SWANA Pennsylvania Keystone Chapter
SOLID WASTE ASSOCIATION OF NORTH AMERICA

The Keystone Keystone

▶ 2020 SUMMER EDITION

Written For the Solid Waste Professionals of the Keystone Chapter SWANA

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A Message from the Keystone Chapter President: Sean Sweeney

Greetings everyone, I hope you are doing well. With the cancellation of our 2020 annual conference due to Covid restrictions, and the coming conclusion of another annual operating year, I've taken a moment to reflect on this year and look forward as well. The pandemic certainly was not something that we foresaw coming into the year and the Board has been monitoring and discussing how best to continue the Chapter's mission given the new environment including virtual content and other potential ways to provide industry connection and benefit within PA. However we do recognize the many benefits of our in person programs and hope that we will be able to return to more in person events in 2021 if safe and prudent. In the meantime, the Keystone SWANA Chapter is still a source of industry resources (safety, program funding, State legislative updates and training) through SWANA International and statewide connections and networks. Please reach out to Board members with your suggestions of how the Chapter can assist our members.

Finally, as I move on from the Chapter President's role at our Annual meeting next month, I would like to express my appreciation for the hard work of the Board and Committee members, Chanda our Administrative and Marketing Director, the members, corporate event sponsors and volunteers that have allowed the Chapter to continue to succeed in its mission and help serve our members and represent the solid waste industry in Pennsylvania. Thank you all for your time and efforts and I look forward to working along side you in the future.

Written By: Sean Sweeney, P.E.
Keystone Chapter President
Phone: 717-737-8326

Due to the on-going Covid-19 Pandemic,
the 22nd Annual Joint Fall Conference has been cancelled.
We hope to see you next year (September 8 and 9)!

Congratulations to the 2020 Scholarship Recipients

The Keystone SWANA Chapter is proud to announce the award of $6,000 to this years college students through the Grant H. Flint and Robert P. Steans/SCS Engineers Scholarship funds. The scholarship program is open annually to children and grandchildren of SWANA Members and/or SWANA Student Members and closes each year on May 1st. The Keystone SWANA would like congratulate the following students:

Michael Dougherty, *grandson of Kay Dougherty of the Keystone Chapter of SWANA.*

Michael will be attending Pennsylvania School of Technology.

Joshua Groff, *son of Michael Groff of Lancaster County Solid Waste Management Authority.*

Joshua will be attending Franklin and Marshall College.

Cole Santangelo, *son of Joe Santangelo of Advanced Disposal.*

Cole will be attending Pennsylvania State University.

Jacob Simms, *son of Steven Simms of Lycoming County Resource Management Services.*

Jacob will be attending Drexel University.

Photo Unavailable

Keith White, *son of Melinda Waltemyer of York County Solid Waste Authority.*

Keith will be attending Temple University.

Check Out Page four of the newsletter to see the essays written by the scholarship recipients!

Written By: Alison D'Airo
Source: Keystoneswana.org

Advertisement

Upcoming SWANA Mini-Tech's

The Keystone wants you to know that there are two Mini-Tech's scheduled so far for 2020. In order to ensure the most up-to-date information, be sure to check out the Keystone SWANA website for updated information!

Natural Aquatic Life Treatment System Mini-Technical Seminar

The Mini-Tech will begin with a presentation followed by a tour of the Natural Aquatic Life Treatment System at the Greater Lebanon Refuse Authority, which includes a series of 14 ponds that are used to treat leachate from an unlined area of the landfill. A networking lunch will follow the tour.

Eric Wiediger from Leachate Management Specialists (LMS) will introduce natural systems for handling leachate, including phyto technologies with plants and trees, enhanced evaporation utilizing wind and salt-loving microbes, and constructed wetlands. Natural systems strategically take advantage of natural processes such as solar radiation, evaporation, evapotranspiration, wind, plants, and biological activity to treat and eliminate liquid waste.

Social distancing guidelines will be followed. The presentation will be held in the maintenance garage with the doors open and participants will be provided with individual bagged lunch. Participants should wear masks during the indoor presentation.

Where:
Greater Lebanon Refuse Authority
1610 Russell Road
Lebanon, PA 17046

When:
Thursday September 17, 2020 (Subject to change)
10:00 AM

Additional Information:
Registration is $15 for SWANA members and $25 for non-members.

Metals Recovery from MSW Ash Mini-Technical Seminar

The Mini-Tech will begin with a presentation followed by a walking tour of the facility. A networking lunch will follow the tour. In April 2016, LCSWMA entered into a long-term contract with Inashco North America, Inc. to site a metals recovery facility (MRF) next to the Frey Farm Landfill. While LCSWMA's WTE facilities currently use in-line metal recovery systems, only larger metals are removed. Inashco offers an advanced metals recovery system to remove pebble-sized metals present in the ash. This includes both ferrous (iron) and non-ferrous (aluminum, copper, brass, zinc, gold, silver, etc.) metals.

In 2018, Inashco constructed the MRG, which processes around 650 tons of ash each day (165,000 annually) and recovers about 22 tons of metals (8,300 tons annually). Not only does this innovative project remove and recycle metals that would have otherwise been landfilled, but it's helping to extend the life of the Frey Farm Landfill.

Where:
Frey Farm Landfill
3049 River Road
Conestoga, PA 17516

When:
TBD - Event is being rescheduled

Additional Information:
Registration is $15 for SWANA members and $25 for non-members. Space is limited and participants are required to bring safety toe boots.

Voices of the Scholarship Recipients - Short Essay Series

Benefits of a Residential Yard Waste Drop-Off

By: Michael Dougherty

In an effort to reduce waste stream flow and conserve landfill space our Township has developed a municipal composting site. The composting site allows Township residents to rid themselves of yard waste such as shrubbery, tree pruning's, leaves, and grass for a minimal fee. This removes the disposal of this material through the flow of the waste hauler picking it up, hauling it to the incinerator, and then finally to the landfill. This frees up these resources for use for other water materials that cannot by recycled. There is less waste for the hauler to haul, the incinerator to burn and the landfill to store forever.

After recycling, residents are able to return to the composting site for recycled waste materials that have been processed into mulch and mushroom soil to be used in their flower beds and gardens, reducing the use of chemically manufactured products. It also reduces the burden on watering as the mulch helps hold moisture.

The responsibilities of the professionals tasked with managing the waste coming into the facility include guiding and educating visitors when they are visiting and using the site. These individuals also maintain and process the yard waste in its transformation to mulch. Individuals using the site need to ensure that they are following the guidelines and rules set forth by the Township. This includes ensuring that it is yard waste that is being deposited at the site and not other trash items.

Example of Yard Waste

Photo Credit: Wikimedia Commons

The use of the compost site benefits the environment by reducing the use of chemical fertilizers, enriches the soil by adding nutrient to the soil, recycles kitchen and yard waste, and it helps to reduce landfill waste.

Proper Waste Handling in the Covid-19 Era

By: Joshua Groff

During these trying and troubling times, being educated and knowing what to do with the waste that is generated is paramount, especially if the waste is impacted by the COVID-19 virus. People must be educated in how to dispose of waste, especially the hospitals, testing centers, and doctors' offices who are most certainly dealing with COVID-19 cases daily, but also residents of the community disposing of trash generated at their homes.

