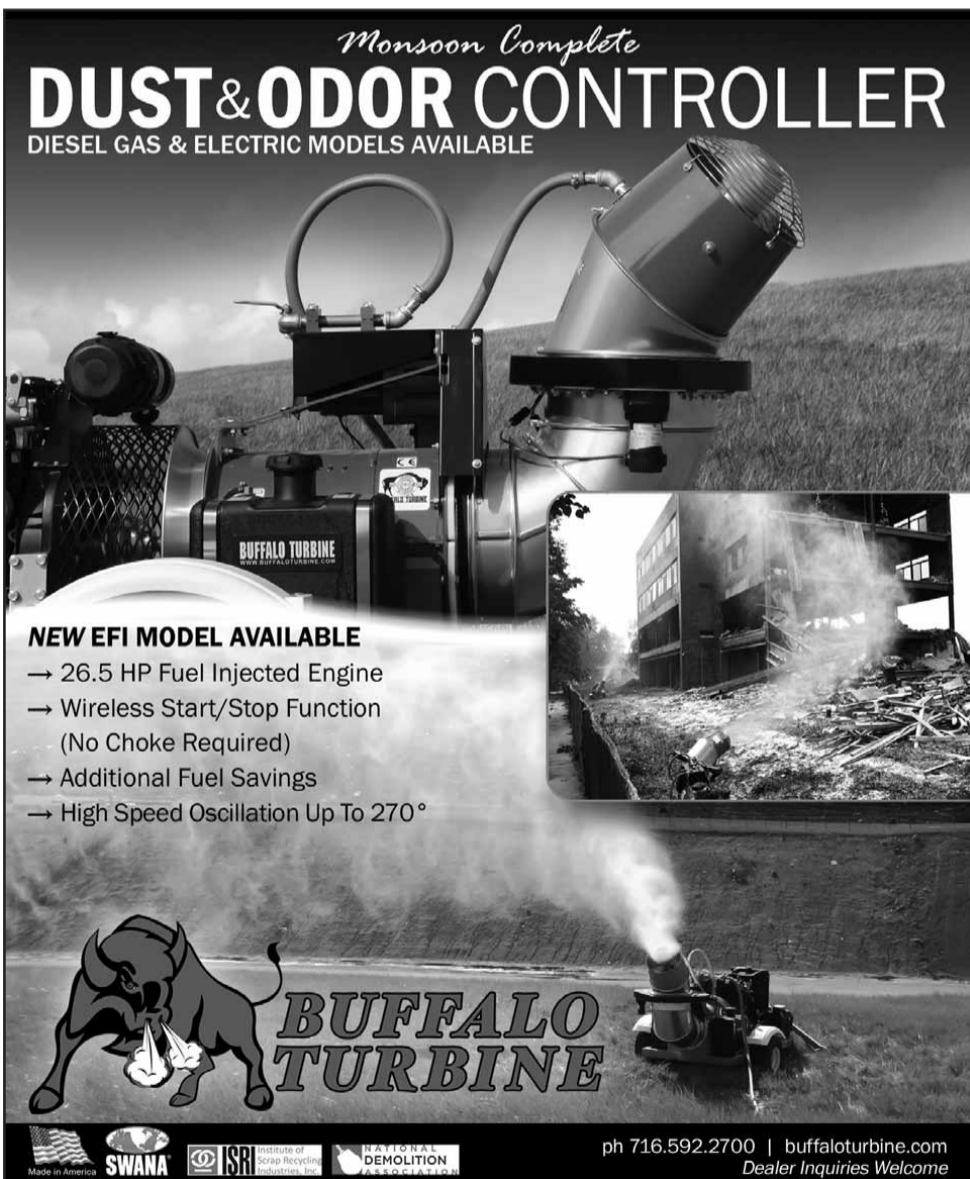
supply and quality, while helping to solve existing bottlenecks for communities.

Established in April 2016, the GRC is a non-competitive coalition dedicated to supporting the most accessible and viable glass recovery and recycling options for consumers. GRC membership has nearly doubled since its inception. The GRC motto is simply to "make glass recycling work."

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## ELECTRONICS

### Laptops recycled with donation to school system

The U.S. Environmental Protection Agency (EPA) has donated 120 laptop computers to the Newport News School District as part of an ongoing effort to keep harmful electronics away from landfills and put them to productive use in schools.

“Donating or recycling consumer electronics like laptop computers conserves our natural resources and avoids air and water pollution, as well as greenhouse gas emissions that are caused by manufacturing raw materials,” said EPA Mid-Atlantic regional administrator Shawn M. Garvin. “This donation is especially rewarding because the laptops will be put to valuable use by the Newport News School District.”

The computers are being donated under the U.S. General Services Administration’s Computers for Learning Program that encourages government agencies to transfer excess computers and related peripheral equipment to schools and educational nonprofit organizations.

Electronic products are made from valuable resources and materials, including metals, plastics, and glass, all of which require energy to mine and manufacture.

*I was going to start a Procrastinators Club. But then I realized I'd have to reject anyone who actually turned up at the meeting so I decided to put it off again.*

## INTERNATIONAL

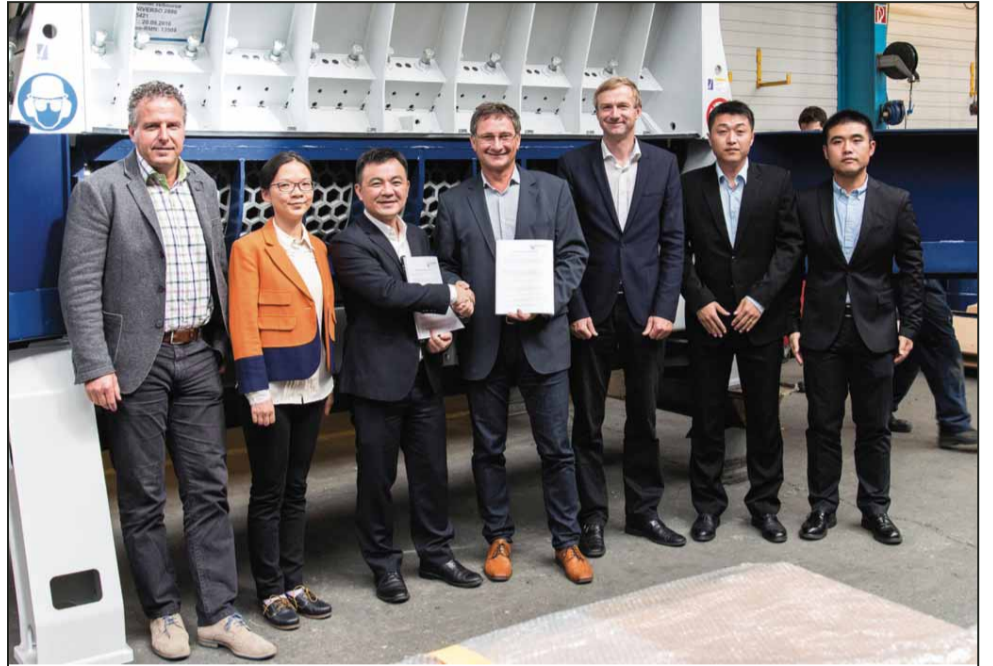
### Lindner Recyclingtech enters Chinese market with new strategic partner

Within the framework of a tour of the plant at Lindner’s headquarters in Spittal/Drau, Austria, Manuel Lindner, managing director of Lindner Recyclingtech (center), and Jay Yuan, general manager of JONO, sealed a recently signed distribution and service contract with a handshake.

Lindner Recyclingtech, the Austrian industrial shredding technology specialist, has now made a successful entry into the Chinese market following the conclusion of a strategic partnership with JONO Recycling Technology Co., Ltd. from Suzhou City. With immediate effect, JONO Recycling Technology has assumed responsibility for sales and services of Lindner Recyclingtech’s waste segment in China.

“The partnership with the respected Chinese plant builder JONO Recycling Technology is of great strategic value to Lindner Recyclingtech and possesses great potential”, said Manuel Lindner, managing director of Lindner Recyclingtech. “JONO has already successfully completed an initial project selling a KOMET 2800 high-performance, single-shaft shredder for the comminution of pre-treated waste.”

JONO, founded in 2006 and with more than 40 global patents, specializes in the production of waste sorting systems and is a leading machinery manufacturer in the recycling industry. The company employs a workforce of over 200, cooperates with many leading firms worldwide and has some 500 machines in operation.



Within the framework of a tour of the plant at Lindner’s headquarters in Spittal/Drau, Austria, Manuel Lindner, MANAGING director of Lindner Recyclingtech (center), and Jay Yuan, general manager of JONO, sealed the recently signed distribution and service contract with a handshake.

At its Austrian production sites in Spittal/Drau and Feistritz/Drau, Lindner manufactures machines and plant components that are exported to nearly 100 countries around the world. Beyond stationary and mobile crushing and shredding machines for waste recycling, its portfolio includes complete systems for plastics recycling and the processing of substitute fuels and substrates for biomass equipment.

Lindner America, Raleigh, NC/USA, is Lindner’s North American subsidiary with a team of sales and service experts located throughout the U.S., providing support to clients in the U.S. and Canada.



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# METALS

## Steel imports decline 3.4 percent in October 2016

U.S. IMPORTS OF FINISHED STEEL MILL PRODUCTS BY COUNTRY OF ORIGIN (Thousands of Net Tons)					
	OCT 2016	SEP 2016	2016 Annualized	2015 Full Year	% Change 2016 Annual vs. 2015
SOUTH KOREA	272	284	3,918	4,854	-19.3%
TURKEY	222	159	2,491	2,823	-11.7%
JAPAN	143	157	1,895	2,259	-16.1%
GERMANY	78	110	1,222	1,515	-19.3%
TAIWAN	95	103	1,020	1,205	-15.3%
VIETNAM	105	99	932	222	319.7%
CHINA	65	98	890	2,374	-62.5%
All Others	1,245	1,115	14,052	16,241	-13.5%
<b>TOTAL</b>	<b>2,225</b>	<b>2,125</b>	<b>26,421</b>	<b>31,493</b>	<b>-16.1%</b>

Based on preliminary Census Bureau data, the American Iron and Steel Institute (AISI) reported that the U.S. imported a total of 2,682,000 net tons (NT) of steel in October 2016, including 2,225,000 net tons (NT) of finished steel (down 3.4 percent and up 4.7 percent, respectively, vs. September final data).

Year-to-date (YTD) through ten months of 2016 total and finished steel imports are 27,486,000 and 22,017,000 NT, down 19.0 percent and 19.8 percent, respectively, vs. the same period in 2015. Annualized total and finished steel imports in 2016 are 33.0 and 26.4 million NT, down 15.0 percent and 16.1 percent, respectively, vs. 2015. Finished steel import market share was an estimated 26 percent in October and is estimated at 25 percent YTD.

