The Dangers of “Wishcycling”

As the impacts of China’s new import policies to reduce trash in the recyclables begin to impact our collection programs, you may be seeing a lot more articles about the health of recycling, both locally and across the globe. In many cases, these articles are communicating the same basic information:

♦ Recycling contamination – or the percentage of trash mixed with recyclables – has increased and it’s jeopardizing the global recycling industry
♦ Going forward, China will not purchase recyclables if there is just a fraction of trash mixed with the items
♦ As a result, we all must focus our efforts on recycling the right items the right way

To that end, the following quote is from a recent article by Nina Butler of More Recycling, who describes the need to focus on collection:

“Many recycling entities…are facing severe financial challenges right now despite the environmental benefits that come when recovered materials are used to make new products. In short, the market for recycled materials is broken. We have equated collection with recycling when in reality that is just the first of many steps to ensure complete reabsorption of resources.”

Ms. Butler drives to the heart of one of the key challenges we are up against as we struggle to reduce contamination in recycling programs. Messaging has historically emphasized the importance of placing recyclables in recycling carts. As a result, consumers now equate the placement of materials in their recycling cart with recycling. From there, it is out-of-sight-out-of-mind and it is up to recyclers to ensure that discarded materials are recycled into new products.

This poses a difficult education challenge, since it’s hard to teach consumers that their materials are only recycled when they replace virgin materials – not...
when they’re collected. It’s only when this substitution happens that we realize the environmental and economic benefits of recycling. And, in fact, placing non-recyclable materials into the cart leads to additional economic and environmental costs, with no benefits and (ironically) less recycling. We call this wishful recycling “wishcycling” and it is lethal to our nation’s recycling programs.

**Why it’s important to only recycle the right items**

So, why is wishcycling such a problem? There are multiple reasons, but what it all boils down to is that non-recyclables in the recycling carts ultimately get sorted out at the recycling facility and disposed of as trash. In other words, “wishcycling” does no one any favors, except adding costs and reducing the amount of items that can ultimately be recycled.

For example, the average contamination rate for materials that we collect in curbside recycling programs has grown to about 25%. That means that 500 pounds of every 2,000 pounds that we collect at the curb is ultimately discarded as non-recyclable. This increases the cost of recycling by increasing the cost of sorting materials, transporting and disposing of trash, and also includes the lost value of good recyclables that are ruined due to contamination.

At a global level, years of wishcycling across the world have contributed to end markets like China to get more strict on what they’ll ultimately purchase and recycle into new materials.

Toward the end of last year, China began instituting a new contamination limit that requires processors like Waste Management to shrink that 500 pounds of contamination to 10 pounds (0.5%). That’s like shrinking something the size of a grizzly bear down to a puppy. And with these new guidelines comes even higher processing costs, while at the same time commodity prices are at long-time lows. Mix all this together and the economics of recycling are certainly under pressure.

**It’s time to right the ship**

Focusing on recycling the right things correctly has never been more important. At Waste Management, we are focusing on quality, increasing demand, and reducing the economic and environmental impact of the materials we manage for our customers.

However, for recycling to be successful and sustainable for years to come, we must all commit to recycling only the right things the right way.

Collecting materials is not the same as recycling them. It’s only when a material is recycled into something else that we realize the economic and environmental benefits. Anything short of this, and we’re simply creating a problem that results in a negative environmental impact.

Help solve this problem by learning the do’s and don’ts by visiting RORR.com, and be sure to share this story!

Written By: Susan Robinson, Waste Management, Inc.
Submitted by: Chuck Raudenbush

Photo Credit: Twitter.com #wishcycle
Food Waste Recycling Opportunities in the Mid-Atlantic

Most folks agree that disposal of food waste is not the best use for this energy and nutrient-rich material, but what are the options? Finding a cost-effective solution for recycling food waste can be challenging and does the option work? The Mid-Atlantic Bioenergy Council (MABEC) will focus upon options for food waste in prime time by bringing together a dozen experts this September 12-14 in Philadelphia at the MABEX major bioenergy conference and expo. MABEC is an organization that focuses on alternative energy from biomass and includes waste materials.

To cover business and logistics of recycling food waste, via anaerobic digestion, MABEX will feature speakers from 4 different projects, private, public and USEPA, which are successfully digesting food waste. The speakers will cover what makes a project economically successful and also some of the common pitfalls that food waste digestion projects can encounter to help others avoid similar issues. Attendees will also get an early look at brand new data on food waste digestion.

On the policy front, Nic Esposito from the City of Philadelphia will join Steve Changris from the National Waste and Recycling Association (NWRA) and some experts from New York City and elsewhere. They’ll discuss how organics waste plans are working already (or not) and what the next steps might be to put similar policies in place in PA, NJ, MD and NY state. The September conference will also have information about the Renewable Fuel Standard, RINs and how to generate maximum revenue from food waste, whether digested or landfilled. The balance of the conference will have a variety of biomass and energy topics.

The Mid-Atlantic Bioenergy Council (MABEC)’s signature event, the Mid-Atlantic Bioenergy Conference & Expo (MABEX) is the biggest and only bioenergy conference focused on the growing industry of biomass in the Mid-Atlantic. Now in its fourth year, MABEX 2018 expects to draw nearly 300 attendees to downtown Philadelphia, PA, on September 12th through the 14th. The September 12-13 conference boasts multiple sessions and tracks, with the expo floor open all day. On September 14, two bus tours will visit bioenergy sites in the Philadelphia area. CEU credit approval is pending.

For information on MABEX 2018, including registration, sponsorship, exhibitors, program, media partners, supporting organizations, and location, visit: www.mabex.org.

SWANA members and friends can enjoy a special discount on non-member registration by using the code 2018SWANA.
The Lancaster County Solid Waste Management Authority (LCSWMA) announces the internal succession of Robert “Bob” Zorbaugh as the next CEP, starting January 1, 219. The decision was ratified by LCSWMA’s Board of Directors at their March 16th public meeting.

“The Board has great confidence in Bob’s diverse leadership experience and unique abilities,” says Steve Dzurik, LCSWMA’s Board Chair. “He brings a considerable knowledge base, deep industry respect, and great energy to this role. We believe Bob is well positioned to lead LCSWMA to continue its long history of excellence and service to our community.”

Zorbaugh is a 28-year veteran of the solid waste industry, with expertise in facilities management, operational efficiency and safety, capital project management, environmental compliance, and technical services.

His career with LCSWMA began in 1990 as a Construction Inspector at the Frey Farm Landfill. Zorbaugh then served in progressing management roles for LCSWMA, including Landfill Manager (1993–2001), Operations Manager (2001–2010), and Chief Operating Officer (2010–2018). During his tenure with LCSWMA, Zorbaugh directed several, critical projects and initiative that positioned the organization as a nationally-recognized operation within the solid waste industry, as well as a respected, valued, and trusted community partner in Lancaster and Dauphin Counties.