Of the many responsibilities of waste generators, one that is important is where to take their waste to be processed or disposed of, whether that be the incinerator, landfill, or autoclave. Generators of waste must also follow the guidelines set out by the CDC and waste experts tasked with managing the waste. The CDC's guidelines on how to treat medical waste pushes for the waste to be autoclaved (steam sterilized) or burned in a medical waste incinerator. The CDC also states that improper incineration could lead to emission problems if the waste has too high of a moisture content and too low of an energy content.

COVID-19 related waste generated at hospitals, testing centers, and doctors' offices is considered Regulated Medical Waste. This means it has to be handled different-

Example of Biohazard Containers

Photo Credit: Goodfellow Air Force Base

ly than residential trash. As Regulated Medical Waste, it should be managed through a facility permitted to process and dispose of infectious waste. Or, it can be rendered non-infectious through sterilization and then disposed of at a facility permitted to accept processed Regulated Medical Waste.

If a home generates trash impacted by COVID-19, the trash is supposed to be double bagged and securely sealed shut. This is necessary to limit the possibility that those responsible for collecting and managing trash are exposed to the virus. Even residential trash not impacted by the virus should be bagged and securely sealed shut. It is a responsible and beneficial thing to do this, as you can never be too cautious in times like this. Being irresponsible with the waste you produce can cause harm to others and increases the spread of the virus.

It probably goes without saying, but those working in the waste industry must be extremely careful when handling the waste. Workers should wear gloves and masks, as well as standard personal protective equipment, and follow COVID-19 specific safety regulations to fully protect themselves. They should also be alert for any new developments on how to properly handle and dispose of COVID-19 related waste. For the sake of safety, at this time, all waste should be treated as potential COVID-19 related waste. This would ensure that those working with the waste take care of it safely and effectively.

In short, generators of waste and waste handlers alike must be educated and know how to handle the waste that is generated. The responsibilities of both the generators and workers handling the waste must be followed in order to maintain safety and help stop the spread of COVID-19.

How Outbreaks Relate to the Solid Waste Industry

By: Cole Santangelo

The news in today's world is full of one thing, COVID-19. One major way to help control and possibly slow the spread of this horrible disease is an industry that has recently gone fairly unnoticed in the media. This underappreciated industry is solid waste management services. The solid waste management industry is an essential and life-sustaining business that now more than ever is critical for the overall sanitation and hygiene of residential areas and their inhabitants. Without solid waste being removed from homes and other essential businesses, the country could be facing a more serious issue with a rapidly spreading disease enhanced by a buildup of solid waste not being disposed of properly.

Time and time again history has proven that the spread of a disease can be amplified by the inadequate disposal of waste. The spread of dysentery, plague, cholera, hepatitis, and jaundice alone can be attributed to solid waste pollution. However, the most notable case of solid waste

Image from Oakland infirmary during Spanish flu

Photo Credit: Wikimedia Commons

pollution contributing to a disease's spread is the Spanish flu pandemic of 1918. At the time, solid waste disposal was not regulated, and the implications of improper removal was not as clear as it is today. This lack of understanding of the importance of proper solid waste disposal greatly enhanced the spread of the Spanish flu; and made it the deadliest disease in history resulting in around 675,000 American deaths, one percent of the US population. These numbers are alarmingly high, but if the America of 1918 had the knowledge and understanding that people do today, it is hard to imagine the disease would have spread as rapidly. Conversely, Covid-19 will not be spread in this manner. While society is thankful for those who stock groceries, they all need to appreciate the people that remove waste from our homes and businesses that could infect us all. Proper solid waste removal is one of the most important factors in slowing the spread of a disease, and possibly preventing one.

Just over thirty years ago, the federal government introduced solid waste regulations that continue to drive the solid waste industry today. These regulations helped transform the industry from anonymous blue collar labor driven industry to the highly technical and sophisticated technology leader we see today. For instance, the solid waste industry was a catalyst for the research and development of specialized plastics such as high density polyethylene (HDPE). Plastics are used in the collection of landfill gas and leachate to protect the air and groundwater. Additionally, the industry has been a leader in environmental protection. Solid waste facilities adhere to the strictest regulations regarding the protection of air, water, and land. The current design and operation of the solid waste facilities has made the environment a much safer place to live, the water much safer to drink, and the air much safer to breathe. I plan to continue these efforts over the course of my career to develop these practices and ultimately lead the industry into its future success.

Not only is proper waste removal imperative during times of a pandemic, but it is important for everyday life. The buildup of solid waste leads to many unwanted consequences that people today do not have to deal with. Rats, flies, other insects, and parasites are all known to congregate in areas of excessive waste buildup. These coupled with the odor generated are a significant nuisance interfering with our daily lives. The only deterrent is the prompt collection and proper disposal of solid waste. This is something that goes unrecognized by society, but is crucial for the health of every resident in the US.

Bicyclist following a trail on a closed landfill cap

Photo Credit: Wikimedia Commons

Plastic Pollution

By: Jacob Simms

It seems like it is a daily occurrence that recycling news makes headlines. Most of the news is negative and concerns how the recycling markets have dried up or how importing countries are rejecting contaminated recycling loads before entering the country. Most recently, the news media has shed light on the massive problem caused by plastics and how its impacts are a huge concern going forward in our environment. Oceans are being polluted with plastic waste at an astronomical pace. It is believed by some scientist that within the next 30 years there will be more pounds of plastic in the ocean than there will be fish!

The problem of plastic pollution is not just limited to the United States. This is a global crisis and not just a national problem. Plastic pollution impacts human health, food quality, and tourism, to name just a few industries. Countries who rely on these industries have already started to feel the impacts from plastic pollution and the problem is getting worse almost by the day.

Global warming and climate change can also be traced back to plastics. The beginnings of the plastic life cycle originate with fossil fuels and the processes used to pro-

duce plastic leave a massive carbon footprint. In order to even begin the process of producing plastics, land is stripped of its other natural resources, and heavy machinery is brought in to drill for the oils and gases from beneath the earth's surface. These oils and gases then need to be transported which also adds to the causes of global warming. Manufacturing plastic adds emission gases to the earth's atmosphere and the end product of plastic leaves us with a material that is so strong and durable it never breaks down or decomposes.

So how do we fix this massive problem of plastic pollution? The answer is not simple not does one single process or through solve the problem. Consumers need to do their part in reducing consumption as much as possible. Consumers should not be using plastic bags and instead use paper bags that are biodegradable or reuse tote bags. Consumers need to demand that industry to allow for the reuse of plastic containers. Water jugs can be refilled at local grocery stores; why can't this be an option for laundry detergent or soap? Consumers also need to recycle plastics properly. Plastics are not the catch-all junk pile of the recycling world. Consumers need to properly recycle and adhere to the restrictions at their local recycling centers.