Key finished steel products with significant import increases in October com-

pared to September include oil country goods (up 79 percent), heavy structural shapes (up 68 percent), line pipe (up 30 percent), hot dipped galvanized sheets and strip (up 17 percent) and hot rolled bars (up 17 percent).

In October, the largest volumes of finished steel imports from offshore were from South Korea (272,000 NT, down 4 percent from September final), Turkey (222,000 NT, up 40 percent), Japan (143,000 NT, down 9 percent), Vietnam (105,000 NT, up 6 percent) and Taiwan (95,000 NT, down 8 percent). For the first ten months of 2016, the largest offshore suppliers were South Korea (3,265,000 NT, down 24 percent vs. the same period in 2015), Turkey (2,076,000 NT, down 17 percent), Japan (1,579,000 NT, down 19 percent), Germany (1,019,000 NT, down 22 percent) and Taiwan (850,000 NT, down 23 percent).

## Steel import market share 27 percent in November

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 November totaled 2,862,000 net tons (NT). This was a 1.2 percent decrease from the 2,895,000 permit tons recorded in October and a 5.5 percent increase from the October final imports total of 2,713,000 NT.

Import permit tonnage for finished steel in November was 2,274,000, up 0.8 percent from the final imports total of 2,256,000 in October. For the first eleven months of 2016 (including November SIMA permits and October final data), total and finished steel imports were 30,379,000 NT and 24,322,000 NT, down 16.5 percent and 17.3 percent, respectively, from the same period in 2015. The estimated finished steel import market share in November was 27 percent and is 26 percent year-to-date (YTD).

Finished steel imports with large increases in November permits vs. the

October final included sheets and strip electrolytic galvanized (up 50 percent), hot rolled bars (up 50 percent), cold rolled sheets (up 26 percent), structural pipe and tubing (up 21 percent), line pipe (up 18 percent), reinforcing bars (up 18 percent), mechanical tubing (up 14 percent), sheets and strip all other metallic coatings (up 13 percent) and plates in coils (up 12 percent). Tin plate (up 13 percent) had a significant year-to-date (YTD) increase vs. the same period in 2015.

In November, the largest finished steel import permit applications for offshore countries were for South Korea (342,000 NT, up 24 percent from October final), Turkey (169,000 NT, down 24 percent), Vietnam (142,000 NT, up 28 percent), Taiwan (110,000 NT, up 15 percent) and Japan (104,000 NT, down 29 percent). Through the first eleven months of 2016, the largest offshore suppliers were South Korea (3,612,000 NT, down 22 percent from the same period in 2015), Turkey (2,246,000 NT, down 15 percent) and Japan (1,687,000 NT, down 20 percent).

*Reaching the end of a job interview, a human resources officer asked a young engineer fresh out of the Massachusetts Institute of Technology, "And what starting salary are you looking for?" The engineer replied, "In the region of \$125,000 a year, depending on the benefits package." The interviewer inquired, "Well, what would you say to a package*

*of 5 weeks vacation, 14 paid holidays, full medical and dental, company matching retirement fund to 50 percent of salary and a company car leased every 2 years, say, a red Corvette?" The engineer sat up straight and said, "Wow! Are you kidding?" The interviewer replied, "Yeah, but you started it."*

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## METALS

# Novelis achieves 53 percent recycled aluminum inputs

Novelis published its fiscal year 2016 sustainability report, detailing significant progress toward increasing the use of recycled aluminum and minimizing the use of natural resources.

Recycling aluminum produces 95 percent fewer greenhouse gas (GHG) emissions and requires 95 percent less energy than primary aluminum production, enabling Novelis to achieve lower GHG emissions despite increasing global production capacity. At the end of fiscal 2016, Novelis achieved an average of 53 percent recycled aluminum inputs, up 23 percentage points from the baseline averages of fiscal years 2007 to 2009. Novelis also reduced its GHG emissions by 19 percent for the same baseline years.

Significant gains were also made in fiscal 2016 as it relates to water and energy intensity. Novelis achieved a 22 percent reduction in water intensity and a 24 percent reduction in energy intensity for the 2007 to 2009 baseline.

Other important achievements from fiscal 2016 include:

- Reduced water intensity by one-third at Novelis' plant in Terre Haute, Indiana that helped the company reach a 22 percent reduction in water intensity globally.
- Decreased energy intensity by 24 percent by increasing manufacturing efficiencies worldwide.

- Commissioned the third automotive finishing line at Novelis' plant in Oswego, New York to supply lightweight automotive aluminum for the 2017 Ford F-Series Super Duty line of trucks, representing the second-highest volume aluminum application in automotive to date. Supply for the truck also involves a highly innovative closed-looped recycling system that allows Novelis to take back as much of its customer's aluminum scrap as possible, turning it directly back into the same product again.

- Introduced Novelis Advanz™ s5754 RC, a high-recycled content alloy designed for automobiles to contain up to 75 percent recycled content. First implemented in the Jaguar XE, Advanz s5754 RC is now featured in all new and legacy Jaguar Land Rover models.

- Set records for safety performance, achieving a 3 year low in total recordable incidents as well as improving the number of days away from work rate by more than 25 percent year over year.

Novelis continued to make significant progress in multiple areas at its 24 production and recycling facilities on four continents, including reducing GHG emissions, energy and water intensity from their baseline averages in fiscal years 2007 to 2009.

*A man asked a farmer near his field, "Sorry sir, would you mind if I crossed your field instead of going around? I need to catch the 4:23 train."*

*The farmer said, "Sure, but if my bull sees you, you may even catch the 4:10 train!"*

# Nucor agrees to acquisition

Nucor Corporation has agreed to acquire Republic Conduit, a manufacturer of steel electrical conduit in North America, from Luxembourg-based Tenaris S.A. for \$335 million, or approximately six times the average of its 2015 and projected 2016 EBITDA. Republic Conduit's annual shipment volume over this period averages approximately 146,000 tons.

"The purchase of Republic Conduit complements our recent expansion of Nucor's presence in the pipe and tube market and gives us a new line of value-added products to offer our customers," said John Ferriola, chairman, chief executive officer and president of Nucor Corporation.

Republic Conduit produces electro-galvanized Electrical Metallic Tubing (EMT) and Intermediate Metal Conduit (IMC), as well as hot-dip galvanized Electrical Rigid Metal Conduit (ERMC). Republic Conduit's products are primarily used to protect and route electrical wiring in various nonresidential structures such as hospitals, schools, office buildings, hotels, stadiums, churches and shopping malls. The company also serves the power and industrial sectors.

Republic Conduit employs a total of approximately 300 people at 2 non-unionized facilities strategically located in Louisville, Kentucky, and Cedar Springs, Georgia. Once the acquisition is completed, Nucor will be a market leader in steel conduits.

## ELECTRONICS

# Cell phone recycling revenue rises

Due to rising use of smartphone technologies widening the base of phones available for recycling, industry research firm IBISWorld has updated a report on cell phone recycling.

Revenue for the cell phone recycling industry is estimated to reach \$827.5 million over the 5 years to 2016, representing an annualized growth of 15.8 percent over the period. Growth slowed in 2016 to 11.4 percent as declining copper prices reduced the amount of revenue operators obtained for scrap material.

Cell phones are often recycled for scrap materials such as copper, palladium, silver and gold. Falling commodity prices, such as the price of copper, have cut into the average industry profit margin. Nevertheless, demand for industry services has risen steadily as increasingly high-end consumer devices have entered the industry and as consumers with rising disposable incomes tend to quickly upgrade to the newest smartphones.

Regulations at the state level have significantly benefited industry operators. For example, in 2011 Utah passed a law that requires companies to educate consumers about locations where they can recycle electronics.

For a direct link to the full report, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

## Scrap Metals MarketWatch



Commodity		Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
#1 Bushelings	per gross ton	\$190.00	\$198.00	\$190.00	\$230.00	\$261.00
#1 Bundles	per gross ton	190.00	191.00	190.00	240.00	260.00
Plate and Structural	per gross ton	189.00	190.00	199.00	241.00	265.00
#1 & 2 Mixed Steel	per gross ton	189.00	185.00	186.00	220.00	241.00
Shredder Bundles (tin)	per gross ton	133.00	144.00	149.00	150.00	200.00
Crushed Auto Bodies	per gross ton	133.00	145.00	149.00	151.00	200.00
Steel Turnings	per gross ton	95.00	101.00	89.00	116.00	130.00
#1 Copper	per pound	2.20	2.25	2.30	2.40	2.36
#2 Copper	per pound	1.70	1.85	2.20	2.19	2.10
Aluminum Cans	per pound	.54	.53	.60	.56	.53
Auto Radiators	per pound	1.55	1.35	1.45	1.49	1.45
Aluminum Core Radiators	per pound	.47	.45	.48	.50	.52
Heater Cores	per pound	1.02	1.01	1.05	1.04	1.20
Stainless Steel	per pound	.47	.46	.50	.54	.50

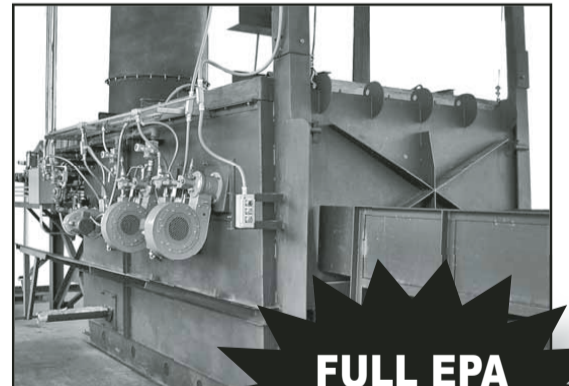
All prices are expressed in USD. Printed as a reader service only.

**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

### OSHA issues final rule for worker's retaliation complaints

The Occupational Safety and Health Administration has published a final rule establishing procedures and time frames for handling employee retaliation complaints under the Moving Ahead for Progress in the 21st Century Act (MAP-21). The final rule was effective December 14, 2016.

MAP-21, enacted July 6, 2012, protects employees of automobile manufacturers, part suppliers and car dealerships who have been discharged or otherwise retaliated against for providing information concerning motor vehicle defects or violations of motor vehicle safety standards to their employer or the Secretary of Transportation.

"Every worker in the automotive industry should feel secure with raising

concerns about workplace hazards without fear of retaliation," said Assistant Secretary of Labor for Occupational Safety and Health Dr. David Michaels. "This final rule protects those workers who report conditions or activities that jeopardize their safety or the safety of the public."

In March, OSHA published an interim final rule and requested public comments. The one comment received did not require the agency to make revisions to the rule.