Highlights from Zorbaugh’s career include:

- Directing a 400,000-ton reclamation project at the Frey Farm Landfill (1991–1996), which involved the excavation, processing, and transportation of landfilled waste for waste-to-energy processing – the first project of its kind in Pennsylvania.
- Launching an enhanced, comprehensive Safety Program (2002), with LCSWMA receiving numerous safety awards that recognized its stellar record of safe operations for employees, customers, and the community.
- Directing the design, construction, and operations of a $34 million revitalization of LCSWMA’s Transfer Station Complex (2005–2007), including the first (and only) drive-through Household Hazardous Waste Facility in Pennsylvania.
- Directing the operations of a $23 million revitalization of the Susquehanna Resource Management Complex (SRMC) in Harrisburg (2014), including transforming the aesthetics of the site, improving operational efficiencies, and enhancing customer service.
- Achieving an outstanding environmental compliance history at all LCSWMA permitted facilities, including over 25-years of zero DEP violations at the Frey Farm Landfill.
- Fostering a culture of excellent customer services at LCSWMA, including a focus on offering a quality ex-
Zorbaugh says, “I’m honored the Board selected me as the next CEP for this great organization, of which I’ve been a part for almost three decades. I’m also excited about LCSWMA’s future and look forward to continue working with our outstanding employees to fulfill the organization’s mission.”

Starting this August, Zorbaugh will serve as co-CEO with LCSWMA’s current leader, Jim Warner, as Zorbaugh transitions in to the CEP role on January 1, 2019. He conveys gratitude for Warner’s leadership, saying, “Jim has been a wonderful Mentor during my career at LCSWMA, and I appreciate all that he has given to not only myself, but the organization and community as well.”

Warner, who is retiring at the end of the year, reflects that “Bob has been critical to our success as an organization. He offers a unique combination of knowledge, experience, and skills that strongly positions him to lead LCSWMA into the future. I believe our Board made a wise decision, and I look forward to assisting Bob’s transition into his new role as CEO.”

Beyond LCSWMA, Zorbaugh is a respected leader within the local community and the solid waste industry. He most recently served as Board President (2015-2016) for the Keystone Chapter of the Solid Waste Association of North America (SWANA), LCSWMA’s industry association.

Bob holds a B.S. in Geo-Environmental Science for Shippensburg University, as well as several operational certifications from SWANA.

Written By: Kathryn Sandoe, Chief Communications Officer at LCSWMA
Published: March 16, 2018
Source: LCSWMA News Release
The Solid Waste Association of North America (SWANA) and the Institute of Scrap Recycling Industries (ISRI) announce their partnership on the 2018 MRF Summit, to be held at SWANA’s WASTECON conference August 20–23 in Nashville, Tennessee.

The MRF Summit will provide materials recovery facility (MRF) owners, municipal solid waste professionals, consumer products companies, and government officials with a forum to discuss MRF issues and challenges, such as contamination, technology, and industry policy.

“SWANA is excited to host this important and timely event at WASTECON, as MRFs struggle to address the challenges posed by more stringent contamination standards and a changing waste stream,” said David Biderman, SWANA’s executive director and CEO. “We have collaborated with ISRI in several areas over the past few years, and this joint MRF Summit marks another significant milestone in our strong relationship.”

Through the MRF Summit, stakeholders from all areas of the recycling supply chain can come together and address common issues; the event will raise awareness among SWANA members about ISRI’s Inbound Material Specifications and encourage all participants to collaborate on developing innovative solutions to current industry challenges.

“This summit is the first-of-its-kind, bringing together consumer brand owners, material recovery facilities, mass retailers, scrap consumers, trade organizations, and municipal solid waste leaders to debate the pros, cons, and realities of recycling different types of materials,” said Robin Wiener, president of ISRI. “With curbside residential recycling upended by China restrictions and contamination, this is expected to host the most spirited debates that have ever occurred in this industry.”

Held at SWANA’s largest annual conference for the solid waste and recycling industry, the MRF Summit will offer a special “track” for WASTECON attendees, featuring unique sessions, keynote addresses from environmental leaders, and networking events for industry professionals.

About SWANA:
The Solid Waste Association of North America (SWANA) is an organization of more than 10,000 public and private sector professionals committed to advancing from solid waste management to resource management through their shared emphasis on education, advocacy and research. For more than 50 years, SWANA has been the leading association in the solid waste management field. SWANA serves industry professionals through technical conferences, certifications, publications, and a large offering of technical training courses. For more information, visit swana.org.

About ISRI:
The Institute of Scrap Recycling Industries, Inc. (ISRI) is the “Voice of the Recycling Industry.” ISRI represents more than 1,300 companies in 21 chapters in the U.S. and more than 40 countries that process, broker, and consume scrap commodities, including metals, paper, plastics, glass, rubber, electronics, and textiles. With headquarters in Washington, DC, the Institute provides education, advocacy, safety and compliance training, and promotes public awareness of the vital role recycling plays in the U.S. economy, global trade, the environment and sustainable development. Generating nearly $117 billion annually in U.S. economic activity, the scrap recycling industry provides nearly half a million Americans with good jobs. For more information, visit isri.org.
The Road-E-O is Coming Soon and We Want You!

The Mid-Atlantic Regional Landfill Equipment Operator & Truck Driver ROAD-E-O

Date: Friday June 22, 2018

Location: Midshore II Regional Solid Waste Facility
12236 River Road
Ridgely, MD 21660
410-634-9304

Directions: From MD 480, proceed on River Road past the main entrance to the landfill. Take the next right on gravel road into the Road-E-O area. Signs will be posted. From Holly Road, proceed on River Road taking the first left before the main landfill entrance.

Agenda: Thursday, June 21
Welcome Dinner, 6PM to 9 PM (Confirmed guests and registrants only.)
The American Legion-Denton, Maryland Post 29
9238 Legion Road, Denton, MD 21629
(410) 479-0105

Friday, June 22
6:30 - 7:30 AM - Registration / Continental Breakfast
7:30 AM - Operator Maintenance & Safety Check (Pre-Trip)
8:00 - 12:00 PM - Skills Tests
Lunch and Awards Ceremony immediately following last event on-site in the maintenance building.

Questions about registration?
Tim Ford (410) 729-8303
Angie Irwin (410) 729-8207

Hosted by the SWANA Mid-Atlantic Chapter

2018 Safety Summit a Big Success

On Wednesday May 9th, the Keystone Chapter of the Solid Waste Association of North America held its annual Safety Summit at the Best Western Premier Central Hotel and Conference Center in Harrisburg, PA.

Some of topics presented included:
- ACT 90 - presented by Mr. Dana Aunkst from PA Department of Environmental Protection.
- Drive Cam – presented by Kevin Weaver from the Lancaster County Solid Waste Management Authority.
- Smart Phone Applications - presented by John Alevito from Montauk Energy.
- Landfill Safety (Looking at the Big Picture) - presented by David Horne, Chester County Solid Waste Authority.

The summit included three morning sessions, which was followed by lunch and a networking period. With our bellies full we sat in on the last presentation of the afternoon.

