



Hi everyone, welcome to Waste360s NothingWasted! Podcast on every episode we invite the most interesting people in waste recycling and organics to sit down with us and chat candidly about their thoughts their work this unique industry and so much more so thanks for listening and enjoy this episode.

[INTRO MUSIC]

Liz: Hi everyone, this is Liz Bothwell from Waste360 with Anne Germain, VP of Technical and Regulatory Affairs at the National Waste and Recycling Association. Welcome Anne and thanks for being here.

Anne: Hi Liz. Thanks for having me.

Liz: So please tell us about your background and how you got into this fantastic industry.

Anne: So I have been in the waste and recycling industry since the dawn of time I think it's about 1990 so almost 30 years. And my first on tray into it was I worked for a county government, a small county in Maryland. I'm a civil engineer and so I took over the landfill projects and at that time Maryland had passed some requirements for the counties to start recycling. And so, I became the recycling coordinator for this county as well.

And so, between doing all the recycling and the waste management, I fell in love with the industry. I had a lot of support from the janitors because we kept the recycling bins

right at my office and any time somebody threw away something that was supposed to be thrown away, janitors at the end of the night would line them up on the top of my cubicle wall. So, in the morning when I would arrive, I would know like how many people were throwing things away in the recycling bin versus the trash and we would we would discuss it. So, I had support from the janitorial staff and was able to take off then from there. I worked in the public sector side for most of my career. I worked for the Delaware Solid Waste Authority. Early on I had while still working in Maryland, I had heard their CEO and Steve give a talk and I was really inspired by him. And then when I saw a position open up with them, I decided to go for it and then I was I was there for a good length of time, I was 19 years and ended up being their chief engineer working on primarily capital projects, building new facilities but also working on compliance and operations, so there is a bunch of different things that I was involved with there. And then finally in 2013, I came over and joined the trade association side and representing the private sector waste industry with the National Waste and Recycling Association. I've been here ever since and it's a completely different world on the private sector versus public sector. But I think we're all kind of working in the same direction to basically improve recycling and improve our waste management. And we're here representing them.

Liz: Oh, that's fantastic. And how lucky for them for you to come over with that engineering background and then your technical background and the public sector so good for you and what a storied career I think you may have started when you were two at this rate.

Anne: I wish.

Liz: So, you seem so skilled at collaboration and a lot of people have said that you're really great at gaining consensus in groups. Any advice you can give about that because it really can be an art form as well?

Anne: Wow that is not where I thought you were going to go with the questions.

Anne: So that's interesting and very flattering to hear that that's what people say. You know, I think whenever you enter into discussions or agreements or trying to work with people that might normally be on opposite sides of the fence on any topic you have to

think, you know, how can we generate a win-win. You know you have to recognize that not everybody is coming at the problem from the same approach but there's got to be some common ground that you have to start with and hopefully starting from that common ground people can find where their interests are aligned and work towards developing solutions.

And so, we do try to reach out and across the aisle whenever we can to between public and private sector, between different segments of the industry to see how we can all work together because ultimately, you know, we're trying to enhance the industry both from our ability to do our jobs but improve our safety and improve the environment. So, I think, you know, that's the overarching goal that we're all working towards. And with that you know we might have different details or different ways that we go about it. But with that in mind I think you can establish some common ground and work up from there.

Liz: True. And I just interviewed Susan Robinson from Waste Management. And you two both seem to be so generous with your time and energy when it comes to mentoring. Is this something you enjoy?

Anne: Absolutely. You know, I think you know it's a two-way street. You know you can talk about working with other people but usually this is where you kind of discover that you know there's different ways of thinking about things. And so when you start talking to people and you approach them and try and help them out with different aspects you know often if they're young people, they have like super great ideas they you know they have different thoughts you know they're not restricted in how they're they think about things because they haven't been doing it the same way for 20 years and sometimes that shows a little bit of naivete but sometimes it shows a breath of fresh air in you know not being restricted in how they approach things. So certainly, I love mentoring people, but you know I feel like I get as much out of any relationship as I put into it.

Liz: Oh, that's so nice. I recently heard a podcast where the CEO of SoulCycle was talking, and she said she consciously made an effort to seek out millennial mentors for herself. And she said she learned more than she could have ever dreamed and more than they would learn from her. So, you are kind of following that same suit. I love it. You seem to do a lot to empower women in this industry. Do you see the industry changing more diversity, more women, young professionals? What do you think?