OSHA's fact sheet, Filing Whistleblower Complaints under the Moving Ahead for Progress in the 21st Century Act (MAP-21), provides additional details for workers in this industry who have faced retaliation for reporting car safety violations.

## SALVAGING Millions

by Ron Sturgeon  
Autosalvageconsultant.com

### Tools for success: Do the hard stuff first!

The first article in this series listed more than 25 tactics you can use to increase your business success, all of them based on my experience.

When faced with a difficult task, too often, we procrastinate. Putting off hard tasks is costly. It kills work ethic, lowers productivity, and reduces urgency. Worst of all, it delays the day when the hard task will be done.

Think for a moment about your business. Is there a task you dread? Is there something you put off when you get to your office? Whether you're putting off a small daily task or a major undertaking, I have advice for you.

If it is a small daily task, do the thing you dread most first. When I came to work, I made it a rule to do what I least wanted to do first. After I had that task done, I got momentum because I could devote the rest of the day to doing work that I liked better.

If the task that you least want to do is a big job or project, take a few minutes and list the steps needed to complete it.

As you look at a project or major job, you may find that there are parts of it that a team member can do for you. If possible, delegate them to the person or the people who can do them better than you can. If you cannot delegate them, do whatever is next on that project first.

Most of the time, you will find that the task is not as bad as you imagined it would be. And, you can redirect the energy you were devoting to procrastinating and worrying to serving

your customers, growing your revenues, and increasing your profits.

Whenever I think about procrastination, I think of an employee I had. I nicknamed him Motorcycle Craig because, whenever he had to start a job, he acted like a little man on a tiny motorcycle at the foot of Mount Everest. He buzzed back and forth. He told anyone who would listen, "I can't do it; I can't do it." He would do anything not to have to start a job.

Once he started, however, he found he could do the job much better than he expected. You can be more productive and enjoy your work more starting today. Do the small task you dread most first. If it's a big project you're putting off, take a step toward completing it first thing every day.

I talk about to do lists in another article in this series. Successful people make to do lists. I still make one nearly every day. Sometimes, I estimate the time each item will take so I can get a snapshot of my day. Whether you include time estimates or not, make the first item on your to-do list your least favorite must-do item.

If you hate to review financial statements, make sure your bookkeeper leaves them on your desk before he or she goes home so that you can look at them when you are the freshest. Hate email? Do it first and then close it. Now go have fun! Remember to have positive energy, channel your positive dissatisfaction, and maintain your strong sense of urgency.

**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.*

### Subaru of America and Recycle Across America join in zero landfill initiative

Subaru of America and Recycle Across America (RAA) have donated RAA's standardized recycling label system to support the automaker's zero landfill initiative currently being piloted at three national parks. The donation aims to decrease landfill waste from parks by revitalizing recycling participation, replacing conflicting signs and messaging with the RAA system to help visitors recycle easily and effectively.

During a study of the waste stream generated at the three pilot parks — Yosemite, Grand Teton and Denali — researchers learned that among the highest volume of waste was paper, plastics and glass. Easily recycled materials were heading to the landfill instead of the recycling bins where it contributes to an inefficient use of landfill space and higher hauling fees.

After an audit of established recycling messaging and signage, the auditors discovered conflicting messaging and signage, making it difficult for visitors to identify the proper bins for trash, paper, plastics and glass. RAA's standardized labeling system for recycling bins, an emerging best practice in the industry, was identified as a solution by Subaru and the National Parks Conservation Association.

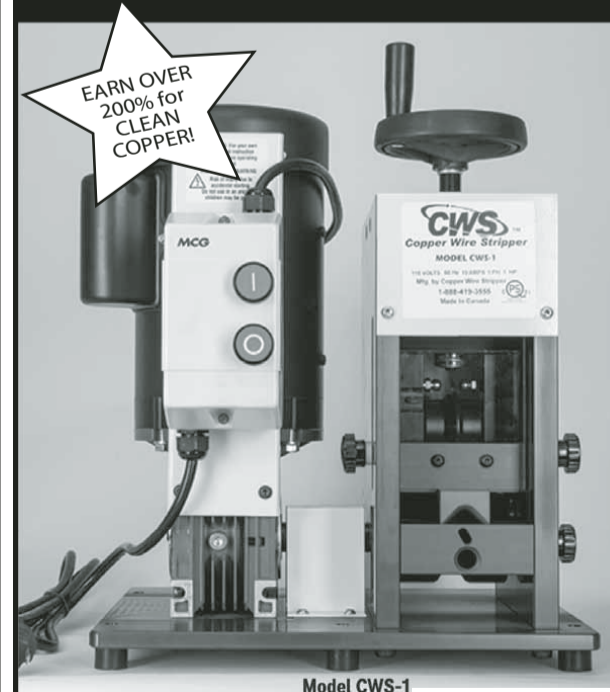
Millions of tons of garbage are thrown into recycling bins each day due to

consumer confusion at the bin, which increases the costs associated with processing the recyclables and harms the viability of recycling. In order to make recycling less confusing for the general public, RAA developed the first and only society-wide standardized labels for recycling bins in 2010. RAA labels use a consistent design, which includes, simple imagery, descriptions and color-coding to create an easy to understand recycling system.

The pilot program with the three national parks and their concession partners, provides an opportunity to evaluate the labels and determine if they improve recycling levels and lower the trash hauling fees at each park.

"Our research revealed that a shocking number of Americans are unaware of the waste management challenges facing national parks, but that many of them would be willing to make a significant effort to reduce the amount of trash left in parks," said Denise Coogan, environmental partnership manager of Subaru. "At Subaru, we are committed to spreading awareness of these issues and helping make meaningful change in the parks. We are excited to be working with RAA and hope that these standardized labels will help to reduce confusion and increase proper recycling."

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**AUTOMOTIVE**

**C&D**

# Auto parts supplier, others face \$2.5 million in fines for serious violations

On June 18, 2016, 20 year old Regina Allen Elsea was crushed to death in a robotic machine. That day, the assembly line stopped and she and three of her co-workers entered a robotic station to clear a sensor fault. The robot restarted abruptly, crushing the young woman inside the machine.

An investigation by the U.S. Department of Labor's Occupational Safety and Health Administration has led the agency to issue citations for 23 willful, serious and other than serious violations, including 19 egregious instance-by-instance willful violations, to Joon LLC, doing business as Ajin USA of Cusseta. OSHA also cited two staffing agencies – Alliance HR Inc., doing business as Alliance Total Solutions LLC and Joynus Staffing Corp. – for two serious safety violations each. Collectively, the 3 companies face \$2,565,621 in penalties for the federal safety and health violations.

In 2015, Dr. David Michaels, assistant secretary of labor for Occupational Safety and Health, traveled to Korea and met with Hyundai and Kia's top managers, warning them of hazardous conditions at their suppliers, explaining to them that the automobile firms' production policies were endangering workers at the suppliers' factories.

"Kia and Hyundai's on-demand production targets are so high that workers at their suppliers are often required to work six and sometimes seven days a week to

meet the targets," said Dr. Michaels. "It appears that – to reduce its own costs in meeting these targets – this supplier cut corners on safety, at the expense of workers' lives and limbs."

OSHA issued willful citations to Ajin USA for:

- Failing to utilize energy control procedures to prevent machinery from starting up during maintenance and servicing.
- Exposing workers to caught-in, struck-by and crushing hazards by allowing them to enter a robotic cell without shutting down and securing hazardous stored energy according to procedures.
- Failing to provide safety locks to isolate hazardous energy.
- Exposing employees to crushing and amputation hazards due to improper machine guarding.

OSHA issued two serious citations to Ajin USA for exposing workers to laceration hazards by allowing them to work with parts having sharp edges while improperly wearing or not wearing protective sleeves and not installing effective shields or curtains on welding machines to protect the operator and others from flying sparks.

The agency also issued two serious citations to Alliance and Joynus for failing to utilize specific safety procedures to control potentially hazardous stored energy during maintenance and servicing and not providing or ensuring employees had locks to properly shutdown machinery.

Alliance and Joynus, both based in Opelika, provide approximately 250 temporary employees to Ajin USA. Elsea was hired to work at Ajin through Alliance Total Solutions.

"This was a preventable incident – Ajin USA only had to ensure that proper safety measures were followed to de-energize the robot before the workers entered the station," said Kurt Petermeyer, OSHA's regional administrator in Atlanta. "Incidents like this one are not isolated and that is why OSHA has developed and implemented its Regional Emphasis Program on Safety Hazards in the Auto Parts Industry."

The agency has also placed Ajin USA in its Severe Violators Enforcement Program. The program focuses on recalcitrant employers that endanger workers by committing willful, repeat or failure-to-abate violations. Under the program, OSHA may inspect any of the employer's facilities if it has reasonable grounds to believe there are similar violations.

Based in Korea, Ajin USA is a global auto parts supplier with plants in South Korea, China, Vietnam and the U.S. It employs approximately 700 workers at the Cusseta facility.

Alliance Total Solutions is a staffing agency with branches in Alabama, Georgia and Tennessee with over 4,000 employees. Joynus Staffing Corp. has offices in Georgia and employs over 600 workers.

# Illinois agencies present awards for contractors

The Illinois Road and Transportation Builders Association (IRTBA) hosted the 2016 Contractor of the Year Awards, the state's largest gathering of transportation design and construction professionals.

Five major transportation agencies – the Illinois Department of Transportation (IDOT), the Illinois Tollway, Chicago Department of Transportation (CDOT), Metra, and the Chicago Department of Aviation (CDA) – along with five county departments of transportation – recognized companies that have given taxpayers an exceptional return on their investment by exceeding project expectations.

A special focus was made this year on IRTBA's Friend of the Industry Award, which was instituted in 1998, and is the highest honor bestowed by the Association. This year's Friend of the Industry Award was bestowed upon Senator William R. Haine and Representative Brandon Phelps.

The Safe Roads Amendment passed with overwhelming bipartisan support and went on to get the stamp of approval from the voting public. The passage of the Amendment shows that Republicans and Democrats can find common ground to make the State of Illinois a better, safer place to live and work.

For a full list of award recipients and featured projects, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

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# PLASTICS

## Marine litter reduction efforts grew in 2016

Seven new signatories were added to The Declaration of the Global Plastics Associations for Solutions on Marine Litter, also informally known as the "Joint Declaration" in 2016. New participants include the American Fiber Manufacturers Association (AFMA), the Bangladesh Plastic Goods Manufacturers & Exporters Association (BPG-MEA), the Flexible Packaging Association (FPA), the Ghanaian Plastics Manufacturers Association (GPMA), the Myanmar Plastics Industries Association (MPIA), the Indonesian Olefins, Aromatics and Plastics Association (INAPLA), and the Vietnam Plastics Association (VPA).