There were thirty-five (35) members in attendance representing various sectors of the solid waste industry.

The next Chapter Safety Summit is tentatively scheduled for the 2019 Fall Annual Conference.

Written By: David Horne - CCSWA
In a city where city collection crews service 540,000 households, thinking big is the norm. That became abundantly clear when the city of Philadelphia announced its plan to send nothing to disposal by 2035.

It’s the latest and most ambitious goal for the City of Brotherly Love, which has been recycling for more than 30 years, thanks to community interest that predates Pennsylvania’s statewide recycling requirements. “Philadelphia has a very active advocacy history for recycling, and the city has certainly benefited from that,” said Marisa Lau, acting recycling coordinator.

The city now has an action plan solidified by a mayoral executive order, and a government committee is charged with making zero waste happen. City officials credit its progress to committed elected officials and efforts to bring together a variety of interest groups.

Program evolution
Pennsylvania’s State Recycling Act 101 passed in 1988, requiring certain communities to have recycling programs in place, based on population and density. But Philadelphia had been recycling for some time before the mandate, collecting newspaper through a curbside program since 1984.

Mandates and legislation have backed that advocacy up with statutory requirements over the years, pushing the city’s recycling initiatives forward. Commercial properties, for example, have been statutorily required to recycle at least the same materials as residents since 1994. And municipal buildings have been required to recycle since 1996.

In 2009, the city fully adopted weekly, single-stream recycling collection, which had been phased in over several years. The program has gradually accepted more materials over the years, most recently adding aluminum and steel baking tins and aluminum foil. Currently, the program accepts paper, cardboard, newsprint, aluminum containers, tin/steel/bimetal containers, plastic food and beverage containers and packaging, aseptic cartons and packaging, and glass.

Philadelphia has a residential diversion rate of roughly 21 percent. Its commercial rate, not including C&D materials, is about 47 percent. The commercial sector generates about three-quarters of the material in the waste stream. Combining residential and commercial, the city states its citywide diversion rate is about 37 percent.

City crews collect residential recycling, and commercial is handled by the private sector. The city owns a transfer station and the recycling collection trucks. Currently, the city contracts with a Republic Services MRF for materials processing. Philadelphia city crews service 540,000 residential households. A minor portion of that is small businesses that are eligible for city collection, and city routes also include small multi-family properties of up to six units. But the majority is single-family residential homes.

Public works crews collect about 12,000 tons of recyclables per month. The material has a contamination rate...
that ranges between 15 and 19 percent. For single-family homes, recycling is funded through taxes without any extra fees, and households are automatically enrolled in recycling collection service.

Philadelphia recently completed a waste characterization study, which was carried out throughout 2017. The study provided a number of details that would guide future diversion planning. For instance, it showed that 30 percent of the city’s waste stream was organics.

“It kind of confirmed what we were thinking – it’s not possible for us to get to zero waste just by increasing our recycling rate,” Lau said. “It’s going to take waste reduction, and adding new materials to the program.”

The plan to propel diversion
Communities statewide in Pennsylvania are required to strive for 35 percent diversion, and Philadelphia has had a 50 percent goal for years. But in 2016, the city officially set its goal as zero waste by 2035, and formed an action plan of steps it will take to get there.

To hit zero waste, the city plans to reduce its waste generation and increase diversion to 90 percent through recycling and composting. The remaining 10 percent of waste material would be sent to waste-to-energy operations.

That’s going to take work on a number of fronts. City-owned buildings will begin a new reporting process to track progress toward waste reduction. The city also began requiring special events to provide recycling service. The program provides city volunteers to help attendees sort their waste at these public events. In addition, Philadelphia has a longstanding recycling rewards program run by Recyclebank.

“The key is that they’re not just rewarding people for recycling at home – they’re able to reward them for a whole range of zero waste actions, which includes volunteering at these zero waste events,” Lau said.

Connecting waste and litter
The current zero waste action plan is tied closely to the city’s top elected official. While campaigning, Philadelphia Mayor James Kenney made a pledge to find a solution to the city’s “historic and seemingly intractable litter problem,” explained Nic Esposito, director of the zero waste and litter program.

“When [the mayor] studied the issue, he didn’t see waste and litter as two separate issues,” Esposito said. The goal was to shift waste management practices as a whole, rather than only step up litter cleanup efforts. “He knew that a very ambitious goal like zero waste would not be taken seriously or even work when the city streets look the way they do,” Esposito said.

Esposito credits the successful development of the zero waste plan to strong community organizing and pairing waste management improvements with litter cleanup efforts.

“No every department or community stakeholder is going to care about waste, but when you can show them how better waste management practices will help reduce litter – which they do care about – then you’ve got them,” Esposito said.

Written By: Colin Staub
Published: April 2, 2018
Cosmic Cleanup: Understanding Space Debris

Waste haulers have an incredibly dangerous job, but in one very small way, they can count themselves lucky. The trash they’re collecting stays put. If the garbage bags were flying through the air at 15,000 miles per hour instead, it would be a bit harder to get them in the truck.

Crazy as it sounds, that’s precisely the dilemma taking place just outside Earth’s atmosphere that John Arwood is hoping to solve. Arwood, the CEO of Jacksonville, Fla.-based Arwood Waste and the founder of National Garbage Man Day, is working to remove dangerous debris from Earth’s orbit through a new venture called Space Waste Solutions. “My whole thing is to come up with a solution to handle the waste problem up there,” says Arwood.

The problem isn’t easily solved, however. Millions of human-made objects are caught in low Earth orbit (LEO) at all times, causing real threats to the working satellites and threatening to make LEO impassable in the future. Arwood’s solution, dubbed the Solar Space Waste Incineration System (Patent Pending), is designed to latch onto dangerous debris and essentially drag it out of Earth’s orbit toward the Sun, or at least out of harm’s way.

Some objects in orbit are very large, like the Chinese space station Tiangong-1, which weighs 19,000 pounds and recently re-entered Earth’s atmosphere. The U.S. Space Surveillance Network also tracks approximately 18,000 pieces of debris larger than 10 centimeters, 1,200 of which are working satellites.

However, the vast majority of the debris is quite small. Based on research and tracking from the U.S. Space Surveillance Network, it’s estimated that there could be as many as 750,000 objects about one centimeter in size, also known as flying bullets, and around 150 million objects smaller than one millimeter traveling in LEO.

Most of the objects floating in LEO were caused by the intentional destruction of a Chinese spacecraft, the Fengyn-1C, in 2007. That explosion, along with an accidental collision between an American and Russian spacecraft in 2009, has increased the large debris floating in LEO by roughly 70 percent.

A one-centimeter object may not seem like it could cause any trouble, but it’s important to remember the speed at which this debris is hurtling through space. A tiny fleck of paint traveling at four miles per second, for example, can carry the same force as a 550-pound object traveling at 60 miles per hour. Even the tiniest collisions can make enormous dents. Collisions, when they do occur, mean even more debris, and more debris means a greater potential for collisions.