Industry and government need to become socially responsible and reduce plastic production. Plastics are cheap and easy to manufacture. However, the overall price with solving the pollution problem is starting to mount. Industry needs to focus on concentrated products that do not need the storage capacity of its regular products. Ndustry can do better to eliminate unnecessary packaging. Government can help by setting rules and regulations to limit plastic production. The government can also incentivize or fund industries who help innovate new ideas concerning plastics. Imagine the impact it would have if the government incentivized individuals with a tax reduction if they used paper bags, used concentrates, or eliminated plastic use at a consumer level!

I also believe that aspiring young engineers like myself hold the key to solving our plastics problem. Years ago, engineers were the ones who created the plastics problem by developing a material that was cheap to manufacture and practically indestructible. I think it is time to focus on our plastic problem from an engineering standpoint and come up with another material that can replace plastic that is biodegradable and friendly to the environment. There are some innovative ideas, but at this point, the ideas are not sustainable and will not work on a mass

Example of plastic pollution observed in Ghana

Photo Credit: Wikipedia Commons

Image of an LFG capture system being installed

Photo Credit: Wikipedia Commons

scale. Solving the problem of plastics needs to be a higher priority and I hope to be a part of the solution with my education and my career.

Make it Green
By: Keith White

Green, what is green? If you were to look up the word green google would tell you "the color between blue and yellow in the spectrum; colored like grass or emeralds." Yet, green can mean many different things. Maybe it's a place you go to when you need to relax, maybe it's the first thing you see when you wake up, or the first thing you dream about at night. To me, green is very special. It gives me life, the ability to be happy, to think, to laugh, even to sleep. If I see green I know I'll be ok, because it's all we need to live and there's so much happiness found inside it.

Although, do we even know who keeps things green for us? In my local area I know exactly who does this for my community. The solid waste authority. They don't just pick up our garbage and take it somewhere that we can't see and it makes everything alright. There is a whole process behind how they process it and make sure they deal with it in the most green friendly way there is. They create energy from our trash, so we can power our city and put trash to use. I've seen the whole process with my own eyes and it gives me hope, hope that things will stay green for a long time and maybe even make it more green.

They educate us on how we can preserve our green and what we should be doing in every situation to make it last. And the effect and change that this brings is massive, even though most people don't realize it. However, we can't all just rely on our local solid waste management offices to do all the work for us. There are still things that they can't take and turn into energy, and if we're being honest, not all our trash stays or makes it to the trash can every time.

We can all do simple things to improve this process for everyone. This includes putting all loose trash in bags, breaking down big items so they're able to process it easier, know what special items you can't just pitch in the trash and then take them to the proper place to be dealt with. Trash just doesn't disappear into thin air when you take it to the curb, there is a significant amount of work that goes into collecting it, transporting it, and processing it. So those workers aren't just your basic garbage men or women, they're making a better living environment for everyone.

I realize this can sometimes be a very controversial topic and people are allowed to feel how they feel, but this is turning into something much bigger than us. Yes that small piece of trash you just dropped does matter, it all builds up. These companies and people work everyday trying to make a better environment for everyone and clean up our Earth as much as they can. And I'm able to see how important that is and I respect these people hugely.

So when you're out on a walk and see some trash, pick it up. When you're gathering up all the trash around your house, put it in a bag and seal it tight. When you throw out any old electronics take the time to do it right. And if you ever see a garbage worker, an educator, a secretary, even the janitor working in a business for our environment, say thank you. Thank you for keeping it green.

Philly MRF Has Captain Planet Themed Safety Campaign

Our team at the Philly Materials Recovery Facility is using games and showcasing the environmental superheroes among them to build excitement around our 100 Days of Summer Safety campaign.

"(Operations Supervisor) Naria (Santiago) and I came up with the Captain Planet and the Planeteers theme as we both remembered the cartoon and thought it would be a fun way to embrace the 100 Days of Summer Safety," Operations Supervisor Nikki Benitez said. *"We adopted a recycling-specific theme."*

Leading the team, and able to leap over urban MRF's in a single bound, is Plant Manager Greg *"Captain Planet"* Jones and his Planeteers, Naria *"Fire,"* Nikki *"Water,"* Maintenance Managers June *"Heart"* Ortiz and Gary *"Wind"* Deitrich, and Operations Specialist Bill *"Earth"* Mosher.

Pictured above is Manager Greg Jones (Captain Planet) and the Planeteers (from left to right) Bill Mosher, Naira, Gary Deitich, June Ortiz, and Nikki.

Photo Credit: Photo Credit: Adrienne Fors, Waste Management

"The other superheroes, Planeteers, are all different elements of the world," Nikki said. *"When the five of them come together, they summon Captain Planet who takes the powers of fire, water, heart, earth and wind to fight the eco-villains who cause danger to the planet through pollution, deforestation, poaching, and other environmentally unsafe activities."* June had the Planeteer shirts designed. Greg's shirt was procured through Amazon.

In addition to combating the normal worksite danger and eco-villains (contamination), Nikki said the superheroes and all of the site's 72 team members this year are waging a pitched battle with the spread of COVID-19. Strategies on this front include close adherence to the company's COVID guidelines, social distancing, installation of touch-free water dispensers, and the replacement of the 100 Days cookout with *"hoagie kits."*

They're having some fun with 100 Days too, Nikki said. *"We are going to play a couple different games,"* Nikki said. The games include Life-Critical-Rule Pictionary that will divide each of the site's two shifts into two teams that will compete for prizes of WM gear and reward points once a week.

In case you are wondering about the Philly MRF Captain Planet and his team's superhero credentials, the crew processes 550 tons of papers, plastics, metal and glass received each day from earthlings in Philadelphia, Bucks County and Central New Jersey.

Written By: Adrienne Fors
Source: Waste Management

Credit System to Boost Plastic Recovery Coming in 2021

The 3R Initiative was launched last year by corporate members, along with BVRio and Verra, and advisory members including Conservation International, South Pole, Systemiq, Natural Capital Partners and McKinsey.org. The Plastic Standard Development Committee also includes producers Dow and Mars, plus groups working on plastic issues such as Plastic Bank, World Wildlife Fund, Lonely Whale and rePurpose.

This effort is seen as a way to enhance investment in plastics recovery efforts, something many major petrochemical and consumer packaging companies have set targets to achieve. While a growing number of entities currently exist to direct corporate investment into grant or loan funding for such activities, some see this new option as a unique and complementary addition to that toolkit.

"This investing mechanism allows the finance to flow directly to the plastic recovery or recycling efforts that are going on outside of the corporate value chain," said Sinclair Vincent, manager of standards development at Verra. According to Vincent, companies such as Danone and Nestle prefer a verifiable standard *"to ensure that what's happening on the ground is robust, rigorous credible and safe as far as social and environmental impacts go."*

That accountability is considered especially relevant for efforts to enhance recycling infrastructure or recover plastic waste in the environment from countries in certain regions, but the concept is also applicable to work in countries such as the U.S.

Scott Mouw, senior director of strategy and research at TRP, said the standard presents *"an intriguing possibility of adding yet another piece to the portfolio of capital that can be deployed."* While many major plastic producers and users currently invest in projects through groups like his, TRP has outlined an even greater level of funding to achieve circular economy goals.