"We're excited to welcome each of these new partners, who bring perspectives from countries in Asia and Africa, or types of plastic not previously repre-

sented in our joint declaration" said Steve Russell, vice president, Plastics, American Chemistry Council, at the 27th Global Meeting on Plastics and Sustainability in Hanoi, Vietnam. At the meeting, delegates also agreed that going forward the group will become the "Global Plastics Alliance."

Delegates from 17 countries and four continents participated in the Global Meeting – making this the largest and best attended meeting to date.

"Addressing marine litter issues effectively requires that we bring local, regional and global stakeholders together," said Karl-H. Foerster, executive director of PlasticsEurope. "Broadening our fold helps us find new partners and opportunities to tackle this very serious problem."

The Global Declaration was launched in March 2011 at the 5th International Marine Debris Conference. Now, the Declaration has been signed by 69 plastics associations from regions across the globe. Recognizing their important role in fighting marine litter, these plastics associations have launched and are supporting projects in six key areas aimed at contributing to sustainable solutions. The six focus areas of the global declaration are education, research, public policy, sharing best practices, plastics recycling/recovery, and plastic pellet containment.

In May, leaders from plastics organizations across the globe announced that there were approximately 260 projects planned, underway or completed.

## Plastics Industry Association drops SPI

SPI: The Plastics Industry Trade Association announced its new name, Plastics Industry Association, PLASTICS for short, and unveiled a new website. PLASTICS, the association's new identity, builds upon nearly 80 years of a strong history of fostering collaboration among the entire plastics supply chain.

PLASTICS unveiled a new logo, which represents the six facets of the plastics industry supply chain. Moving forward, the plastics industry will grow and support sustainability and find ways to make recycling easier, hence the association also added its new, and first-ever tagline: "Better Industry. Better World."



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## California again voted to ban plastic shopping bags

Proponents of ban declare landmark victory

Californians have voted to enact a state law to ban plastic shopping bags, the first state in the nation to do so.

Proposition 67, the referendum on the state law (Senate Bill 270) passed by the Legislature and signed by Gov. Jerry Brown in September 2014, is leading by 52 to 48 percent. The law had been challenged by the out-of-state plastic bag industry, which spent more than \$6 million to defeat it. The bag manufacturers have issued a statement conceding.

Proposition 65, another measure put on the ballot by the plastic bag industry, was defeated by a 10 point margin, 55 to 45 percent.

The law will take effect immediately. It was originally designed to take effect on July 1, 2015 for grocery stores and July 1, 2016 for other retailers.

More than 151 California communities already have local plastic bags in place. The passage of Prop 67 extends the ban to the remainder of the state.

The yes vote on Prop 67 was backed by a diverse coalition of more than 500 organizations, ranging from environmental groups to business organizations and dozens of cities and counties. They included: Environment California, Heal the Bay, the NAACP, Save the Bay, the Los Angeles Chamber of Commerce, the California League of Cities, Azul, and the California Labor Federation. The Yes campaign also received the support of more than 40 newspapers.

More than 40 percent of California communities are already living without plastic shopping bags through local ordinance.

More than 70 percent of the Yes on 67 campaign's funding came from environmental contributors. More than 4,000 individual contributors donated to the campaign. The plastic bag industry had just four contributors.

*A woman caught her husband on the scale, sucking in his stomach. "That won't help you, silly!"*

*"Oh, it helps a lot," said the man, "it's the only way I can see the numbers!"*

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## BUSINESS BRIEFS

### Navistar opens used truck reconditioning facility

■ Navistar recently held a grand opening of its used truck reconditioning center in Melrose Park, Illinois. The event signaled a new chapter for the Diamond Renewed certified brand of used International® trucks.

With the closure and sale of the Indianapolis Center, Navistar reviewed potential replacement options and decided on co-locating to the Melrose Park prototype and testing facility, near Chicago. "One of the greatest advantages of a centralized reconditioning center is the ability to work hand-in-hand with the on-site product engineering and prototype team in order to fully understand product durability and use this knowledge to provide the highest level of service to our customers," said Jeff Heichel, vice president, used truck operations, Navistar.

A centralized reconditioning center supports used truck activities by examining the Diamond Renewed reconditioning process to ensure a consistent product is available to all international dealers and Navistar's own 15 used truck sales centers. Additional benefits of the reconditioning center include the ability to handle large transactions in a timely fashion, ensure quality improvements and meet internal cost targets.

The Reconditioning Center in Melrose Park is fully scalable to meet demands and includes a wash bay, detailing and paint booth, welding room and a parts storage area.

Navistar plans to relocate its nearby international used truck sales center to its Melrose Park facility in the new year, creating a flagship location that incorporates full range capabilities provided by the new reconditioning center.

### Wastebuilt appoints Podell as vice chair of the board

■ Wastebuilt Environmental Solutions, LLC, a provider of parts, service, and equipment for the waste and recycling industry, announced that Greg Podell will transition from chief executive officer to vice chairman of the board. Taking over day-to-day responsibilities at Wastebuilt is chief operating officer Dave McKeon, who joined the company in February 2016.

McKeon will assume operating responsibility. McKeon joined Wastebuilt with considerable experience managing all facets of industrial distribution, manufacturing, and service. Prior to joining Wastebuilt, he spent nine years as president of C&H Distributors, where he ran its North American operations. His extensive operating experience also includes leadership positions with McMaster-Carr Supply, Beckley Cardy Group and USABlueBook.

### ProMed Waste acquires waste transport company

■ ProMed Waste Solutions LLC, a comprehensive medical waste disposal company servicing the entire state of Florida, has acquired American Medical Transporters, Inc.

The acquisition of the Largo based company marks the third acquisition since September of 2015 for ProMed Waste Solutions, continuing an aggressive strategy to increase service route density by providing more resources within key geographic markets.

Financial terms of the transaction were not disclosed.

The addition of American Medical Transporters, recognized as the oldest medical transport company licensed in Florida, supports the company's goal of leading the way in compliance, safety and customer service.

ProMed Waste Solutions was founded in 2011 with operations in the Orlando area, and steady demand has since expanded their services state-wide. The privately held company is headquartered in St. Petersburg, Florida, with additional operation facilities outside Miami and outside Orlando.

### Green EnviroTech Holdings appoints Bowers as CEO

■ Green EnviroTech Holdings Corp. has appointed Chris Bowers as president, chief executive officer and director of GETH with immediate effect. Gary De Laurentiis will continue in his role as chairman of GETH and will lead on business development activity for the company. For the foreseeable future, Bowers will also continue in his role as president of Smart Fuel Solutions, Inc.

Bowers is an experienced executive, entrepreneur, angel investor and consultant who has worked all over the world. He spent two decades in the high tech industry working with senior leaders in many companies, including the president and chief executive officer of Philips Electronics; and he was a member of the executive staff at Applied Materials. During his business career, Bowers has established, grown and downsized country operations, founded and led consulting practices, led numerous company functions, and been involved in M&A deals and integrations. In the last few years Bowers has also been directly involved in philanthropy and pro-bono work with Stanford Hospital, with Santa Clara University both in the Miller Center for Social Entrepreneurship and in the Business School; with Second Harvest Food Bank and with The Tech Awards. Bowers started his career with the British military, serving for 5 years with the UK Special Forces.

### Terramac appoints Kirby-Smith as authorized dealer

■ Terramac, a manufacturer of rubber track crawler carriers, expanded its representation in the North American market to include Kirby-Smith as part of its dealer network. Kirby-Smith will represent the versatile Terramac product line in Oklahoma.

Kirby-Smith will offer Terramac crawler carriers to serve the pipeline industry with customizable equipment that accommodates various pipeline applications. In addition to Terramac's three standard options – convertible dump-to-flat beds, rock dump beds and flatbeds – Kirby-Smith will offer Terramac units customized with support attachments such as hydroseeders, vacuum excavators and tack rigs. With the addition of the versatile Terramac product line Kirby-Smith also plans to identify and expand into other markets.

The team at Kirby-Smith will provide professional sales, rental and after-market support for Terramac products. Kirby-Smith's knowledgeable staff has been fully trained in the application, sales, parts and service side of the Terramac product line and stands ready to offer prompt and professional customer support.

Kirby-Smith Machinery, Inc. is a distributor of heavy construction equipment, industrial equipment and cranes. Kirby-Smith serves the construction, paving, industrial, aggregate, pipeline/oilfield service and various other industries with 10 full-service locations.

### John Snell joins TruStar Energy as CFO

■ TruStar Energy, developers of compressed natural gas (CNG) fueling stations, has hired John Snell as its chief financial officer. Snell comes to TruStar Energy with over 15 years of accounting, operations, and finance experience in public, private, and multinational corporate settings.

Snell, a California State University graduate, spent the last 13 years with the accounting firm Moss Adams, serving in various audit, consulting, accounting, operations and finance rolls. Most notably, he was named a partner in the firm in 2014. Snell has more than 17 years of experience in corporate finance, strategy operations, financial planning, forensic accounting, internal audit and risk management.

As the leader of the southwest region of Moss Adams Business Risk Services, Snell helped companies comply with SEC and GAAP reporting regulations, increase profit, and design corporate structure. He has given speaking engagements for nationally recognized associations on various industry leading topics including PCAOB changing landscape, COSO framework 2012 and FATCA compliance.

Additionally, over the past five years Snell has directed forensic investigations leading to sizable cost recoveries. He has operationally driven efficiencies in inventory costing, revenue recognition and expense management.