Anne: Absolutely. Well so you know I also work with a bat which is the accrediting body for engineers and of all the engineering programs environmental engineering has the highest percentage of female engineers. And I think it's because the environment is a natural draw for a lot of women. And so, you know by extension the waste and recycling industry is very attractive I think to a lot of us naturally. And so, I do see a lot of women drawn to the industry and seeing what they can do. And I think it's from a perspective of wanting to improve the environment. And then from there it's like OK. So, what practical skills do I need to achieve that. And so, I think it's a different thought process that drives a lot of women there. But I've actually visited a couple of universities where environmental engineers' women actually had reached 50 percent so where some of the other disciplines are still very, very small in the representation for women.

Liz: That's great. And you spent many years at the Delaware Solid Waste Authority like you had mentioned and you're responsible for all of your capital projects and like you mentioned although I might use a different word, you really became known as an expert on landfills. What was your most challenging aspect of that work?

Anne: The thing about landfills is that every, every place is different. You know its site specific.

So, a landfill in one part of the country is going to be extremely different than a landfill in another part of the country because you're so dependent on how the ground is, where the groundwater is. But ultimately, you're working on achieving the same thing you know you want to protect the groundwater. And it's one of the most important things that we've done to protect the health and the environment is to get rid of old dump sites, like even when I started my career this was before Subtitle D was fully passed and so it was like at the beginning of subtitle G. And the requirements to have lined landfills. And so I saw the US transition from having dump sites to lined landfills and seeing that you know the improvement it's made in making sure that you know the groundwater is protected and the change also in air pollution regulations that have occurred over the years with New Source Performance Standards and when I first started in the industry you know most landfills didn't have landfill gas collection systems and you know we seen the transition for that. And so, you know it's about a mindset of making sure that we have

appropriate controls and you know conveying to people that what we're doing is protecting the environment by building these landfills.

You know, we are protecting the air we are protecting their groundwater and that's to change from what happened beforehand where a lot of old dump sites that used to exist had gone superfund and you know that's part of what caused the record. Subtitle D rules to go into effect and we just don't see that happening anymore.

But you know specifically in Delaware you know we have very high groundwater. It's a coastal state. And so, we had very different geotechnical soil conditions that we've had to address and so there are a couple of very challenging technical projects that were really fun to work on.

The one of our longest running projects was the cherry on landfill expansion which was built on top of an old dredge disposal area that had previously been run by the Army Corps of Engineers. And so that was a very different site. And it was the sub soils were not necessarily stable from the beginning and trying to deal with all the stability issues and still have an environmentally sound landfills was not just challenging but a nice project to kind of work on because you know it was a lot of fun with the working with the other folks in coming up with solutions on how to fix that.

Liz: Oh well I bet. And your role as director of technology when you initially joined NWA and also your previous background seemed to give you a front seat to observing technology in the industry. How do you think technology has changed waste and recycling?

Anne: So, one of the things that we've seen over the years is you know just the availability of from a collection perspective you know we've got so much technology that's going to help us improve the safety for our industry. You know, I know you're aware that the industry has experienced a lot of issues with respect to health and safety in particular for our drivers and people that are on our trucks and so automation certainly improves things significantly keeping people off the streets ideally and then having some of those cameras. And to be able to detect and retrain drivers should there be any issues. So, I think there's a lot of technical improvements that have been made.

And then technology has also helped us be able to get a better sense of what our data is. You know I think increasingly we're seeing people utilize technology for pickups in the carts and in some of the containers to be able to establish when containers are full, and you know what's in the containers. So, I think things are happening really rapidly and the changes are extraordinary.

Liz: So, you part of a session at WasteExpo called Single Stream vs Dual Stream and I felt like you played a great devil's advocate with questions that made us all think. What were your takeaways from that dialogue?

Anne: So, I certainly understand that as we're looking at lower commodity prices everybody's trying to figure out a solution. And so, this has hit everybody. I mean across the countries it's been a challenging couple of years right now. I mean the prices for recyclables have dropped significantly. As you know and so I think a lot of people are saying OK so if prices for commodities have dropped maybe you know, and we know that contamination is a factor in that. And there's been a lot of attention focused on trying to reduce contamination. So, a lot of people naturally might think to themselves like OK if we switch to dual stream will that change things. And frankly you know the answer is it's always easier to start with a cleaner product unit if somebody else is doing the work for you and the labor for you to segregate the material to the maximum extent possible. You know you're going to have a cleaner product. However, there are a lot of things that I think people that want to make the switch aren't taking into account. And so that's kind of what I was trying to make sure that people understood.