"For the next leap in tonnage to take place there has to be a pretty substantial deployment of capital to get community recycling programs to work better," said Mouw, adding cities could possibly benefit from participating and brands also want more options. *"They've got publicly declared goals around this and they have an organizational mission to increase the recycling of plastics ... but they don't have their own pathway."*

Last year in Sarasota, TRP rolled out new collection carts using funding from the Coca-Cola Foundation and has been inputting data about the uptick in plastics recovery into Verra's system. Based on this initial experience, Mouw said it will be important for the credits to *"have a price that's going to motivate a broad set of stakeholders"* and make the time spent submitting data feel cost-effective for a range of participants.

Vincent is mindful of these factors and said one option is for groups of related projects to be submitted together. Hypothetically, that could allow TRP, haulers or MRF operators to submit for activities happening across multiple municipalities. Vincent said pricing may differ depending on the actions, but anticipated *"recycling credits will likely sell for a higher price."* Following next year's launch, it is possible standards for other material types could be added and the system is being designed to accommodate that.

The standard is also being developed to potentially interact with extended producer responsibility (EPR) systems, which is another way it could be scaled up. Vincent said the standard is not currently being piloted as part of any EPR programs, but discussions are underway.

Heidi Sanborn, executive director of the National Stewardship Action Council, said she had not heard the concept of a crediting system come up as a necessity in North American EPR discussions yet. While she welcomed discussions with producers looking to reduce plastic, Sanborn said she is generally skeptical of market-based initiatives that may not lead to the levels of sustained corporate investment that EPR supporters say new policies could.

"The financing needs to come from the producers, period," said Sanborn, adding an initial concern about the credit system concept is *"they're trying to create a perception of a new accountability mechanism to ensure that they're not really having to pay for this."*

Vincent said Verra is aware of the critique that companies could mainly purchase credits to offset their current levels of plastic production and said source reduction is still the preferred approach. Yet she also believes some amount of plastic usage can still be expected near-term, so a credit system could account for that while enabling a transition period to lower usage.

"A company couldn't just reduce its emissions from one day to the next, there's got to be some sort of bridge there to help them do that," said Vincent, referring to Verra's experience with carbon markets as an example of how it could work. *"I think that's all going to lead us toward a place where we can have reduced plastic in the environment and only be using plastic where it's absolutely necessary."*

Written By: Cole Rosengren
August 5, 2020
Source: *https://www.wastedive.com/news/plastic-waste-reduction-standard-verra-epr/582950/*

DEP Accepting Applications for Small Business Energy and Environmental Projects

PADEP announced the availability of $1 million in grant funding to Pennsylvania small businesses and farmers for energy efficiency, pollution prevention, and natural resource protection projects through the Small Business Advantage grant program.

"Pennsylvania is committed to assisting those small business owners who want to become energy efficient, increase their profitability, and help the environment," said DEP Secretary Patrick McDonnell. *"This funding will support projects designed to reduce operating costs and boost competitiveness, while simultaneously protecting the environment."*

Eligible projects include adopting or acquiring equipment or processes that reduce energy use or pollution. Examples of eligible projects are HVAC and boiler upgrades, high-efficiency LED lighting, solvent recovery and waste recycling systems, and auxiliary power units deployed as anti-idling technology for trucks.

Last year, 233 small businesses were awarded grants for their projects. *"We are excited to expand the program to help lower energy bills through the use of solar energy,"* McDonnell said. *"Encouraging businesses to embrace alternative energy projects helps clean our air, reduces greenhouse gases, and give small business owners a sense of satisfaction on making smart choices."*

Pennsylvania-based small business owners with 100 or fewer full-time equivalent employees are eligible. Projects must save the business a minimum of $500 and 25 percent annually in energy consumption, or pollution related expenses. Businesses can apply for 50 percent matching funds of up to $7,000 to adopt or acquire energy-efficient or pollution prevention equipment or processes.

Applications will be considered on a first come, first served basis, and will be accepted until fiscal year 2020-21 funds are exhausted or April 12, 2021, whichever occurs first. All applications must be submitted through the Commonwealth's Single Application for Assistance. To contact the Small Business Ombudsman's Office, call 717-772-5160 or email epadvantagegtrant@pa.gov.

Can an Organized Fridge Help Reduce Food Waste?

Yes! As a result of the Coronavirus pandemic, most of us are doing a lot more cooking while trying to make a lot fewer trips to the grocery store. And the refrigerator is probably feeling it.

It's time to give the appliance the love and attention it deserves. An organized fridge will help you save time and money, while also helping to extend the shelf life of your groceries. It also means less food waste, fewer odors, and less frustration trying to find the broccoli hiding amid the shelves. Here are strategies to help you make the most of your efforts.

Clean First to Improve Flavor and Shelf Life: Clean your fridge from top to bottom before diving into the actual organizing. A sparkly fridge is not only nicer to look at but it's also better for your groceries. *"Your refrigerator can take on a microbial profile,"* says Rosemary Trout, program director of culinary arts and food science at Drexel University. *"When you have a lot of things that might be going bad, you can have airborne mold that can spoil other foods and often impart unpleasant flavors onto foods."*

Soap and water are all you need. It's important to minimize the amount of time food stays outside of the fridge. Wait to do a deep clean until you're low on groceries. And even then, take it shelf by shelf. If you have highly perishable foods, like meats or fish, put them in a cooler with ice packs while you clean.

Store meat on the lowest shelf: Chicken, salmon, and steak: They should all go on the bottom level. *"This is usually the coldest part of your refrigerator, and also, there's less chance for cross-contamination when you keep them down below,"* says Trout. Raw meat can spread pathogens if packaging leaks, which becomes a problem for ingredients like lettuce that aren't cooked before eating. If refrigerator space is tight and you can't isolate meat and seafood, double wrap it in the same plastic grocery bag that you took it home.

The Door is For Ketchup, Not Milk: The door is often the warmest part of a refrigerator. In other words, it's not the place to stash your perishables, including milk and eggs. *"Stick to condiments,"* says Don Schaffner, food microbiology professor at Rutgers University. *"Condiments usually have a higher salt content and lower pH value, which makes them more shelf stable."* As for butter? Schaffner says door storage is fine.

An over-packed fridge is not your friend: A fridge stuffed to the brim reduces energy efficiency by making it harder for air to circulate. This can decrease shelf life, too. *"That air flow helps to maintain the right temperature of the fridge,"* says Trout.

An over-packed fridge also means you spend longer looking for something. (Where did I put the scallions?) The longer you keep the fridge open, the harder it has to work to bring the temperature back down. Overstuffing the freezer is less of a problem, says Trout, but you should be smart about how you pack it to minimize the amount of time the freezer door stays open. Not sure where to start? Try categorizing frozen foods; fruit and veggies on the left, frozen meat on the right, and prepared foods in the center.

When doubling up on ingredients, store them back to back: There are four words to remember when it

comes to the fridge: *"First in, first out,"* says Schaffner. *"You want to use the oldest food first to cut down on waste, and create a system to do so,"* says Schaffner. *"I follow the 'keep like with like' rule — the new container of half-and-half goes right behind the older container, and this way I don't reach in the fridge and mistakenly open the new one."* Schaffner says to do this in the pantry, too. Put the newest boxes of pasta in the back of the cupboard, and rotate them forward each time you load up on more.