*A man asked his wife what she'd like for her birthday. "I'd love to be six again," she replied. On the morning of her birthday, he got her up bright and early and off they went to a local theme park. What a day! He put her on every ride in the park!*

*Five hours later she staggered out of the theme park, her head reeling and her stomach upside down. She wobbled home with her husband and collapsed into bed.*

*He leaned over and lovingly asked, "Well, dear, what was it like being six again?"*

*One eye opened. The wife said, "You idiot, I meant my dress size!"*

*The moral of this story is: If a woman speaks and a man is actually listening, he will still get it wrong.*

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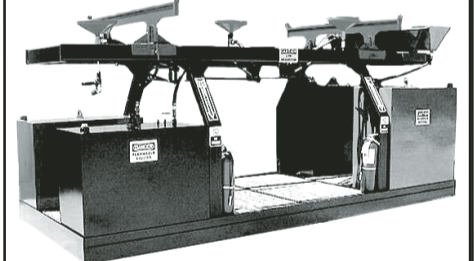
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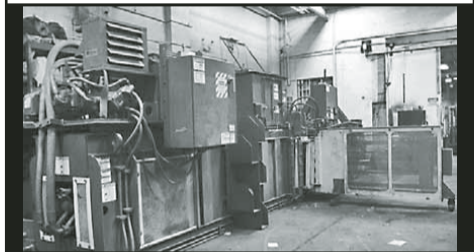


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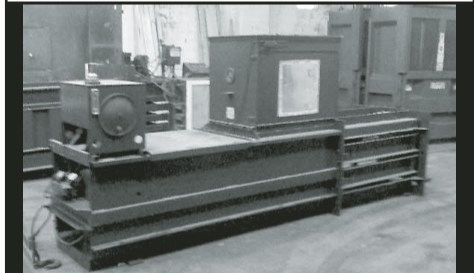
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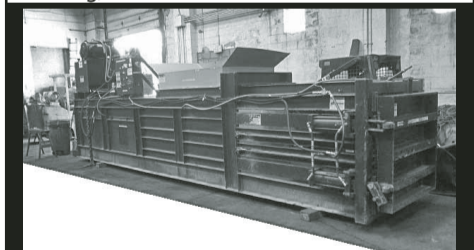
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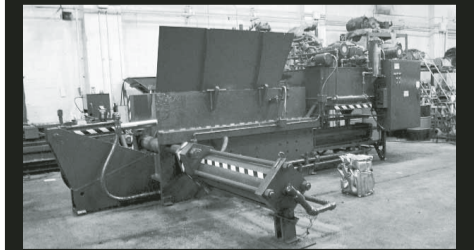
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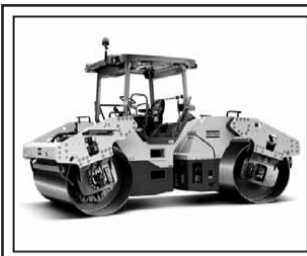
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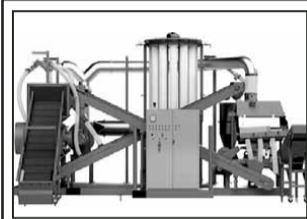
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Just unveiled by Copper Recovery, Inc. is Phoenix, a turnkey mini-plant that can process 1,200 to 2,500 lbs. per hour of mixed cable.

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## BUSINESS BRIEFS

### AWMI elects new leadership for 2017-2018

■ The Association of Women in the Metal Industries (AWMI) held its 2017-2018 elections. Two year term positions voted on include the president and vice president of the AWMI. Voting took place at the 2016 Annual Conference.

Carol Chizmar has been elected the president of AWMI. She has worked in the industry for 35 years in a variety of roles including sales management, supply chain and is currently working as new business coordinator-fabrication. Chizmar works for Sapa Extrusions North America which was previously Alcoa, Alumax and Cressona Aluminum Company, all through acquisitions.

Sonya Malvick has been elected the vice-president of AWMI. She has been in the steel industry for over 20 years holding a variety of sales and sales management roles with companies such as Russel Metals, J&F Steel, and Ratner Steel. Malvick currently works for Olympic Steel as a Wisconsin outside sales territory manager.

Mary Pollen will serve another two year term as the international marketing chair. She is currently general manager of sales at Michigan Seamless Tube & Pipe.

Victoria Zanutto-Kautz is again the international mentoring chair of AWMI. She is currently the administrative assistant to the general manager at Ryerson in Livermore, California.

Two regional directors were re-elected for a second term: Leah Mojeski as the Central Regional director for AWMI. Mojeski works for ArcelorMittal Dofasco in the national real estate department, representing the company's Canadian holdings.

Liza Godsil is the western regional director for AWMI. Godsil is the outside sales manager for Bralco Metals in Seattle, Washington.

Becky Hites will serve her first term as the southern regional director. Hites is the president of Steel-Insights, LLC.

The AWMI is a volunteer run organization dedicated to the growth of women in the metals industries.

### Jeremy Miller reelected to Minnesota Senate

■ Jeremy Miller of Wm. Miller Scrap Iron & Metal Co. in Winona, Minnesota was recently reelected to his third term in the Minnesota Senate. Miller was also appointed as deputy majority leader and chairman of the Senate Jobs and Economic Growth Finance and Policy Committee.

Miller, along with his brother Willie, is the fourth generation to be involved in his family's scrap and recycling business located in southeastern Minnesota. He currently serves as chief financial officer for the company and his many responsibilities include overseeing the company's quality, environmental, health and safety management system as well as domestic and global non ferrous and eScrap sales.

### Waste Industries acquires Cardinal Waste Solutions

■ Waste Industries has acquired Cardinal Waste Solutions in Atlanta, Georgia, merging the operation into its existing Atlanta assets, operated out of Waste Industries' Fairburn location. The acquisition closed November 1, 2016, with November operating as a transitional month with a full operational transfer effective December 1.

Cardinal Waste customers will see no changes at this time to their existing service plans with the acquisition. Waste Industries is absorbing the Cardinal customer service team, phone number, and website to ensure a smooth and effective transfer of operations from Cardinal Waste to Waste Industries.

Waste Industries is a regional provider of non-hazardous solid waste collection, transfer, recycling, and disposal services. The company currently operates in North Carolina, South Carolina, Georgia, Tennessee, Virginia, Maryland and Delaware.

### Louisville Tractor joins Bandit dealer network

■ Bandit Industries welcomed Louisville Tractor Inc. as the company's newest Bandit Authorized Dealer for small equipment sales, parts and service.

Louisville Tractor will serve customers in southern Indiana and north central Kentucky, focusing on hand-fed chippers and stump grinders.

With over 40 years of service to Louisville and surrounding communities, Louisville Tractor Inc. offers a wide range of experience among their staff, including specialized Bandit parts and service training. All sales and service takes place at the company's Louisville location at 1675 Watterson Trail.

### Nucor Corporation to acquire Southland Tube

■ Nucor Corporation has agreed to acquire Southland Tube, an independent manufacturer of hollow structural section (HSS) steel tubing, for \$130 million, or approximately eight times the average EBITDA over the 2011 to 2016 period.

HSS is used in a broad array of structural and mechanical applications including nonresidential construction, infrastructure, and heavy equipment end-use markets. Southland Tube has one facility located in Birmingham, Alabama, which is well situated to serve the HSS market. Approximately 280 non-unionized teammates work at the Birmingham facility. With annual shipments of about 240,000 tons, Southland Tube has the third largest market share in HSS steel tubing.

Through the acquisitions of Independence Tube and Southland Tube, Nucor is building a market leadership position. In 2006, 8 percent of Nucor's total steel mill shipments were to downstream businesses. The company expects that number to grow to about 20 percent with these acquisitions.



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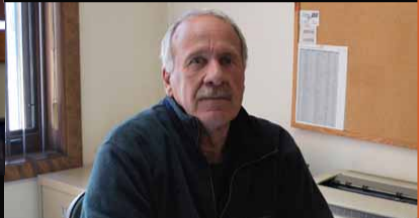
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# The expansive effect of the commodities market

by MAURA KELLER

[mkeller@americanrecycler.com](mailto:mkeller@americanrecycler.com)

With the price of commodities, such as plastics, metal and paper, all in the proverbial “dumps,” the recycling industry is trending toward employing recycling programs that can result in potential commodity revenue.

According to Javier Flaim, chief executive officer of Recyclebank, as many in the industry have felt, they certainly have witnessed “recycling headwinds” in the waste and recycling market – including depressed commodity prices for fiber, glass, aluminum and even petroleum, as a raw material source for plastic. Recyclebank is a company that partners with municipalities to increase recycling rates by offering rewards and insight to consumers. The company is currently working with 300 communities big and small.

“This in turn has impacted cities and municipal infrastructure and recycling programs as potential sources of commodity revenue and costs or fees associated with deployment of programs have become more challenged,” Flaim said. “While we have seen some recent short-term recovery in some commodity prices, this has forced the industry to find greater and greater opportunities to find value and returns on their waste and sustainability programs. And regardless of where commodity values are heading in the future, this has forced many cities and municipalities to continue to innovate and become more focused with their specific recycling initiatives.”

The Bloomberg Commodity Index (BCOM) Report for November 2016 indicates that the November jump in bond yields and the spread between industrial metals versus precious metals may be just a bounce from historically depressed levels or a new beginning.

“Over the past years, metals prices have weakened due to sluggish global growth and low raw material prices,” said Meg Morris, vice president of materials management and community affairs at Covanta. “Now with the push for infrastructure spending, metals prices have been tracking up, but still remain fairly low. Plastic and paper have also begun to track up recently.”

As Flaim explained, even with the recycling commodity headwinds, the need, desire and focus for recycling and sustainability programs is clearly still strong and vibrant for municipalities. Residents have adopted and expected their cities to offer and provide sustainable waste and recycling services.

“With respect to waste, municipalities still have the opportunity to avoid landfill disposal tipping fees if they can effectively manage their waste solutions and drive higher levels of recycling diversion,” Flaim said. “And with respect to recycling commodities themselves – even with depressed market prices – cities still have the opportunity to capture revenue, particularly for higher value commodities such as fiber.”

The critical element now becomes improvement in resident participation to further improve volumes, reduction with the overall contamination of recyclables to improve the value of the recyclables, and identification of additional opportunities to improve overall diversion, such as through additional programs including composting or eWaste.

“We believe that at the heart of many of these initiatives is a need for resident education, and even incentives, so that residents can directly impact and



PHOTO COURTESY OF THE DOW CHEMICAL COMPANY

participate in this vital economic equation,” Flaim said.

## Commodity Monitoring

The commodity markets are an important part of the recycling value chain for cities, haulers and even residents as they can directly impact the value and reinvestment opportunities available for any given municipality.

“The current state of commodity pricing is driving an argument that the costs of recycling outweigh the benefits,” Morris said. “The reasoning is that in down commodity markets, the cost of recycling and recovering materials is higher than the cost to produce and use virgin materials.”

But while recycling opponents talk about how difficult it is to recycle, the industry has continued to find innovative ways to make it easier. By making recycling part of our everyday experience, our time and effort shapes a new mindset focused on strengthening the community.

“In just the last few decades, a new recycling mindset has transformed human habits around waste disposal,” Morris said. “Technology and a more comprehensive recycling strategy have sparked new green industries, bringing jobs, improved energy security, protecting communities and generating impressive value for citizens.”

And while commodity pricing is important to municipalities, of equal importance is the concept of avoided cost, i.e. paying less to recycle than to dispose.

In addition, as Flaim explained, monitoring specific commodities is vital in having an understanding of the potential end markets opportunities for the specific commodity streams.

“Many cities now understand this marketplace is dynamic – many are moving from the previous model or contract of only revenue share of the sale of recyclables to now also taking into account cost of collection, processing and end-market value as the new norm,” Flaim said. “Once again, we believe that this does not detract or diminish from the overall need of recycling programs in general, but instead, forces us in the industry to focus on innovative ways to continue to drive value through waste reduction, waste diversion, improved recycling economics such as through reduced contamination and better resident education and incentives – while doing so in an economically viable and equitable way for all players throughout the chain.”