The worst-case scenario, first introduced by National Aeronautics and Space Administration (NASA) scientist Don-
Kessler Syndrome, is a catastrophic domino effect in which satellites collide with debris and disintegrate into several large fragments that then cause their own separate collisions, on and on until LEO becomes a gauntlet too dangerous for humans or satellites to pass through.

Such an event would have wide-reaching implications on the way we live our lives, so many scientists and entrepreneurs, including Arwood, are intent on tidying up before it happens. Due to the incipient commercialization of space travel, says Arwood, they may have their work cut out for them. “It’s going to be a problem that gets greater and greater,” says Arwood.

Arwood’s incineration system would help make the LEO more easily navigable, removing pieces of debris that would otherwise create a barrier between Earth’s atmosphere and its higher orbits. The vehicle wouldn’t escort the trash all 93 million miles to the Sun, but according to Arwood, that wouldn’t really be necessary anyway.

“It may not make it all the way to the Sun, but it will get it out of the same orbit where it could possibly fall to Earth,” he says. Due to the very nature of its mission, the incineration system wouldn’t be able to make repeat trips, so duplicates would have to be constructed to deal with more debris. “It’s a one off,” he says. “It’s like a kamikaze.” Even though it sounds like science fiction, Arwood is actually far from the only person combating this problem.

Researchers in Europe are working on a futuristic harpoon capable of capturing arguably the largest piece of space debris risk currently orbiting the Earth: the defunct European Envisat satellite. Eighty-five feet in length, the satellite stopped responding unexpectedly in 2012, and, if undisturbed, it’s expected to keep circling Earth for another 150 years before falling and burning up in Earth’s atmosphere.

Remaining undisturbed isn’t a given for Envisat, however, since its orbit flies dangerously close to other objects, sometimes as close as 600 feet away. A collision with Envisat could easily have Kesslerian consequences, so the European Space Agency (ESA) and aerospace company Airbus are hoping to take matters into their own hands.

The two groups have developed a metal harpoon that could theoretically be shot from a “chaser” spacecraft and embed itself in Envisat, allowing the first spacecraft to tow the behemoth back into Earth’s atmosphere and out of harm’s way. The project, which is currently undergoing tests, could be carried out in the mid-2020s.

Another strategy that has been considered and developed over the years is what’s called a “laser broom.” An extremely powerful laser would fire at debris from Earth’s surface, disintegrating a small piece of the object and thereby creating drag that could slow the junk down and allow it to burn up on re-entry.

This strategy has several practical advantages, mainly that shooting a laser from Earth is much cheaper than launching an object into space. However, hitting a small piece of space debris from hundreds of miles away in just the right way is an incredibly difficult task, and it could be many years until researchers have perfected the technology.

Researchers have estimated that removing five to ten pieces of debris each year should be enough to keep LEO safe and avoid catastrophic collisions. Although that’s a small number compared to millions of pieces of debris, it’s less trivial when considering that each expedition will cost tens of millions of dollars to carry out.

Arwood, however, is optimistic that it can be done, and once the safety of LEO is secure, Arwood jokes that his next project will be to procure the waste collection franchise for all of outer space. “I’ll have a bigger franchise than Waste Management,” he says. For all our sake, let’s hope business is very slow.

Written By: Hunter Kuffel
Published: March 30, 2018
Seneca Landfill Opens CNG Facility Fueled by LFG

Seneca Landfill, Inc. (Seneca) recently opened a fast-fill compressed natural gas (CNG) facility, under the name of Lego-V, at their municipal waste landfill situated in Evans City, PA that utilizes renewable landfill biogas. Seneca is a division of Vogel Holding, Inc. (Vogel), a family-run business for 60 years. They are the first company in Pennsylvania to capture the landfill gas that they generate, refine it into natural gas, and then compress it into CNG fuel used by the same vehicles that collect the waste that is deposited into the landfill. Lego-V’s CNG station will also be open to the public, which will make the opportunity for fleet conversion to CNG for local haulers and other fleet operators in the area more viable.

Seneca operates an active gas collection system consisting of a series of vertical gas wells connected to horizontal piping that conveys landfill gas to an on-site processing facility that has been in operation since 2011. The facility, owned and operated by Seneca, utilizes compression, multiple stages of cleaning and filtering, and a gas separation system to separate the methane and carbon dioxide to create saleable utility grade fuel. The processed biogas is directly injected into the Peoples Gas pipeline, approximately 2 miles away. The biogas produced maintains a sufficiently high BTU (heating value) that consistently meets the minimum 970 BTU/SCF requirements for injection into the commercial natural gas distribution system.

Vogel recognized that the high heating value and low moisture content of the biogas would make it ideal transportation fuel. Installation of an on-site CNG facility would allow their hauling companies to continue their conversion from gasoline and diesel fuel to CNG, which would yield significant economic and environmental benefits.

General specifications of the facility include: a 2000-amp electrical service, two (2) - 250 horsepower compressor / process skids, 2600 gge of stored CNG, 4 public fuel dispensers / point of sale systems, automated / remote control systems, and mobile CNG storage vessels. The mobile high-pressure storage vessels are one of the most unique features of the system as they can be mounted to trailers and transported to other locations for mobile refueling, in essence creating a "virtual pipeline." The mobile storage vessels will provide an opportunity for the company to supply CNG produced from landfill biogas to other entities which will give others the ability to further reduce fueling costs.

This project promotes the utilization of alternative renewable fuels (landfill derived biogas) instead of conventional diesel fuel to power a fleet of garbage vehicles and reduce the reliance on foreign and domestic oil. Compared to diesel, renewable natural gas has 27% lower carbon dioxide emissions, 80% lower greenhouse gas emissions, and 95% lower NOx emissions. Converting approximately 22 existing diesel fueled vehicles to CNG will reduce the...
greenhouse gas emissions by approximately 515 metric tons per year. To put the environmental benefit into perspective, consider the following. The annual greenhouse gas emissions from the conversion of 22 diesel fueled garbage trucks will be reduced by the following percentages through conversion to CNG:

- Carbon monoxide (CO) by 70-90 percent
- Non-methane organic gas (NMOG) by 50-75 percent
- Nitrogen Oxides (NOx) by 75-95 percent
- Carbon Dioxide (CO2) by 20-30 percent

This is equivalent to the planting of 13,202 trees, removing 109 additional cars from the roadway and recycling 185 tons of waste instead of landfilling!

According to Edward R. Vogel, Vogel Vice-President, “We are passionate about promoting the use of this clean, alternative energy while continuing to improve the public’s perception of landfills, and we are continually trying to lead by example.”

Written By: Elizabeth Bertha - Vogel Holding Companies
In Mid-March, a group of Sherpas gathered outside Buddha Lodge in this speck of a town near Mount Everest, stuffing cloth sacks filled with thousands of pounds of garbage into a turboprop plane.

As the number of trekkers and mountaineers winding through the Everest region has multiplied, so too has the trash — empty bottles of Tuborg beer, food cans, torn tents, empty oxygen bottles. Now, organizers of a national cleanup campaign have set a target of collecting and recycling 200,000 pounds of trash in the area, making it one of Nepal’s most ambitious waste management projects to date.