Keep your cheese away from your cherries: Love cheese? Dedicate a drawer for dairy. If you don't have the room, just be sure to stash your cheddar away from your produce, says Trout. *"Produce, cherries especially, pick up flavors from other foods nearby,"* says Trout. Separating produce from dairy, and dairy from meat, will also reduce the potential for cross-contamination.

Set the right temperature for longer shelf life: The FDA recommends keeping your refrigerator at or below 40 degrees Fahrenheit. If your refrigerator doesn't have a built-in thermometer, Schaffner says to steer towards the cooler settings available to you. *"A colder fridge will give you a longer shelf life, but occasionally that'll mean your lettuce freezes,"* says Schaffner. *"The solution isn't always to raise the temperature — first, try a new spot for the lettuce. Every refrigerator is different, so you'll have to learn where your extra-cold spots are."* Keep the freezer at zero degrees Fahrenheit or below.

Send extra fruit to the freezer: Whether you need extra room in your fridge or just bought one too many cartons of strawberries, use your freezer to save fruit. *"You really don't need to do anything special for berries — just throw them in a bag, and date it with a Sharpie,"* says Trout. Revive frozen fruit in smoothies, oatmeal, cobblers, wine (as ice cubes), fruit syrups (for pancakes), and more.

Use drawers to save produce from wilting and spoiling: Most refrigerator drawers have adjustable humidity vents, which allow you to close off the airflow (creating more humidity) or open it up (decrease the humidity). If you don't see a humidity slide on your crisper drawer, it's probably built for high humidity. Humidity helps prevent vegetables that wilt from shriveling up, like lettuce, kale, and asparagus.

Drawers are also good for produce that releases ethylene, a gas that's released as certain fruits ripen, like apples, kiwis, peaches, and pears. Ethylene can cause other produce to ripen or spoil more quickly. Close off the airflow of your drawer, and you'll prevent the ethylene from flowing to other parts of the fridge.

Write yourself notes, and reserve the top shelf for fresh, ready-to-eat items: Keep the foods you eat the most closest to eye level for easy access. The top shelf is also a prime spot for foods that go bad quickly. This ensures you see them every time you look in the fridge. To keep your drawers from turning into compost bins, Schaffner recommends posting notes on your fridge. *"Just this week, I wrote a note saying, 'Hey remember to eat some oranges, and they're in the bottom drawer,' "* says Schaffner.

Curious about the shelf life of an item? There's an app for that: If you're not sure how long you can keep that opened bottle of BBQ sauce, check out the USDA's FoodKeeper website, also available as a smartphone app for Android and Apple devices. The platform lets you learn about storage for everything from barley to rotisserie chicken to shredded coconut and cantaloupe.

Written By: Grace Dickinson
May 19, 2020
Source: *https://www.inquirer.com/food/coronavirus-covid-19-food-storage-tips-20200519.html*

Concerns Over PFAS & Their Impact on the Industry

The presence of *"forever chemicals"* in the waste stream remains a top concern for the industry, as operators shift towards long-term planning and experts increasingly point to potential future breakthroughs around treatment methodologies.

This year's virtual SWANApalooza featured numerous panels devoted to issues surrounding per- and polyfluoroalkyl subtances (PFAS), including emerging research about the chemicals. Potential treatment methods were another key focus, particularly for landfills. Speakers also acknowledged the presence of PFAS at organics processing facilities and incinerators, which is increasingly drawing attention from lawmakers.

"The train has left the station regarding regulating PFAS on a national level," said Frank Marine, president of Texas Molecular, a permitted hazardous waste disposal company, during one session. Marine offered advice for landfill operators and others tackling PFAS, pointing to the realities of the issue as scrutiny over contamination expands to include the waste industry. *"You have public perception and political response going on as it relates to PFAS,"* he said.

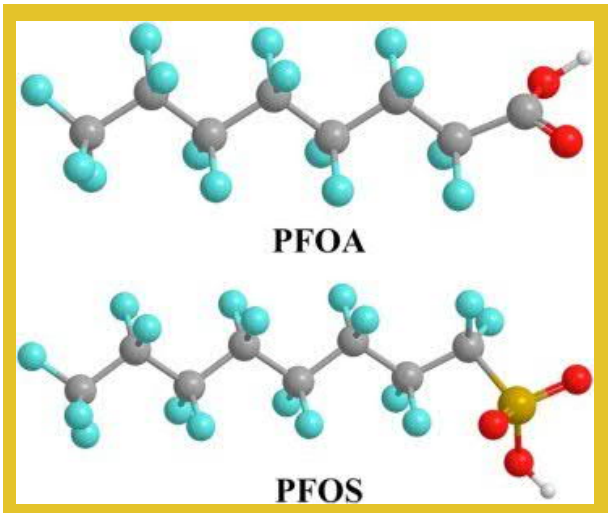
PFAS are inevitable in the waste stream given their prevalence in everyday items, ranging from nonstick pans to food packaging, and they do not break down naturally. While the U.S. EPA has not established a maximum contaminant level for any PFAS, the agency is facing pressure to do so for drinking water. PFAS in leachate and wastewater have received less attention, but Marine advised that the industry should plan with the future in mind.

"A lot of decisions are not made on regulation, but they're made on perceived risk for the future," he said, noting facilities could face retroactive liability if and when regulations ultimately arrive at the federal level, with legislation already underway in a number of states that could bring similar measures.

Part of planning for the future entails a focus on identifying contamination levels on a site-by-site basis, along with treatment and destruction. Researchers at the conference repeatedly stated, however, that much of their work remains in early stages and that significant study is still needed to expand the understanding of how PFAS interacts with waste systems.

Morton Barlaz, head of the Department of Civil, Construction, and Environmental Engineering at North Carolina State University, said part of the issue is the sheer number of PFAS. *"Most commercial labs can analyze for a set of 24 compounds specified by the EPA,"* he said, noting the chemicals are part of a family containing more than 4,000 substances.

Of those thousands of chemicals, two are the most often targeted by legislation; PFAS and PFOA, which have been repeatedly linked to health issues including cancer. Both are *"long-chain"* variations, a designation that typically implies six or more carbon atoms in a chain, with *"short chain"* indicating fewer carbons. Manufacturing of both chemicals is banned in the United States, and the EPA announced this week it will block imports of PFOA and a few other related substances.



Atomic Structure of PFOA and PFOS

Photo Credit: Douglas and London

PFOA has been replaced in production by GenX, a short-chain substance that lab tests have shown can cause many of the same health problems. And other, less well-known chemicals have been detected in leachate, including 5:3 FTCA, which researchers have found to be a major component of PFAS in landfill discharge at some sites. Under the EPA's Toxic Release Inventory, 172 PFAS are being monitored in 2020 for reporting in 2021. But Marine noted that reporting comes with a 100 pound threshold, a large amount given that PFAS is often measured in parts per trillion.

"The analysis is expensive and it's complicated. If you're starting from scratch, it can easily take six to 12 months to develop the methods, assuming you have a PhD chemist devoted to it and a very, very good instrument," said Barlaz.