Morris stressed that companies should understand the many reasons that municipalities will continue to recycle in a down commodity environment. First, the materials have intrinsic value, which will increase as the market slowly recovers.

“Because the success or failure of recycling programs hinge on human awareness, behavior and habit, it’s counterproductive to start and stop recycling programs too frequently, leading to wasted resources,” Morris said.

Second, experience shows that when we stop innovating during difficult times, we fall behind, impeding progress when the good times return.

“Like commodities, waste generation cycles often mirror that of the global economy; the upside is that down cycles force us to find ways to increase productivity, brainstorm new business models and drive down costs to stay competitive,” Morris said.

## Unique Innovations

In an effort to offset the impact the varying commodity prices can have on municipalities’ recycling efforts, companies and municipal government are joining forces to establish innovative strategies for recycling.

For example, The Dow Chemical Company, Reynolds Consumer Products, Recyclebank, First Star Recycling, Conagra Brands, and Systech Environmental Corporation launched the Hefty Energy Bag program in September 2016 with support from Omaha Mayor Jean Stothert. According to the Environmental Protection Agency, Americans landfill 25 million tons of plastic waste each year. To help change that, Dow teamed with municipal and industry partners to implement an alternative for plastic waste with the Hefty Energy Bag Program.

According to Han Zhang, Ph.D., sustainability and advocacy manager at Dow Packaging & Specialty Plastics, the Hefty Energy Bag program is a waste management program designed to convert non-recycled plastics into energy used to produce cement in the Omaha area. Dow helped launch the first phase of the program for Recyclebank’s 6,000 existing members in the Omaha area. The mayor of Omaha supports the program and recently announced the city will be issuing 2,500 roller bins so more citizens can participate.

“Programs such as Hefty Energy Bag could achieve positive long term environmental and economic advantages, including fewer tons of landfill trash, more energy resources, and less dependence on

See **COMMODITIES**, Page B7

## Carroll County, Indiana to benefit from new plastics recycled to renewable diesel facility

State and local officials joined officials from GEP Fuel & Energy Indiana to disclose its decision to build two facilities in Carroll County, Indiana.

GEP Fuel & Energy Indiana will refine recyclable and non-recyclable waste plastic into renewable fuels by developing a recycling center and constructing a plastics to renewable diesel facility.

GEP Fuel & Energy Indiana president Stephen Hogan announced the recycling center will add 155 to 165 new jobs by 2020 with an average salary of \$43,680-\$49,920.

The decision to locate the recycling center, Camden Recycling, LLC, south of Camden near State Road 75 was three pronged.

"Carroll County made sense because of its close proximity to consumer plastic. There was also a logistics advantage in locating the project on a railroad operated by U S Rail Corporation. Also, state and local officials offered a strong incentive package," explained Hogan.

"The diesel refinery will employ 91 by the end of 2018. The facility will cost between \$200 to \$350 million," said Prehm.

"The project is using groundbreaking technology and environmentally-friendly recycling and manufacturing methods," added Prehm.

The combined capital investment for the project is \$300 to \$410 million and 246 to 256 new jobs.

Texas and Pennsylvania were also considered for this project.

The Indiana Economic Development Corporation (IEDC) offered GEP Fuel & Energy Indiana up to \$2,000,000 in conditional tax credits based on the company's job creation plans. These tax credits are performance-based, meaning until Hoosiers are hired, the company is not eligible to claim incentives.

"Here in Indiana, job creation is job one, and we are pleased GEP Fuel & Energy Indiana chose to locate here in a state that works," said Jim Schellinger, president of the Indiana Economic Development Corporation. "As the Crossroads of America, Indiana offers companies a central location and an infrastructure that ranks best in the nation, supporting companies like GEP Fuel & Energy as they ship their products across the country. Indiana's low-cost, low-tax, limited-regulation business climate is now recognized as one of the top states for business, and as we enter our state's third century, I am confident we will build on this momentum by advancing talent attraction and workforce development, allowing job creators like GEP Fuel & Energy to thrive."

"We are very proud that U.S. Rail was able to convince GEP to give serious consideration to the Indiana site, and settle on Indiana rather than Texas. The economics of building in Indiana made all the sense in the world," said Hall.

The logistics of the Camden site was important for transporting waste plastic into the recycling center, Camden Recycling, LLC, as well as transporting the finished product out bound.

"Rail is the most economical form of transportation, especially when it is served by a local railroad that connects to both NS and CSX", Hall said. "These connections give GEP Fuel & Energy Indiana access to every rail served location in the lower 48 states, Canada and everywhere in the South American continent. It provides an economic edge over competitors with very competitive transportation rates which will be very attractive to customers," added Hall.

Carroll County officials came together to put the most competitive offer on the table and to respond to the company in a timely manner, according to Carroll County Economic Development Corp. Executive Director Laura Walls.

The site selector for the companies is JM Tax Advocates of Fishers, Indiana. Its president Josh Malancuk explained what put Carroll County at the top of the list:

- Carroll County offered the companies a tax abatement on real and personal property, pending approval at a public hearing in December.

- Construction is slated to begin on the facilities in early 2017 as weather permits. A public groundbreaking will be held in spring 2017.

## Virginia Recycling Association awards Republic Services

The Virginia Recycling Association has named Republic's Northern Virginia Recycling Center the winner of the Outstanding Service Provider of the Year Award. The award was presented at the Virginia Recycling Association annual membership meeting and awards ceremony in Harrisonburg, Virginia.

The Northern Virginia Recycling Center has been recognized as one of the largest recycling centers in the state serving over 140,000 households and 5,000 commercial and industrial businesses each month. Republic has made numerous investments to improve the recycling center's processing capabilities as part of a large revitalization project. With more than 80 full time employees, the center has the ability to process between 11,000 and 14,000 tons of material per month. Recycling rates have increased by approximately nine percent with the implementation of single stream recycling.

The Northern Virginia Recycling Center system features 29 quality control personnel per shift for production of marketable materials; 5 mechanical sorters including 3 optical sorters, 1 magnetic sort and 1 eddy current; 8 screens to include 1 old corrugated cardboard, 6 paper screens and 1 glass screen; 2 balers for preparing commodities for shipment; and 75 conveyor belts throughout the recycling center.

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# Refuse and recycling collection career has fifth highest fatality rate

The U.S. Bureau of Labor Statistics (BLS) released 2015 final figures for industry and occupational fatality data. In its 2015 Census of Fatal Occupational Injuries Summary, BLS detailed that refuse and recyclable material collectors, as an occupation, ranked fifth among American workers, with a total of 33 fatalities in 2015, up from 27 in 2014 and 33 in 2013.

A National Waste & Recycling Association (NWRA) analysis of the just-released final data shows that a majority of this increase was attributable to an increase in fatalities in the private sector. For the refuse and recyclable material collectors, fatalities increased in the private sector to 24 up from 18 the prior year. Fatalities in the public sector for this occupation held steady at nine.

Both the private and public sectors are one fatality over their five year average. The incidence rate moved upward to 38.8 fatalities per 100,000 workers from 35.8 in 2014.

BLS also analyzes data by industry, and in the industry defined as Solid Waste Collection in 2015, decreased by 10 percent to 36 fatalities, 27 in the private sector and 9 in the public sector. The data shows that the Refuse and Recyclable Material Collectors occupation account for three-fourths of the fatalities in the Solid Waste Collection industry. The private landfill industry, after not having any fatalities in the past two years, incurred nine fatalities in 2015. Private material recovery facilities incurred three fatalities in 2015, up from zero fatalities the prior year.

Both private and public sector waste and recycling operations had 50 fatalities in 2015, up from 40 in 2014 and driven up mainly by fatalities at the landfill. The last time this number was 50 or higher was in 2008 when 54 fatalities occurred.

Nationally, across all industries tracked by BLS, including government,

fatalities rose slightly (0.3 percent) in 2015 to 4,836. For all private industries, fatalities fell to 4,379 in 2015 from 4,386 the previous year.

NWRA, which represents private industry waste and recycling companies nationwide, has spearheaded a comprehensive industry-wide series of initiatives in concert with its member companies aimed at reducing fatalities, injuries and accidents. In March 2016, NWRA led a Safety Summit with leading safety professionals in the private waste and recycling industry and adopted a three year strategic plan designed to reduce the rates of fatality, injuries and accidents through industry wide measurement, collaboration and process improvement.

In 2016, NWRA initiated a series of weekly Safety Stand Downs to focus on specific causes of accidents and injuries. NWRA's January 2016 Stand Down focused on the dangers associated with the backing of vehicles. NWRA's May 16 through 20 Stand Down will focus on Water, Rest and Shade as the summer months approach. An NWRA analysis found that at least three fatalities were attributable to extreme heat exposure between 2012 and 2013.

Over the past three years, NWRA and its chapters nationwide have successfully championed "Slow Down to Get Around" legislation, which is now the law in 10 states and under consideration in several more. These laws require that motorists slow down when waste and recycling collection vehicles are stopped and workers are getting on and off.

NWRA and its members have undertaken numerous initiatives that represent a comprehensive approach to improving safety for workers in the waste and recycling industry.

For a full list of the initiatives, view this article on [www.AmericanRecycler.com](http://www.AmericanRecycler.com).

# Keep America Beautiful unveils results of national consumer recycling survey

While the majority of consumers believe many of the issues related to recycling have improved since the 1970s, such as ease of recycling and the amount of waste that is recycled, most consumers feel the amount of waste in landfills and oceans is worse, according to the first "Consumer Tracker Recycling Survey," released by national non-profit Keep America Beautiful and Natural Marketing Institute, a national market research firm.

The national recycling survey, conducted online among a representative sampling of 1,000 American adult consumers, focused on measuring consumers' recycling attitudes and behaviors and, ultimately, what prevents consumers from recycling.

While 71 percent of consumers believe both the ease of recycling and the amount of products made from recycled material are better than in the past, and 63 percent believe the amount of waste recycled has improved, it's notable that those surveyed believe the amount of waste in oceans is worse (41 percent) and the amount of waste in landfills is worse (36 percent). These beliefs could be why consumers offer as their top reasons they recycle are to reduce the amount of waste going into landfills (51 percent) and to conserve the earth's resources by re-using material (43 percent).


While consumers indicate a strong desire to recycle at their curb, at work

or school, and on the go, they display a level of skepticism about recycling that may be a barrier to more recycling taking place.

Of the respondents, 33 percent indicated that they are "skeptical that the recycling I put on the curb actually gets recycled" and 27 percent believed "the trash collector puts the recycling in the same truck with the regular trash." Millennials surveyed had a higher degree of skepticism, with 43 percent being skeptical about what happens to their curbside recyclables and 39 percent indicating a belief that their recycling gets mixed with their regular trash. Moreover, 31 percent of millennials (20 percent of the general population) believe that the recycling process is harmful to the environment.