“Trash has become a major problem,” said Dalamu Sherpa, the chairwoman of a local women’s group, adding that the project was partly about “saving the glory of the Everest region.”

Nepal has taken several steps to reduce garbage in the Khumbu region, which includes Mount Everest, the highest peak in the world. In 2014, the country’s tourism ministry declared that anyone climbing the mountain must return from the trip with an extra 18 pounds of garbage.

But rules are loosely enforced in the area, and the authorities have struggled to find a realistic solution to the problem. Every year, thousands of people snake along steep trails to reach South Base Camp, which sits more than 17,000 feet above sea level. The spring climbing season typically lasts from late April to the end of May.

Collecting the trash involves days of walking. Porters and yaks ferry garbage on their backs from a string of villages leading up to base camp, which takes about a week to reach by foot from Lukla.

Umesh Chandra Rai, the chief executive of Yeti Airlines, a local operator, said the plan was to transport 200,000 pounds of garbage to Kathmandu, Nepal’s capital, by the end of the year, where it will be recycled. So far, about 24,000 pounds of garbage has been collected. Along the trails, 16 waste dumping sites, 46 trash cans and three toilets have also been installed.

“Previously, trash dumping areas were made of plastic sheets, so yaks easily destroyed them,” said Nim Dorjee Sherpa, a municipal official. “We have now installed rubbish bins made of stone and zinc sheets.”

The challenge of hauling material away is so vast that even the bodies of climbers who died on the mountain are sometimes left in place.

“It is very difficult not because of logistical and technical reasons, but because of the law,” said Ang Dorjee Sherpa, the head of the Sagarmatha Pollution Control Committee, which maintains the mountain. “We can’t cremate or bury the dead bodies without consent.”

On a recent cloudless Saturday morning as the temperature hovered around freezing, a dozen volunteers assembled at Tenzing-Hillary Airport, a busy tarmac perched on a Cliffside, where sacks of trash were piled high.

As the bags were loaded into the cargo hold of the turboprop, ruddy-faced locals said littering would no longer be tolerated. “Tourists are not fully abiding by our rules,” said Biruman Rai, the principal of a government school in town. “It is time to enforce the law.”

Written By: Bhadra Sharma
Published: March 21, 2018
Mini-Tech Recap: The FireRover System

On May 4th, Michael Bodner, President of FireRover, hosted a mini-technical seminar to present their unique remote fire suppression system. The FireRover system is an on-site unit that uses thermal imaging, remote 24/7 live video monitoring, and fire suppression system. The system is able to detect fires in their infancy, even before they flare. The moment a temperature increase is detected, the FireRover team is alerted at the central call center. If the team verifies a spark or a fire, they remotely engage the dispensing foam that stunts and extinguishes the fire.

While we enjoyed a hearty lunch at the Lancaster Brewing Company, Ryan Fogelman, FireRover’s VP of Business development, provided some startling facts on the extent of fires in the solid waste industry. From June 2017 to May 2018, there were 368 fire incidents reported at waste facilities in the U.S. and Canada resulting in 5 deaths and 5 injuries, not to mention damaged facilities and lost production time. More than half those fires (65%) were due to batteries (e.g., lithium, rechargeable) with the remainder made up of combustibles, chemicals, and hot ashes. Alarmingly, the number of fires occurring continues to increase.

After the lunch and presentation, we crossed the street and toured the Security Partners call center that receives calls from the FireRover system. Security Partners has two other call centers in San Antonio, Texas and Las Vegas, Nevada to provide back-up in case there is a widespread power outage or weather event.

Written By: Denise Wessels - SCS Engineers
Nissan has sold more than 300,000 LEAF electric cars.

With so many on the market, there is a growing number of used electric car batteries that are becoming available as these vehicles increase in demand.

Now Nissan, along with its joint venture 4R Energy Corp., will utilize these used batteries to install and power new streetlights in the town of Namie, Japan.

The project, called Reborn Light, aims to provide public lighting for Namie’s residents as part of the recovery efforts following the earthquake and tsunami on March 11, 2011. The project will use solar panels to power the used batteries, making the streetlights completely off the grid, requiring no electric cables or outlets.

Full-scale installation of the street lights with the used car batteries in Namie is expected to be completed this year.

Meanwhile, Nissan has also started an exchange program in Japan to swap old LEAF batteries for refabricated ones.

Owners of the electric vehicle can turn in used batteries and, for a fee, receive refabricated ones. Nissan says it will use the battery-refabrication capabilities of 4R Energy Corp., a joint venture with Sumitomo Corp.

Nissan says while demand for electric vehicles grows, the number of used batteries will increase significantly. By reclaiming these batteries, it will help lower battery replacement costs and heighten the used-car value of electric vehicles to promote their use and ultimately contribute to lower CO2 emissions.

Written By: Peter Brown
Published: March 27, 2018

The Lancaster County Solid Waste Management Authority, owner of waste-to-energy facilities in Dauphin and Lancaster counties, has extended its working relationship with New Jersey-based Covanta.

The two parties said today that they have signed a deal extending until 2032 Covanta’s agreement to operate the authority’s Lancaster Waste-to-Energy facility in Lancaster County and the Harrisburg incinerator, known formally as the Susquehanna Resource Management Complex.

Covanta is the largest annual expense for LCSWMA, authority spokeswoman Kathryn Sandoe said. LCSWMA is budgeting about $33 million this year in operations and maintenance for both facilities, she said.

The mid-state facilities process around 700,000 tons of waste annually, according to LCSWMA.

The Lancaster facility processes about 1,200 tons of solid waste every day, enough to power 30,000 homes continuously. The Harrisburg facility processes about 800 tons daily, which generates about 23 megawatts of renewable energy for the state Capitol complex.

Covanta has operated the Lancaster facility since 1991. In 2007, it began operating the Harrisburg incinerator, which LCSWMA purchased in 2013 as part of the capital city’s debt-recovery plan.

Harrisburg was on the brink of municipal bankruptcy and entered the state’s Act 47 program for distressed municipalities at the end of 2010 largely because of debt woes tied to the incinerator.

Written By: Jason Scott,
Published: January 8, 2018
Source: http://www.cpbj.com/article/20180108/CPBJ01/180109868/authority-signs-15year-

Nissan to Recycle Old Batteries to Power Street Lights

LCSWMA Signs 15-Year Extension on WTE Facilities
While in large part a spending bill, the nonpartisan Congressional Budget Office says H.R. 2 would have a minimum impact on overall federal spending. It doesn't have the kind of budget-expanding numbers some departments see, but the farm bill still provides vital funding for rural waste management projects, which can be prohibitively expensive to start from scratch.

More notable than routine spending and grant programs, however, is the establishment of a dedicated position within the federal government, which focuses exclusively on food waste and food loss prevention. The food waste liaison would be tasked with sharing information across government agencies and working to reduce food waste at the national level.