Even after site operators understand what compounds they are dealing with, effective treatment options remain limited. Three of the most commonly cited technologies are granulated activated carbon (GAC), ion exchange (IX), and reverse osmosis (RO). All three offer the advantage of both onsite and offsite options, but each comes with various drawbacks. GAC and RO may both work better for long-chain compounds, for example, while IX can be less effective for PFOA. In each treatment method, it is unclear that the PFAS will be completely destroyed, and they may serve mostly to reduce the chemicals and bide time until more thoroughly destructive technologies emerge in the next few years.

Pretreatment is another significant factor. *"PFAS treatment in landfill leachate is one of the most difficult of all PFAS technologies I've come across,"* said Francis Boodoo, director of applied technologies at Purolite Corporation. *"You need a lot of pre-treatment. If you don't have good pretreatment, none of these technologies will work well."*

Another option is incineration, which experts say works well with solids. Several speakers noted, however, that lawmakers are increasingly targeting PFAS incineration. And recent research in areas like Cohoes, New York has found issues around complete combustion. Destroying PFAS may involve temperatures of over 2,000 degrees Fahrenheit, along the levels of a hazardous waste incinerator and beyond the capabilities of some facilities.

Reverse Osmosis Water Treatment Plant

Photo Credit: Tarpon Springs (Flickr)

Deep well injection is also feasible in some areas, like Texas and the wider Gulf Coast, where geology and a more open regulatory environment allow for that option. Marine cautioned that approach can be costly, given transportation to disposal sites, and a potentially lengthy permitting process.

More long-term solutions may rely on research already underway. Barlaz noted one study at North Carolina State University analyzing PFAS in landfill gas using a cross section of U.S. landfills. Other ongoing research at institutions nationwide includes studies on nanofiltration and electrochemical oxidation, as well as PFAS treatment methods and PFAS in publicly owned treatment works.

And the SWANA Waste Conversion and Energy Recovery Applied Research Foundation's topic this year is the fate and transport of PFAS in waste-to-energy facilities. That ongoing focus is shaping the industry's approach to tackling PFAS, even as Barlaz and others cited the importance of optics around the problem.

"Landfills and compost facilities and wastewater treatment plants did not make PFAS," he said, adding *"they're receiving PFAS from you and me in society because we use things that contain PFAS."*

Written By: E. A. Crunden
June 26, 2020
Source: *https://www.wastedive.com/news/swanapalooza-pfas-regulations-incineration-landfills-solutions/580527/*

Fairless Landfill Pollinator Garden Turns Seven

Fairless Landfill's seven-year-old pollinator garden and the wide community partnership that has turned the project into an environmental classroom has received gold certification from the Wildlife Habitat Council (WHC) for the project's commitment to environmental stewardship.

Langhorne resident and project founder Judy Archibald said Fairless's garden and Intergenerational Pollinator Partnership Project delivered 30 inquiry-based learning opportunities that reached close to an annual average of 1,000 learners between 2017 and 2019.

Mrs. Archibald said the pollinator garden and adjacent meadow were developed on a 1.5-acre grass field in 2014. Today, there are 86 nectar-rich native plants growing in the habitat that support 66 different species of butterflies and other pollinators. In addition to the Wildlife Habitat Council Gold Certification, the Fairless's habitat project retains certifications by the National Wildlife Federation, Monarch Watch, North American Butterfly Association and as a Penn State Pollinator Garden.

Since 2016, employees, families and community partners, in coordination with Monarch Watch, have tagged and released 481 monarch butterflies. Monarchs are regular visitors to the garden and will be collected, tagged and released during the annual research event at the site. *"The goal of the project is to actively engage employees and the community in learning opportunities that promote pollinator protection, monarch conservation and sustainability,"* Mrs. Archibald said. *"Partners joining them on their pollinator journey include Pennsbury Manor, the Falls Township Senior Center, The Pen Ryn School, Pennsbury School District, Snipes Farm and Education Center, Bucks County Audubon and Churchville Nature Center."*

Mrs. Archibald said the project was launched by eight Waste Management employees who wanted to improve pollinator protection awareness and in 2019 alone, actively involved 1053 employees, families and community partners. This year, by making necessary modifications due to Covid-19, the project continues to thrive. *"The many hours spent by our Garden Committee learning at the Waste Management pollinator garden enabled them to plan and the Center's pollinator garden*

Family, friends, and staff gather around the certification sign to celebrate the 7th year of the pollinator garden and the award of Gold Certification Status to the Fairless Landfill.

Photo Credit: Adrienne Fors, Waste Management

that serves as an outdoor space for our 850 members," said Falls Township Senior Center Manager Cecelia Murphy.

"The Intergenerational Pollinator Partnership Project is recognized as meeting the strict requirements of WHC Conservation Certification," said WHC President Margaret O'Gorman. *"Companies achieving WHC Conservation Certification, like Waste Management, are environmental leaders, voluntarily managing their lands to support sustainable ecosystems and the communities that surround them."*

"We are thrilled to receive this honor and thank our employees and partners for continuing to advance pollinator protection in Lower Bucks County by creating habitat pollinator gardens in the community," Fairless Landfill Manager Bob Jones said. *"In 2001, our site received one of the company's first Wildlife Habitat Council certifications and we have maintained the longest continuous certification in the company. Attaining this gold certification reinforces our high level of commitment to conservation, stewardship and environmental protection."*

WHC promotes and certifies habitat conservation and management on corporate lands through partnerships and education. WHC Conservation Certification programs take corporate sustainability goals and objectives and translate them into tangible and measurable on-the-ground actions. Through a focus on building collaboration for conservation with corporate employees, other conservation organizations, government agencies and community members, WHC programs focus on building and protecting healthy ecosystems and connected communities.

WHC-assisted wildlife habitat and conservation education programs are found in 48 states and 25 countries. www.wildlifehc.org.

Written By: Adrienne Fors
Source: Waste Management

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Note of interest—sponsors to either the Road-E-O or the annual Fall Conference are eligible for a free advertisement in an upcoming issue of the Keystone SWANA Newsletter.

Tri-County Industries Constructs CNG Station

In 2016, Tri-County Industries, Inc. in Grove City began developing long-term plans to convert its fleet of refuse collection vehicles to compressed natural gas (CNG). TCI foresaw the need to phase out pollution-emitting diesel trucks in favor of cleaner (CNG) vehicles. But a reliable, accessible source of CNG fuel was a missing key to achieving this goal.

The State of Pennsylvania recognizes that reducing diesel emissions is important to the long-term health and wellbeing of the state's residents and their environment. To encourage conversion from diesel to cleaner fuel types, the state awards Alternative Fuels Incentive Grants to projects each year. In December 2017, Tri-County Industries was selected to receive a grant that partially funded the construction of a CNG filling station at its Grove City transfer and garage facility.

Tri-County Industries selected Insight Fuel Inc. as the station equipment provider and construction/installation contractor to expedite procurement, construction and project management. Construction took place over a 16 month period which included site selection, grading, erosion and sediment control, utility (gas and electric upgrades), pouring concrete pads, and installation of CNG fueling station equipment. The equipment includes Arial compressors, PBS twin dryers, PBI storage tubes, and a Kraus Dispenser.