Because of their concern about excess waste, consumers are taking notice of how products are packaged and are becoming less tolerant of over-packaged items. In fact, consumers indicated a desire for more packaging that can be recycled (62 percent) and recycled content in their packaging (58 percent). If a brand or company encourages recycling, 62 percent of Millennials (53 percent of the general population) indicated a greater likelihood to purchase that product.

Twice as many consumers recycle because it makes them feel better to do so than those who do it simply to reduce their trash collection bill.



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# EQUIPMENT SPOTLIGHT

## Truck Scales

by MARY M. COX

maryc@americanrecycler.com

Truck scales are an integral part of the waste and recycling markets because of the information they can provide relative to aspects involving route management, regulation, maintenance, safety and tracking of material being transported.

Jonathan Sabo is vice president of marketing at Cardinal Scale. He commented, "The Armor® truck scale is engineered with state-of-the-art robotics and represents over 70 years of our scale manufacturing experience. The scale is installed at metal recycling and solid waste facilities around the world, commonly weighing over 100 trucks per day at busy facilities. Available in impervious hydraulic or electronic load cell types, the Armor's durable baked on, anti-corrosion tan



Rice Lake Weighing Systems

powder paint stands the test of time. The legal for trade NTEP Armor arrives fully prepared for installation and includes 75,000 lb. capacity stainless steel load cells standard, which are factory assembled. A wide selection of capacities, platform sizes and types are available."

Every Armor truck scale is 100 percent assembled and tested in the Cardinal factory before shipping to your location and the Armor scale arrives ready for concrete pouring. No rebar or other materials are required due to Cardinal's exclusive con-lock system, specially designed for concrete to flow through the I-beams and lock into place.

Cardinal's Scrapper series truck scales are engineered for scrap yards, recycling centers, and landscaping facilities requiring a medium duty NTEP legal-for-trade scale at an economical price. The Scrapper utilizes

the proven PSC high-tensile strength, prestress concrete deck weighbridge that is 10 ft. wide with lengths up to 52.5 ft. long. Product capacities range from 25 tons up to 45 tons (25 ton CLC), "providing an excellent low cost scale for mid-sized trucks and pick-up trucks pulling trailers," Sabo said.

He added, "Recycling is a fast growing and lucrative industry, and Cardinal Scale's Scrapper provides customers with an inexpensive truck scale marketed specifically for the salvage and recycling industry. We offer the widest range of truck scale technology and applications available from one manufacturer: portable axle, weigh-in-motion, self-contained, electro-mechanical, electronic, and hydraulic."

According to Joe Grell, vice president of heavy capacity products, "Rice Lake Weighing Systems has manufactured and distributed the highest quality weighing products since 1946. Our Survivor line is the industry's quality-driven brand of truck scales. They contain up to 25 percent more structural steel than others on the market, and are built tough to provide a minimum of 25 years of reliable service. Recycling plants and transfer stations need heavy-duty truck scales to keep material moving and operations running smoothly."

"With a Survivor, you are guaranteed a product that was manufactured according to ISO 9001 quality guidelines, one that has been designed and tested to ensure structural integrity, and one that has earned NTEP certification if needed for the application, up to 16.5 feet wide on



Cardinal Scale Mfg. Co.

most models. Every special order truck scale is subjected to the same design and testing methods as standard models. We even employ a heavy capacity design team strictly for custom-designed truck scales."

Grell noted "A truck scale is a relatively large investment; one that should only have to be made once a generation. If you're in the market to purchase a truck scale, you should focus on quality and longevity. With a Survivor, it will be the only truck scale you purchase during your tenure. Also, having an open relationship with your scale dealer and the scale manufacturer is key to ensuring your scale will fit all of your requirements, even if custom designs are involved. Your truck scale is your cash register. You can't afford unexpected downtime, and you shouldn't settle for a scale with a lifespan of seven to 10 years."

The truck scale market is now in its third phase of introducing new electronic truck scales. Many of these scales will replace older mechanical scales, or first or second generation electronic truck scales. "Depending on the scale manufacturer, a truck scale

See TRUCK SCALES, Page B6



Southwestern Scale Co., Inc.

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# Covanta Tulsa celebrates 30 years of service

Covanta Tulsa, the energy-from-waste facility which serves the City of Tulsa, neighboring communities and local businesses with a sustainable alternative to landfills, is celebrating 30 years of reliable operations. Since 1986, the facility has processed approximately 9 million tons of waste, saving more than 75 acres of land from being developed into landfills and has generated the equivalent of 4 million megawatt hours of electricity, enough to supply the needs of over 12,000 homes every year.

“Thirty years ago, the City of Tulsa faced a dual challenge: finding a disposal location for the citizens’ trash and a means to manage volatile natural gas prices during the era of deregulation,” stated U.S. Senator Jim Inhofe. “Energy-from-waste solved both of these challenges. Walter B. Hall, and many others, had a vision for Tulsa and Covanta Tulsa continues to fulfill that vision. The facility is providing a zero landfill alternative which helps this community and Northeast Oklahoma with economic development opportunities and overall resiliency.”

Located in West Tulsa, the Covanta Tulsa Renewable Energy facility processes 1,125 tons per day of municipal solid waste, generating up to 265,000 pounds per hour of steam. A portion of the steam powers a turbine and in turn, generates clean, renewable energy that is sold to the Public Service Company of Oklahoma.

The remaining steam is exported to Holly Frontier, Inc., a neighboring refinery, offsetting the refinery’s need to use fossil fuels to supply its energy needs. The facility is also a large recycler of metal – recovering 168,000 tons of ferrous metal over the past 30 years.

To commemorate 30 years of sustainable operations, Covanta Tulsa has partnered with non-profit Up With Trees and plans to donate 30 trees to Eugene Field Elementary School over the next several years. Covanta Tulsa

donated an initial 23 food bearing trees to the nearby school earlier this year, allowing all 23 classes to participate first-hand in the planting and caring for the trees.

In 2012, Covanta Tulsa received the Henry Bellmon Sustainability Award, a statewide award in Oklahoma that recognizes organizations that are dedicated to a balanced approach toward quality of life for all, responsible economic growth and

environmental stewardship. The facility also provides local communities with safe destruction of unwanted pharmaceuticals through its Rx4Safety program, which helps deter prescription drug abuse and protects waterways and drinking water from pollution. To date, more than 125,000 pounds of medication have been destroyed by Covanta Tulsa through a partnership with the Oklahoma Bureau of Narcotics.



(L to R) Mike Neal, president and CEO of the Tulsa Regional Chamber of Commerce, Steve Jones, president and CEO of Covanta and Matt Newman, business manager at Covanta Tulsa.

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## U.S. EPA releases final report on impacts from hydraulic fracturing activities on drinking water resources

The U.S. Environmental Protection Agency (EPA) is releasing its scientific report on the impacts from hydraulic fracturing activities on drinking water resources, which provides states and others the scientific foundation to better protect drinking water resources in areas where hydraulic fracturing is occurring or being considered. The report, done at the request of Congress, provides scientific evidence that hydraulic fracturing activities can impact drinking water resources in the U.S. under some circumstances.

As part of the report, EPA identified conditions under which impacts from hydraulic fracturing activities can be more frequent or severe. The report also identifies uncertainties and data gaps. These uncertainties and data gaps limited EPA's ability to fully assess impacts to drinking water resources both locally and nationally. These final conclusions are based upon review of over 1,200 cited scientific sources; feedback from an independent peer review conducted by EPA's Science Advisory Board; input from engaged stakeholders; and new research conducted as part of the study.

"The value of high quality science has never been more important in helping to guide decisions around our nation's fragile water resources. EPA's assessment provides the scientific foundation for local decision makers, industry, and communities that are looking to protect public health and drinking water resources and make more informed decisions about hydraulic fracturing activities," said Dr. Thomas A. Burke, EPA's science advisor and deputy assistant administrator of EPA's Office of Research and Development. "This assessment is the most complete compilation to date of national scientific data on the relationship of drinking water resources and hydraulic fracturing."

The report is organized around activities in the hydraulic fracturing water cycle and their potential to impact drinking water resources. The stages include: (1) acquiring water to be used for hydraulic fracturing (water acquisition), (2) mixing the water with chemical additives to make hydraulic fracturing fluids (chemical mixing), (3) injecting hydraulic fracturing fluids into the production well to create and grow fractures in the targeted production zone (well injection), (4) collecting the wastewater that returns through the well after injection (produced water handling), and (5) managing the wastewater through disposal or reuse methods (wastewater disposal and reuse).

EPA identified cases of impacts on drinking water at each stage in the hydraulic fracturing water cycle. Impacts cited in the report generally occurred near hydraulically fractured oil and gas production wells and ranged in severity, from temporary changes in water quality,

to contamination that made private drinking water wells unusable.

As part of the report, EPA identified certain conditions under which impacts from hydraulic fracturing activities can be more frequent or severe, including:

- Water withdrawals for hydraulic fracturing in times or areas of low water availability, particularly in areas with limited or declining groundwater resources;

- Spills during the management of hydraulic fracturing fluids and chemicals or produced water that result in large volumes or high concentrations of chemicals reaching groundwater resources;

- Injection of hydraulic fracturing fluids into wells with inadequate mechanical integrity, allowing gases or liquids to move to groundwater resources;

- Injection of hydraulic fracturing fluids directly into groundwater resources;

- Discharge of inadequately treated hydraulic fracturing wastewater to surface water resources; and

- Disposal or storage of hydraulic fracturing wastewater in unlined pits, resulting in contamination of groundwater resources.

The report provides valuable information about potential vulnerabilities to drinking water resources, but was not designed to be a list of documented impacts.

Data gaps and uncertainties limited EPA's ability to fully assess the potential impacts on drinking water resources both locally and nationally. Generally, comprehensive information on the location of activities in the hydraulic fracturing water cycle is lacking, either because it is not collected, not publicly available, or prohibitively difficult to aggregate. In places where we know activities in the hydraulic fracturing water cycle have occurred, data that could be used to characterize hydraulic fracturing-related chemicals in the environment before, during, and after hydraulic fracturing were scarce. Because of these data gaps and uncertainties, as well as others described in the assessment, it was not possible to fully characterize the severity of impacts, nor was it possible to calculate or estimate the national frequency of impacts on drinking water resources from activities in the hydraulic fracturing water cycle.

EPA's final assessment benefited from extensive stakeholder engagement with states, tribes, industry, non-governmental organizations, the scientific community, and the public. This broad engagement helped to ensure that the final assessment report reflects current practices in hydraulic fracturing and uses all data and information available to the agency. This report advances the science. The understanding of the potential impacts from hydraulic fracturing on drinking water resources will continue to improve over time as new information becomes available.