The last time food waste got much attention from the federal government was in 2015, when the Environmental Protection Agency and the Department of Agriculture announced a voluntary goal of 50% reduction by 2030.

The full mandate of the liaison runs from coordinating the implementation of food waste reduction programs between USDA, EPA and the Food and Drug Administration; educating and being a resource for those interested in food waste reduction; drawing special attention to the protections enumerated under the Bill Emerson Good Samaritan Act; and making recommendations to expand food recovery efforts. The liaison may enter agreements with government research entities, institutions of higher education or nonprofits to produce material, lead workshops or conduct research.

As with many positions in the government, while the successes of the food waste liaison will largely depend on who fills the spot (and whether other officials in other agencies are willing to cooperate), it undeniably brings focus to the issue. The numbers behind food waste show it remains a critical issue, with some increase in consumer awareness, but one that hasn't fully been addressed by state and local policymakers. Food is wasted at every level (including $15 billion-worth at farms), so national coordination could be useful in developing more effective strategies.

Emily Broad Leib, director of the Food Law and Policy Clinic at Harvard Law School, said the liaison "represents a step in the right direction," but "we hoped to see more, and will continue to work with members of Congress to understand the importance of food waste reduction and these key ways that the farm bill can make a difference in this fight."

Though aside from this position, the current farm bill text doesn't go as far as many had hoped. A bill which would establish a national food waste policy is still sitting in committee. The bill would have given a boost to AD that uses food waste as a feedstock; encouraged schools to purchase "ugly" produce; standardized date labels; expanded protection under the Good Samaritan Act; and required studies about increasing the shelf life of food.

In addition to the Food Waste Liaison, the bill changes funding levels for some grants related to waste management programs in rural areas. It also appropriates funding for biorefining projects, and extends technical assistance programs for rural waste management programs by adding that such programs should "identify options to enhance long term sustainability of rural water and waste systems."

Written By: Cody Boteler
Published: April 18, 2018
Leading a coalition of seven Attorneys General and the Pennsylvania Department of Environmental Protection, California Attorney General Xavier Becerra and the California Air Resources Board (CARB), in late March, submitted a 60-Day Notice of Intent to Sue over the U.S. Environmental Protection Agency’s (EPA) failure to enforce a critical landfill methane regulation.

The regulation at issue, known formally as the 2016 Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills, reduces emissions of volatile organic compounds, hazardous air pollutants, carbon dioxide, and methane. It went into effect on October 28, 2016, but the EPA has not enforced it. Instead, with no legal basis for delaying implementation and enforcement of the regulation, the EPA stated that it intends to complete a reconsideration of the regulation by Spring 2020. This is a blatant violation of the Clean Air Act.

“Climate change is the most important global environmental issue of our time. We must act to address it now for the sake of our children,” said Attorney General Xavier Becerra. “EPA Administrator Pruitt has a legal responsibility to enforce this critical landfill methane regulation. If he fails to do his job, our coalition is ready to go to court.”

“Landfills that leak gas stink. They also contribute to our air quality problems and emit potent climate-changing gases,” said CARB Executive Officer Richard Corey. “The EPA has laws on the books to control this problem but it’s refusing to follow its own rules. We deserve better and we’re putting them on notice today to do better.”

Landfills are the third-largest source of human-related methane emissions in the United States, accounting for approximately 18.2 percent of national emissions in 2015. The Clean Air Act requires the EPA to regulate all categories of stationary sources, such as landfills, that cause or contribute significantly to air pollution that may endanger public health or welfare. The regulation at issue would lead to numerous public health and environmental benefits, including:

- Preventing 7.4 million metric tons of carbon dioxide equivalent emissions per year, which translates to:
  - 1.6 million passenger vehicles driven for one year; or
  - 1.1 million homes’ electricity use for one year.
- Protecting against asthma and other respiratory diseases, especially among the country’s most vulnerable populations, its youngest and oldest residents; and
- Protecting against cancer-causing hazardous air pollutants.

Joining Attorney General Becerra in sending today’s 60-Day Notice of Intent to Sue are the Attorneys General of: Illinois, Maryland, New Mexico, Oregon, Rhode Island, and Vermont. The California Air Resources Board and the Pennsylvania Department of Environmental Protection are also a part of the coalition.

Since taking office, Attorney General Becerra has taken swift and broad action to hold EPA Administrator Scott Pruitt accountable. A copy of the 60-Day Notice of Intent to Sue is available for review at oag.ca.gov/news.
H. Wayne Huizenga, the founder of Waste Management Inc., died at age 80 on March 22 at his Fort Lauderdale, Fla., home after succumbing to “a decades-long battle with cancer,” Bob Henninger, executive vice president at Huizenga Holdings, told the South Florida Sun Sentinel.

Huizenga took a risk in 1968, when he conceived Waste Management at the age of 25 with a single garbage truck. But that risk quickly turned into a successful move, as Waste Management became a Fortune 500 company and the largest waste disposal company in the U.S.

“We were deeply saddened to hear the news of Wayne Huizenga’s passing today. As a founder of our company, he was greatly admired for his visionary spirit, entrepreneurial leadership and ‘roll up your sleeves’ work ethic,” said Jim Fish, president and CEO of Waste Management, in a statement. “While he and I never met, Wayne is a true legend at Waste Management, known for waking up at 2:30 in the morning to drive a truck and then knocking on doors in the afternoon to introduce himself to current and new customers. His legacy is a gift to us all. Our thoughts and prayers go out to the entire Huizenga family on the passing of their patriarch and our friend and founder, Wayne Huizenga.”

After completing 133 acquisitions of small haulers and letting Waste Management go public in the early 1970s, Huizenga teamed up with a group of other investors to found Blockbuster in 1985. Huizenga and the investors ended up growing the video rental company from about 10 stores to more than 3,000 stores worldwide. The company had a good run and was eventually sold to Viacom in 1994 for $8.4 billion. In 2013, Blockbuster closed almost all of its stores, but a few locations in remote areas remain open.

Huizenga’s career didn’t stop there. He re-entered the waste management industry by serving as chairman of Republic Services, and in the 1990s, he launched Auto-Nation, the first nationwide auto dealer in the U.S., which also became a Fortune 500 company.

He also entered the Florida sports world, serving as the founding owner of the Florida Marlins, the baseball team, and the Florida Panthers, the hockey team.

In 1994, he purchased the Miami Dolphins NFL franchise and its stadium for $168 million, but he eventually sold all three teams by 2009. He also sold the Marlins in 1999 and the Panthers in 2001.

Throughout his career, Huizenga earned many awards and honors, including receiving Financial World magazine’s “CEO of the Year” award five times and being named as Ernst & Young “2005 World Entrepreneur of the Year.”

In addition, Huizenga inspired a number of individuals and companies within the waste and recycling industry, the sports industry and the automobile industry, which are paying tribute to him via social media posts, television specials, articles and more.

Written By: Mallory Szczepanski
Published: March 23, 2018
The landfill on the edge of the Russian town of Volokolamsk has long been an irritant to the community’s 20,000-odd residents, worried about emissions of noxious gases.