TCI truck collecting recycling

Photo Credit: Tri-County Industries, Inc.

Despite delays due to COVID-19, the project has been completed and that station is now in operation. The filling station is located just off State Route 208 and in the future will be accessible to fuel vehicles owned by the general public at the fast fill dispenser. The station will be operated by an affiliated company Lego V LP. A slow fill system for overnight filling of parked trucks is being added to the facility.

Tri-County Industries has recently purchased six CNG truck tractors for transfer trailer movement along with four new CNG front loaders and ten CNG fueled intermediate size trucks which are now all in service. The switch to CNG vehicles is part of a company-wide initiative to make further and best use of a renewable resource: landfill gas from their sister company Seneca Landfill Inc. Currently CNG trucks can fill at the Lego V/ Seneca Landfill fast fill station opened in 2018 with upgraded renewable landfill gas. The companies with Lego V LP are exploring ways to move the green bio-gas between facilities. This end-to-end solution will significantly reduce the reliance on fossil fuels.

Tri-County Industries, along with Seneca Landfill Inc. are part of Vogel Holding Inc. headquartered in Mars PA, where Vogel trucks can also fuel at a Vogel Disposal Service slow fill site. A fourth CNG station is under construction at their Valley Waste Service Inc. location in Beaver Falls, PA. The Vogel companies are jointly committed in pursuing innovative ways to decrease emissions and increase clean energy usage.

Written By: Andrew Orient
Source: Tri-County Industries/Vogel Disposal Service

Ruins from Pompeii Show Romans Invented Recycling

They were expert engineers, way ahead of the curve on underfloor heating, aqueducts and the use of concrete as a building material.

Now it turns out that the Romans were also masters at recycling their rubbish. Researchers at Pompeii, the city buried under a thick carpet of volcanic ash when Vesuvius erupted in 79 AD, have found that huge mounds of refuse apparently dumped outside the city walls were in fact *"staging grounds for cycles of use and reuse"*.

Professor Allison Emmerson, an American academic who is part of a large team working at Pompeii, said rubbish was piled up along almost the entire external wall on the city's northern side, among other sites. Some of the mounds were several metres high and included bits of ceramic and plaster, which could be repurposed as construction materials. These mounds were previously thought to have been formed when an earthquake struck the city about 17 years before the volcano erupted, Emmerson said. Most were cleared in the mid-20th century, but some are still being discovered.

Scientific analysis has now traced some of the refuse from city sites to suburban deposits equivalent to modern landfills, and back to the city, where the material was incorporated into buildings, such as earth floors. With fellow archaeologists Steven Ellis and Kevin Dicus, who worked on the University of Cincinnati's excavations, Emmerson has studied how the ancient city was constructed.

"We found that part of the city was built out of trash. The piles outside the walls weren't material that's been dumped to get rid of it. They're outside the walls being collected and sorted to be resold inside the walls."

Pompeii was a city of elegant villas and handsome public buildings, open squares, artisan shops, taverns, brothels and bathhouses. It included an amphitheater that hosted gladiatorial games for audiences of up to 20,000.

When volcanic dust from Vesuvius *"poured across the land"* – as one witness wrote – enveloping the city in darkness, at least 2,000 people died. In 1748, a group of explorers discovered the almost perfectly preserved city under a hardened carpet of ash and pumice. Even a loaf of bread was found preserved by later archaeologists.

Emmerson and her colleagues used soil samples to trace the movement of rubbish across the city. *"The soil that we excavate differs based on where the garbage was left originally,"* she said. *"Garbage dumped in places like la-*

The Porta Ercolano suburb outside the northern wall of Pompeii. When the area was excavated, ancient rubbish was found piled in and around the tombs, houses and shops.

Photo Credit: Allison Emmerson

trines or cesspits leaves behind a rich, organic soil. In contrast, waste that accumulated over time on the streets or in mounds outside the city results in a much sandier soil. The difference in soil allows us to see whether the garbage had been generated in the place where it was found, or gathered from elsewhere to be reused and recycled."

Some walls, for example, included reused materials such as pieces of tile and broken amphorae, and lumps of mortar and plaster. *"Almost all such walls received a final layer of plaster, hiding the mess of materials within,"* she said.

"The idea has been that all this garbage resulted from that earthquake – consisting of rubble that had been cleared out of the city and dumped outside the wall to remove it from daily life. As I was working outside Pompeii, I saw that the city extended into developed neighbourhoods outside the walls ... So it didn't make sense to me that these suburbs were also being used as landfills."

A fresco depicting the distribution of bread from a tablinum at Pompeii.

Photo Credit: Getty Images (DEA/L Pedicini/De Agostini)

Typical Bathhouse found among the ruins of Pompeii

Photo Credit: Pixabay (MAKY_OREL/1958 images)

Modern approaches to waste management focus on removing rubbish from our daily lives, she added. *"For the most part, we don't care what happens to our trash, as long as it's taken away. What I've found in Pompeii is an entirely different priority, that waste was being collected and sorted for recycling."*

"The Pompeiians lived much closer to their garbage than most of us would find acceptable, not because the city lacked infrastructure and they didn't bother to manage trash but because their systems of urban management were organized around different principles. This point has relevance for the modern garbage crisis. The countries that most effectively manage their waste have applied a version of the ancient model, prioritizing commodification rather than simple removal."

Pompeii is now a Unesco world heritage site and, in normal times, attracts 2.5 million visitors each year. So if you ever find yourself in Pompeii, take a look for the recycled materials mentioned here.

Written By: Allison Emmerson, The Guardian
April 26, 2020
Source: https://www.theguardian.com/science/2020/apr/26/pompeii-ruins-show-that-the-romans-invented-recycling

PADEP Announces New Online Application Tool

The Pennsylvania Department of Environmental Protection (DEP) today announced a new online permit application tool that will help permit applicants submit their permit applications electronically. The new tool, OnBase-DEP Upload Form, will allow applicants to submit applications for all DEP authorizations.

"Online permit applications will allow for faster processing and more focus on parts of the permit application that relate to the environment and public health," said DEP Secretary Patrick McDonnell. *"Paper applications will still be accepted, but applicants are strongly encouraged to use this new electronic permit application submission tool to improve the efficiency of the permit application submission and review processes as DEP employees continue to telework to help control the spread of COVID-19."*

DEP had previously developed several online permit applications in its e-Permitting system under the Wolf administration and has reduced the backlog of permits under review by nearly 90 percent. Payment for application fees is not a part of the tool, and applicants will still need to submit payment under separate cover. Applications for permits that are included in DEP's e-Permitting system should only be submitted in the e-Permitting system.