## Twenty five communities meet environmental goals

The U.S. Environmental Protection Agency (EPA) disclosed that 25 communities will receive technical assistance to pursue development strategies that advance clean air, clean water, economic development and other local goals. EPA selected the communities from among 76 applicants to the Building Blocks for Sustainable Communities program. In 2017, EPA staff and national experts will conduct one to two day workshops to help the community address development oriented issues.

"Through our Building Blocks program, local leaders can guide their communities towards a healthier, more vibrant future," said EPA administrator Gina McCarthy. "Communities shouldn't have to choose between protecting the environment and creating economic opportunity."

EPA selected the following communities, located in 19 states: Skykomish, Washington; Willamina, Oregon; Bishop, California; Apache Junction, Arizona; Questa, New Mexico; Raton, New Mexico; Pueblo, Colorado; Oglala Sioux Tribe, Pine Ridge, South Dakota; Randolph, Nebraska; Brownsville, Texas; Logansport, Louisiana; Acadia Parish, Louisiana;

Winona, Minnesota; Detroit, Michigan; Fairview Park, Ohio; Manatee County, Florida; Miami, Florida; Myrtle Beach, South Carolina; Pocomoke City, Maryland; Baltimore, Maryland; Kingston, New York; Central Falls, Rhode Island; Wareham, Massachusetts; Hartford, Connecticut; and Lenox, Massachusetts.

The agency is offering five assistance tools this year: Green and Complete Streets, Equitable Development, Planning for Infill Development, Sustainable Strategies for Small Cities and Rural Areas, and Flood Resilience for Riverine and Coastal Communities. Using the Green and Complete Streets tool, for example, EPA will assist Manatee County, Florida by exploring how the county could develop long term stormwater plans for the 15th Street corridor. These plans would create green space, encourage redevelopment, and reduce flooding while cleaning runoff before it pollutes the Sarasota Bay. EPA will also work with Winona, Minnesota to create a plan that will help the community develop within geographical constraints that include the Mississippi River on one side and bluffs on the other.

## Truck scales

■Continued from Page B4

may last seven to 10 years for a lower quality scale on the market, or 25 years for a Survivor. The industry is limited in suppliers for custom replacement truck scales – only a few manufacturers will supply them. Very few will work with you like Rice Lake to ensure dimensions are exact and specifications meet operation needs. Also, the industry is trending toward an emphasis on automated ticketing. Most accidents involving truck scale drivers occur when drivers are outside of their vehicles. Scale owners seek solutions to keep drivers in their trucks to finish a transaction safely. Automated ticketing kiosks keep drivers safe within their trucks, and help limit accident liability on your property," commented Grell.

"As the most comprehensive weighing solutions sales and service provider in the regional southwestern U.S., we manufacture the Sidewinder Truck Scale among other manufacturer's brands," explained Mark Murdza, sales and business development manager, Southwestern Scale Company, Inc. The Sidewinder is available in lengths from 20' to 120' and is offered in concrete deck or steel deck options, using 3/8" tread plate. The above ground truck scale design is based on 24" I-beam construction featuring side access suspensions for ease of maintenance, integrated wheel curbs to minimize wheel damage, can be used

in permanent or portable configurations, and comes standard with a 10 year weighbridge warranty.

Murdza said, "The Sidewinder is used by a majority of waste and scrap materials operations in the southwest, in both the public and private sector and some of these scales weigh over 200 trucks per day. Truck scales are capital expenditures for our customers and ROI is operationally dependent, based on volumes and projections and can be a challenging prospect. The waste and recycling markets are primarily tied to capturing and retaining weight data, automated ticketed and unmanned systems. Our systems integrations team delivers efficient solutions to our clients, based on their requirements and defined scope of work."

Walz Scale has developed new technology that allows municipal waste operations to better manage inbound streams of material by volume. "Our volumetric scanning technology can be used with or without a truck scale. If used with a truck scale we are able to deliver material density information per load. This new technology is ideal for tracking loads by volume in real time along with high definition load imagery for each load. The system is ideal for waste industry firms that seek new technologies to better manage material loads and reduce on-site labor costs," Matt Walz, vice president, stated. He said systems can be installed on-site in as little as one hour and do not require a large investment in infrastructure.

*Just went to an emotional wedding. Even the cake was in tiers.*

# Insight on glass recycling gained by officials

More than 150 local and state government representatives reaped insights during a Making Glass Recycling Work in MRFs webinar recently hosted by the Glass Recycling Coalition (GRC).

Cal Tigchelaar of Resource Management Companies and Rusty Angel from Machinex co-presented the challenges and solutions for effectively managing and cleaning glass in single-stream material recovery facilities.

"The message for the past few years has put glass in the doldrums, but what we heard during this webinar is really encouraging for communities that want to recycle their glass," said Susie Gordon, waste reduction & recycling program manager for the City of Fort Collins, Colorado, who moderated the webinar. "Of course, it's important to keep working on contamination issues, but we shouldn't be intimidated by glass clean up, especially when we learn the market is calling for more glass."

Making Glass Recycling Work in MRFs provided a behind the scenes look at single stream MRFs equipped with technology to clean and capture quality glass. Attendees learned about how investments in single stream MRF technology can pay for themselves with higher returns of recyclable glass. The presenters went into details about various options for end-markets and the growing demand for high quality glass cullet.

"Single stream processing is challenging with or without the inclusion of glass but, like it or not, it is currently the collection and processing system of choice for residential materials" said Tigchelaar. "Given the prevalence of single-stream collection and processing across the nation, at this time it is the most effective way to capture the residential glass stream in non-deposit state programs. The environmental benefit gained when recycling glass in bottle-to-bottle

applications, fiberglass manufacturing, sandblast media, etc. outweighs the processing difficulties and low value of this material."

"It is important to us to reach out to recycling coordinators because many do not have the opportunity to tour MRFs and see what it takes to process the glass," said Erica Seibert of Emterra, the Glass Champions committee chair and member of the GRC. "We want to help equip communities with information about options and best practices for glass recovery so they can make decisions to benefit their communities and the environment."

The GRC encourages involvement with local glass champions who want to impact glass recycling in their communities positively. GRC provides a forum for municipalities to participate in initiatives like this webinar to help keep glass recycling in local collection programs.

Making Glass Recycling Work in MRFs key takeaways:

- 90 percent of Americans say they want to recycle glass according to a 2016 national poll by SurveyUSA

- Glass cleaning systems in MRFs are capable of cleaning 3-mix glass from 3/8" to 2 1/4" in size to provide better feedstock for further beneficiation

- There is currently a shortage of glass beneficiation capacity throughout the country

- MRFs that make a reasonable capital investment can create a sustainable business model that includes glass

- Significant market capacity exists to accept additional glass volumes

- Using glass cullet in place of virgin materials reduces carbon emissions, energy consumption and fusion loss in the bottle manufacturing and insulation manufacturing industries

## Commodities

■Continued from Page B1

fossil fuel energy," Zhang said. "By collaborating with brand owners, packaging converters, and industry associations with broad knowledge regarding plastics, sustainability topics, and consumer marketing to help solve issues encountered in the initial pilot, the Hefty Energy Bag aims to continue validating such findings while discovering even more ways to recover materials for future programs."

The Hefty Energy Bag program in the Omaha area could divert up to 36 tons of landfill waste in the initial launch phase. This would displace the use of 50 tons of coal, or the equivalent amount of petroleum coke per year in local cement kilns.

As the program expands, they are also testing different energy recovery outlets. "While we send most of the Omaha Hefty Energy Bags as alternative fuels to a local cement kiln to replace coal and petroleum coke, we are also sending a portion to pyrolysis companies, such as Nexus Fuels and Vadxx, so they can test and validate the bags' contents. Both companies confirmed that the Hefty Energy Bag contents could be processed in their commercial units," Zhang said. "We will continue to innovate and collaborate to find the best possible solutions to keep trash out of landfills and keep resources at their highest value throughout their life cycle."

### A Solid Outlook

While recycling programs should stand regardless of the markets, recycling may not always pencil out by

itself. However, Morris said if we consider the enormous impact of externalities such as carbon emissions, damage to public health and loss of resources, the math would be entirely different.

"Even at today's recycling rates, the avoided greenhouse gas emissions alone represent \$8 to \$12 billion a year in avoided future costs associated with climate change," Morris said.

There are a few trends that Recyclebank believes have emerged because of the recent downturn and volatility in recycling commodity values. These include:

- A continued focus on higher-value commodities as well as finding end-markets/economically viable opportunities for lower value recycling commodities

- Greater focus on leveraging data and technology to help better understand areas of opportunity within waste and recycling

- Leverage impact of resident education and incentives improve participation and efforts to "recycle right" to improve recycling value

- Continue to innovate on the "business model" and economics of recycling, not only understanding the value of specific commodities, but a holistic value chain understanding of package recyclability, collection/processing, end-markets and the overall "carbon footprint" and impact of these efforts.

"The environmental and social benefits of recycling will continue to reshape American communities into richer, healthier and fundamentally improved places," Morris said. "This is despite the vagaries of the recycling commodity market."

## City of Los Angeles overhauls waste management system

Following a historic vote by the Los Angeles City Council, multiple members of the City Council held a press conference alongside 200 members of the Don't Waste LA Coalition in celebration of the final approval of the Zero Waste LA exclusive franchise system.

Zero Waste LA will make Los Angeles a national leader in modern and sustainable waste collection, and set the city on track for diverting 90 percent of its waste from landfills by 2025. With this new system, all city residents and businesses will have access to recycling, expanded compost collection and improved job quality.

Councilwoman Nury Martinez underscored the long process that the city has undertaken with a goal of increasing recycling, reducing greenhouse gases, and lifting health and safety standards in one of the most dangerous industries in the nation. The Councilwoman said, "I championed Zero Waste LA from day one as an environmental justice advocate. Now, six years later, I'm thrilled to cast my vote for this historic legislation as the councilwoman from the San Fernando Valley. I applaud all of our city council and community advocates who have remained

steadfast on this journey to ensure that LA will lead the way to modern and sustainable waste management for cities across the country. This effort will help communities that have been traditionally hurt by this industry. I'll always be an environmental justice advocate at heart, and today's vote makes me very proud."

The policy has also been lauded by national organizations including the Natural Resources Defense Council. Linda Escalante, an Environmental Policy Advocate for the organization, stated "The Natural Resources Defense Council applauds the City of LA on a historic shift to a system that will now turn waste into a valuable resource instead of burying it in landfills. Zero Waste LA establishes a framework for efficient organics collection, and will prioritize food recovery for needy families instead of tossing our food into a landfill to rot."

The high workplace standards set in Zero Waste LA will protect workers in what is ranked as the fifth most dangerous job in the U.S. Ron Herrera, secretary treasurer of Teamsters Local 396 concluded, "Waste workers in LA will now be able to provide a decent living for their families without putting their lives at risk."

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