The concerns escalated sharply this month when two protests were held in the town some 100 kilometers (60 miles) west of Moscow, then burst into national attention on Wednesday when scores of schoolchildren sought medical help because of nausea, fainting and other symptoms of possible gas poisoning. Officials said 57 were hospitalized.

That day, hundreds of people gathered outside the local hospital and surrounded local administrator Yevgeny Gavrilov, with one man in the crowd trying to punch him. Gavrilov was escorted to safety as the crowd shouted “Killer!”

A 10-year-old girl in a pink cap became a hit on the internet when video showed her making a throat-cutting gesture at Andrei Vorobyov, governor of the region that includes Volokolamsk.

Vorobyov’s office announced Friday that Gavrilov, the district leader, has been removed from office. Vorobyov has promised to get the landfill problem solved by mid-June, but anxiety remains high among residents.

Written By: Alexander Zemlianichenko
Published: March 24, 2018
A new report by Transparency Market Research forecasts that the global volume of construction debris is set to balloon in the coming years. According to a report by the World Bank in 2012, there is a global collective of 1.3 billion tons of solid waste every year. This volume is expected to increase to 2.2 billion tons every year by 2025. Building material accounts for half of the solid waste generated every year worldwide.

Construction waste as classified in the report includes materials from excavation, roadwork, and demolition, as well as complex waste like plastics, metal, ceramic, and cardboard. Making up more than half the construction waste generated annually are building materials such as wood, shingles, asphalt, concrete, and gypsum.

The study states "reduce, reuse and recycle" policies are necessary to control the amount of construction waste; however, such progress has been prevented by insufficient resources, lack of standardization, slim profit margins, policy apathy and lack of education regarding the issues. The Asia Pacific region is expected to generate a majority of the construction waste in the upcoming year, followed by North America. The report shows Europe has developed the best construction waste management technologies.

Policies are being drafted to increase recycling of construction debris, as countries around the world are concerned about environmentally sustainable development. The solution for a sustainable future is to reduce, reuse and recycle. Various certifications such as LEED are in place in different countries to encourage the proper management of construction debris. However, lack of standardization, low margins, poor policy push, lack of awareness, and lack of resources are the key barriers for the expansion of the construction debris market.

Disposing of construction waste often is a safety issue. In December 2015, a pile of construction debris caused a landslide in Shenzhen, China, that killed more than 70 people and left 900 individuals displaced. The slide also destroyed buildings, including 33 factories, workers’ living quarters, and apartments. Because of the construction boom in the area, the Chinese government had set up more than 10 dump sites for debris, but the pile of excavated dirt and material waste reportedly was too high at this location and became unstable. Some analysts blamed the landslide on the unwillingness on the part of local officials to enforce regulations regarding disposal of construction debris.

In the U.S., Texas officials are struggling with how to handle waste created by Hurricane Harvey in the Houston area last year. The Federal Emergency Management Agency has said the area will take years to clean up, and the Texas Commission on Environmental Quality has waived some solid waste disposal regulations (including: air quality, emissions, wastewater, and hazardous waste storage) to quicken the clean-up process.

Additionally, in Minnesota, construction debris is affecting groundwater and the Minnesota Pollution Control Agency is pushing for tougher standards for demolition landfills that provide no barrier between deposited materials and groundwater. However, county officials across the state are pushing back against proposals to tighten regulations until the agency can pinpoint the exact source of groundwater contamination.


Written By: Adam Redling
Published: March 5, 2018
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Women In Waste: An Interview with “Pink Trash” Founder

The North Carolina counties of New Hanover, Brunswick, Pender, and Onslow are your average East Coast communities, where neighborhood streets are abuzz with school buses, busy commuters and parents shuttling their children around town...Oh, and giant pink trash trucks.

In 2011, Kelly Buffalino, a new Wilmington, NC resident and mother of two, launched Pink Trash with her husband as a way to offer affordable trash collection service to the neighboring communities. Buffalino’s personal journey with breast cancer inspired the vibrant color of the trucks, as well as the overall mission of the business: to save local lives through partnerships with the local breast cancer foundations, Going Beyond the Pink and Pretty in Pink Wilmington.

The business, heavily operated and led by women, has taken off in the area through community engagement, loyal service and a recent partnership with Rubicon, which led the company to increase its customer base by 10%. Waste Dive caught up with Buffalino, Pink Trash president, and Shaun Kiviat, CFO, to learn how the business has impacted local families, how recent industry changes have rocked the business model and how fellow female executives should combat stereotypes.

The following interview has been edited for clarity and brevity.

Can you tell me a little bit about how you got started in the waste management industry?
KELLY BUFFALINO: My husband and I moved to Wilmington about eight years ago and we own an apartment complex here. I have an accounting background, and we were just basically analyzing the financial statements and looking for ways that we could save money. We realized that the trash fees were getting a bit excessive. When we called about our account, we were routed to a customer service representative that was not even in our city of Wilmington. We really didn't feel like we had a direct person to speak to regarding our fees and such. So we thought [waste collection] might be just another business that would be good to get into.

What's your personal experience with breast cancer?
BUFFALINO: I was diagnosed with breast cancer eight years ago at 41 years old and it was quite a shock. It happened at the same time that we moved here. We started the trash business and we wanted to also get involved in a charitable organization and with everything happening at the same time, I met other people in charitable foundations here, and we decided that we would start the trash company and give back to a local breast cancer group and help people in the community at the same time.

Can you share a bit about the business model?
SHAUN KIVIAT: So back in 2011 the economy was still in down time. Charities are great because you’re able to raise money and do good things and help people, but then you got to go back the same people and ask for more money. And back in 2011, it was very, very difficult. So we put together a financial model where you didn’t have to ask anybody to write a separate check. Included in everybody’s commercial and residential invoices is a 1% contribution that is [sent] to the foundation, and pays for cancer treatment for local women and men.

How much money have you raised since launching?
KIVIAT: Our first check was back in December 2011, for like, eight dollars and change. Now, to date, we’ve donated almost $200,000 in cash which actually pays for almost $2 million in lifesaving cancer treatment. The foundation has a tremendous network of doctors who basically contribute part of their service fees. So for every $1 in cash that we’re able to contribute, depending on which doctor they get, it’s an average of $10 in treatment.

BUFFALINO: We also meet with the foundation on a quarterly basis when we give them our check and our portion also goes toward financial needs. So our checks can
pay for a doctor’s visit, copays, mammograms, food on the table, transportation to and from their doctor’s visits. Sometimes they give us names, sometimes they don’t. Not everybody wants to share that information, but we get to hear the stories directly from the foundation.

Do you have any stories you can share about the success of advancing breast cancer treatment in the area?

KIVIAT: One of my favorite stories to tell is, back when we first started, we got a call one day in the office and they asked if we can donate a couple of pink trash cans for a charity run for Anne, a [physical education] teacher in the local school district and we said sure, we’d love to participate. So, I remember it was a Saturday morning and it was raining and [we] got in the pink pickup truck and we loaded up with pink trash cans and we got our pink “I Ran For Anne” t-shirts...and we ended up doing the charity run in the rain. Now, six or seven years later, Anne is one of our closest friends. Kelly and Chris got us tickets to go to an NFL football game because it was on her bucket list one year, and you know, we built a tremendous personal relationship meeting her through the foundation.