"As we begin to recover from the impacts that COVID-19 has had on Pennsylvania, improving the permit application process will help businesses get back on their feet and people back to work," said McDonnell. *"Electronic permitting is an important new tool for applications, and will continue to allow DEP staff still under telework orders to efficiently review applications."*

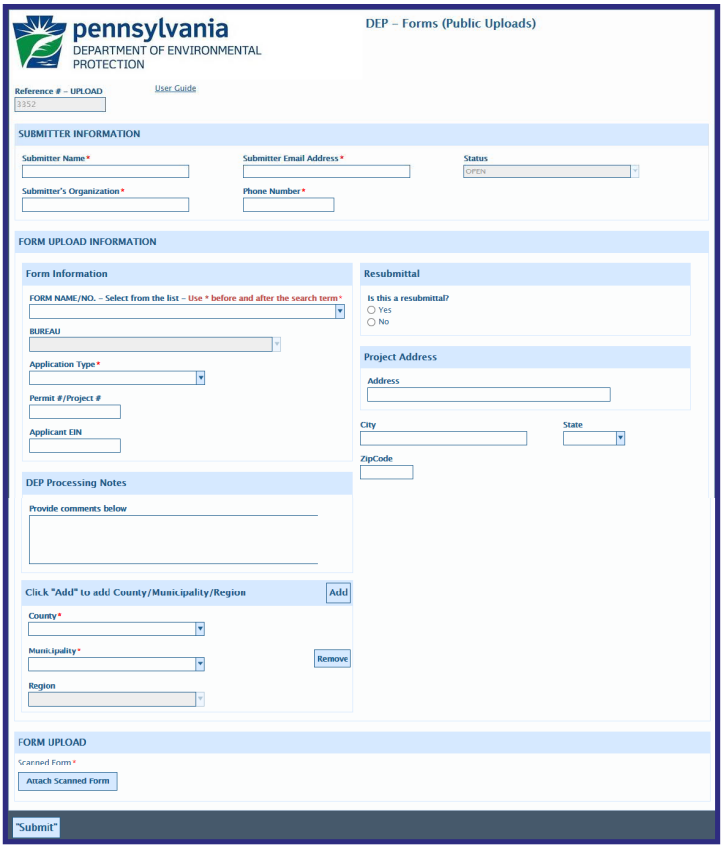
Benefits of the online tool include:

- Lower costs for DEP and applicants – no paper and mailing envelopes
- Better efficiency for DEP staff; applications can more easily be moved between staff to prevent backlog
- Allows DEP staff to continue to process applications without going into an office, ensuring continued operations through pandemic conditions

"These applications will still be scrutinized for impacts to the environment and public health – but we can cut down on needless back and forth letters between DEP and applicants over missing information or incorrectly submitted applications," said McDonnell.

More information on the online permitting tool can be found at: *https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx*

Written By: Neil Shader, DEP
Released: June 22, 2020
Source: DEP Newsroom - https://www.ahs.dep.pa.gov/newsroompublic/articleviewer.aspx?id=21828&typeid=1



Waste Management Among Haulers to Expand CNG Fleet

Waste Management (WM), North America's leading environmental service provider, has recently upgraded collection fleets at two hauling sites in western Pennsylvania to run on Compressed Natural Gas (CNG).

The company's hauling sites in Ambridge (Beaver County) and North Huntingdon (Westmoreland County) mark the third and fourth sites (respectively) to upgrade and green their fleet in the western part of the Commonwealth.

Ambridge Hauling put its first CNG truck on the road in October 2019. The site currently operates 29 CNG trucks, and by the end of 2020, will have converted more than 60% of its fleet, servicing customers in Allegheny and Beaver Counties.

The company's North Huntingdon Hauling location put its first CNG truck on the road this April. The site will deploy 25 CNG trucks in 2020, representing 35% of the fleet, with full conversion of its entire 74 truck fleet by 2022. This hauling site services customers in Westmoreland and Allegheny counties, including the City of Pittsburgh and surrounding metropolis area.

Waste Management currently has 166 CNG trucks on the road in western Pennsylvania; deploying from hauling sites in Beaver, Erie, Washington and Westmoreland Counties and providing service to customers in 11 different counties. The company plans to continue building the CNG fleet, and by the end of 2020, trucks operating on CNG will represent around to 40% of the total fleet in the region.

Waste Management has benefited from the State's Alternative Fuel Incentive Program. In 2019, Waste Management received $600,000 from the program to support the purchase of 16 new CNG trucks at hauling sites in North Huntingdon (8 trucks), Gilberstville (4 trucks), Dunmore (3 trucks) and Bristol (1 truck).

In addition, the company received a $400,000 grant from the Class 8 and Transit Bus Grant Program to support the purchase of 10 trucks at hauling sites in Ambridge (5 trucks), Dunmore (4 trucks) and Bristol (1 truck).

Waste Management has been a pioneer in the use of natural gas in our fleet since the early 1990s. At the end of 2019, the company had 8,924 natural gas trucks in its fleet, the largest heavy-duty natural gas truck fleet of its kind in North America.

By 2038, WM will offset four times the Green House Gas emissions we generate through our operations. We plan to achieve this goal by continuing our transition from diesel to alternative fuel vehicles in 90% of our entire fleet, and our most recent investments/upgrades in western Pennsylvania help us get one step closer to our 2038 goal.

Written By: Adrienne Fors
Source: Waste Management

A CNG powered collection truck filling up.

Photo Credit: Adrienne Fors, Waste Management

SWANA Keystone Chapter Calendar of Events

For more Information, event registrations, and updated information please go to the Keystone Chapter's website: http://www.keystoneswana.org/

****NOTE Schedule is subject to change****

AUGUST 2020

- Distribute Summer Edition of *The Keystone*

SEPTEMBER 2020

CANCELED

- ~~Thursday and Friday, 9/17-9/18, **Annual Joint Fall Conference, Hilton Harrisburg**~~
- Thursday 9/17, 10AM, **Natural Aquatic Life Treatment System Mini-Tech Seminar** at the Greater Lebanon Refuse Authority
- Friday 9/18, 1PM, **Chapter Annual Business Meeting and Election** via web meeting. All members are welcome and encouraged to attend, and can email Chanda@keystone.org for a link!

To Be Determined

Postponed

- **Metals Recovery from MSW Ash Mini-Tech Seminar** at Frey Farm Landfill

We are all in this together!

These are challenging times. There is unprecedented disruption in our personal and professional lives. As we emerge from the other side of this experience, we'll be relying on traditions for a sense of normalcy. Reuniting with family, friends and colleagues will renew our spirits.

There is no greater tradition for Pennsylvania's waste industry professionals than the Annual Joint Fall Conference. For 21 years, the Keystone Chapter of the Solid Waste Association of North America (SWANA) and the Pennsylvania Waste Industries Association (PWIA) have hosted this event. We always exceed our attendee goals.

As we plan for a September event, however, uncertainty lingers. Circumstances beyond our control continue to change daily. Many unknowns about the coronavirus, and the status of social distancing policies remain.

One thing is crystal clear. Nothing is more important than the health and safety of our attendees, sponsors, and exhibitors. Cautious consideration for our members and colleagues led us to the difficult decision to cancel this year's event.

We anticipate joining together in greater numbers than ever in 2021.
Until then, stay safe and stay healthy.

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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 us at : **admin@keystoneswana.org**.

Chapter members: please freely share this info with others that you work with or who have an interest in waste news in PA.

The SWANA Newsletter is published 3 times a year in **April, August, and December.**

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.

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Our email is: **admin@keystoneswana.org**

Barton&Loguidice

This publication was produced by Barton & Loguidice on behalf of the SWANA Keystone Chapter.