As a small business owner, can you tell me how China’s import ban is affecting you, especially being a company that has a charitable aspect to it?

KIVIAT: It’s affecting the entire country, really. You look across from California to New York and there’s a number of MRFs that are shut down in the last 12-24 months. The more facilities that are shut down, the harder it becomes on national, regional and local haulers like us. Our price has almost doubled in the last 30 days [for disposing recyclable materials].

BUFFALINO: And unfortunately a big part of that is to get the education out to the consumer, which is where Rubicon comes in. They are working on decontaminating the recycling which is the big problem with China. So we’d like to see some of that put in place here. Maybe that’s something we can get into in the future, to educate the consumer and get them to recycle more and not think that we’re out there to get them. We’re really there to make the world a better place to live in.

How does having a charitable aspect to your business affect competition and getting people to interact with you?

KIVIAT: It’s a major part of what we do as an organization. You know our employees, this is very important to them. They actively participate in all of the charitable events that we go to throughout the year. At the end of the day, everybody needs trash service whether they’re a business or resident, but we hope they choose us because they see what we’re doing in the community, they see the impact, they see us helping local people. When you get to meet a lot of these people that you’re helping, it becomes more than just a business.

BUFFALINO: And we never really spent a dime on advertising, all these years. We’ve gotten our name out there by sponsoring our local school’s soccer team, baseball team, doing the annual “Touch a Truck” event every year. We do Healthy Kids Day and Wounded Warrior Project. I mean 1% of our invoices does go to the cancer support group, but we also use our money to help support the community in those other ways.

What advice would you have for other women who are hoping to become part of the waste management industry and maybe launch a business similar to yours?

BUFFALINO: Well they have to plan to work really hard. Don’t give up and don’t back down. Don’t believe that we’re the minority.

Written By: Kristin Muslin
Published: March 8, 2018
For more Information, event registrations, and updated information please go to the Keystone Chapter's website:

http://www.keystoneswana.org/

Some events to plan for include:

**JUNE 2018**
- Thursday, 6/7, 10 am - **Board Meeting Conference Call**.
- Friday, 6/22, 7 am - **Mid Atlantic Road-E-O** at the Midshore II Regional Solid Waste Facility, MD
- Review Annual Budget.
- Distribute Summer Edition of *The Keystone*.

**JULY 2018**
- No Activities Planned.

**AUGUST 2018**
- Thursday 8/2, 10am - **Board Meeting Conference Call**.

**SEPTEMBER 2018**
- Wednesday - Thursday, 9/5 - 9/6, **19th Annual Joint Fall Conference, Hilton Harrisburg**.
- Thursday 9/6, - **Chapter Annual Business Meeting and Election**, immediately following Fall Conference.
- Wednesday - Friday, 9/12 - 9/14, **4th Annual Mid-Atlantic Bioenergy Conference & Expo, Philadelphia, PA**
- Friday, 9/14, Deadline to submit articles for fall edition of *The Keystone*.
- Chapter Fiscal Year Ends

**NOTE Schedule is subject to change**

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**Interested in becoming more active in your Chapter?**

We are currently looking for members to join the Safety and Young Professionals Committees. Email Chanda at: chanda@keystoneswana.org for more details.

The SWANA Newsletter is published 3 times a year in **February, June and October.**

If you would like to have your article included in *The Keystone*, please submit it by the 15th of the month prior to the scheduled release date. Any late articles will be held until the next issue.

**As a reminder articles are accepted throughout the year and while we encourage original articles they do not have to be originally written as long as a proper source is cited.**
# Chapter Officers and Board of Directors

## Officers

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<tr>
<th>Name</th>
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<tr>
<td>Bryan M. Wehler, P.E. P.G.</td>
<td>President</td>
<td>ARM Group, Inc.</td>
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<td>Sean C. Sweeney, P.E.</td>
<td>Vice President</td>
<td>Barton &amp; Loguidice, D.P.C.</td>
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<tr>
<td>Michele Nestor</td>
<td>Secretary</td>
<td>Nestor Resource, Inc.</td>
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<tr>
<td>Larry Taylor, P.E.</td>
<td>Treasurer</td>
<td>Greater Lebanon Refuse Authority</td>
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<tr>
<td>Robert Zorbaugh</td>
<td>Immediate Past President</td>
<td>Lancaster County Solid Waste Management Authority</td>
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## Public Sector Directors

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<tr>
<td>Scott McGrath</td>
<td>Environmental Services Director</td>
<td>City of Philadelphia</td>
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<tr>
<td>Scot Sample</td>
<td>Executive Director</td>
<td>Northern Tier Solid Waste Authority</td>
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<tr>
<td>David W. Horne</td>
<td>Superintendent</td>
<td>Chester County Solid Waste Authority</td>
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<tr>
<td>Mike Engel</td>
<td>Assistant Operations Manager</td>
<td>Wayne Township Landfill</td>
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## Private Sector Directors

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<tr>
<td>Robert Hasemeier, P.E., B.C.E.E.</td>
<td>Sr. Managing Engineer</td>
<td>Barton &amp; Loguidice, D.P.C.</td>
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<tr>
<td>Tom Lock</td>
<td>Northeast Region Manager</td>
<td>SCS Field Services</td>
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<tr>
<td>Charles Raudenbush, Jr.</td>
<td>Public Services Manager</td>
<td>Waste Management</td>
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<tr>
<td>Denise Wessels, P.E.</td>
<td>Project Manager</td>
<td>SCS Engineers</td>
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## International Board Member

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<tr>
<th>Name</th>
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<tr>
<td>Robert Watts</td>
<td>Executive Director</td>
<td>Chester County Solid Waste Authority</td>
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## Young Professional Director

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<th>Name</th>
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<tr>
<td>Tessa M. Antolick, P.E.</td>
<td>Project Manager</td>
<td>Arm Group, Inc.</td>
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## Keystone SWANA Chapter Committee Members

### Articles and By Laws

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### Legislative / Policy Committee

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### Audit / Budget / Financial Committee

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### Membership & Marketing Committee

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### Chapter Safety Ambassadors

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</table>

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</tr>
</tbody>
</table>

### Communications & Newsletter Committee

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**Program and Training Committee**

<table>
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<th>Title</th>
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**Secretariat Subcommittee**

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Thank you to all of our committee members for everything that you do to make the Keystone SWANA Chapter great!
This Publication is for the Solid Waste Professionals of the Keystone Chapter of SWANA

The Keystone is published three times per year (winter, summer, and fall). If you have ideas for future articles, updates, or general suggestions for The Keystone, or you would like to advertise with us, please contact the Newsletter Editor, Alison D’Airo at Barton & Loguidice, or any member of the Newsletter Committee members listed below:

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