So, one of the biggest things is that collection is a huge portion of the cost associated with whether to go single stream or dual stream and we already touched briefly on the safety aspect and trying to stick with automation to the maximum extent possible. And so, going for automated collection for recyclables and yet trying to go to dual stream is extremely challenging.

Most dual stream collection is done through a bin system and that require somebody to be out of their truck. That's a lot slower. And that is a lot less safe. And it also means that when you have to have specialized trucks such as split trucks and when you do whatever compartment fills up first, you're stuck at that point you have to go back. So even if the other half of the split truck is filled up, you're done there are split trucks with

split carts that can be done in an automated fashion. But you know you still have the restriction of the if one side fills up faster than you have to go back. There might be like a workaround such as you know doing every other week collection, for one week you do fiber and then the next week you do containers with automated carts but then that also means that the consumers or the residents are going to end up having more bins. And you know we're already asking them to have a waste bin if they have to have two more bins for the recyclables and then a fourth been for organics.

There's going to come a point in time where there's going to be a revolt for just from a space perspective. I don't know how much space most people have and so you know there's a lot of operational considerations there just from the collection side that don't necessarily translate on there on the processing side.

And then once you get to the processing side there's other considerations on the dual stream single stream that a lot of people don't think about and in fact until I was preparing for the presentation, I hadn't thought a lot of this through.

I got schooled on this by some of our members where they were explaining that you know even if dual stream comes in, their single stream plant won't necessarily be because they're not designed for it. If you have a 30 ton per hour capacity plant and you're just bringing in fiber, then the container side if your plant is doing nothing. And so that's not you're not going to get 30 tons per hour because the fiber side of your plant is not designed for 30 tons per hour of the entire plant designed for 30 tons per hour and you want the entire plant to be working. And so, when they receive dual stream product some of them are telling me that they're trying to meter in that dual stream product and mixing it in with the single stream. So, then you're not accomplishing what you were trying to at the outset.

And so, for a community switch you ideally want to have a dual stream recycling facility to take your material to and then you know there's a lot of thought about the collection implications that we had previously discussed. There is also the last part which I touched on about the perception that OK, the other two speakers explained that they had done a huge outreach campaign and a marketing campaign to explain to people about the transition that they were making from single stream to dual stream and they ended up having very clean material.

And one of the things that I suggested was if you had a similar outreach or marketing campaign on an existing single stream facility, you're also going to experience a huge drop in contamination. Education we know is going to be productive at getting much cleaner products but most people unless they're making a change aren't making the investment in trying to educate the public about what the right way to recycle and even the communities that did continue with a lot of their education campaigns. A lot of them were really focused on trying to improve or increase recycling rather than necessarily giving any negative messaging about. Don't put this material in, instead saying you know recycling it's the right thing to do you should do it but then they wouldn't give them the lessons about well this is bad, don't put plastic bags in, keep your lithium batteries out, you know if you have soiled food in your containers or you have a half full of liquid you know make sure it's empty and dry you know that kind of stuff right. That kind of messaging was less prevalent because people just didn't want to discourage the public by giving that kind of negative message, so they were so focused on positive messaging to increase the recycling rate that I think you know we lost something along the way.

Liz: I think that's a great point and there's a lot of data out there to suggest a lot of the tagging programs and the stickers and things like that are having an effect that behavior is changing on the resident's side. So hopefully that will happen far and wide.

Anne: Yeah absolutely and one of the things that we've seen you know even as like when we get together you know, one of the first questions I asked during that presentation was I asked for a show of hands if anybody in the room had struggled with when they had something that they were done with a single use container and they looked at, they wondered to themselves "am I supposed to recycle this or is this trash?" And I asked for a show of hands and this is a group of recycling professionals in almost every hand in that room went up. So, if that's what we're doing, how are we able to appropriately educate the public and how can we expect that the public knows when we don't know?

Liz: Right. Exactly. And keeping it simple and being consistent. I think there's a lot we can do there.

Anne: Exactly.

Liz: And I obviously can't talk with you without asking your expert insights on the current state of recycling. I mean we're talking about it now and talking about education and you mentioned commodities pricing and, but you've been one of our go-to whenever we discuss China or Asia when it comes to the recent bans and limiting the contamination. Now where do you think we stand and what's next in US navigating this new reality?

Anne: So obviously you know when China implemented the national store you know they did make an announcement. They let everybody know. And in 2017 they said OK. you know, at the beginning of 2018 you know we're going to stop accepting some materials and we're also going to start imposing stricter quality standards on the materials that we are taking.

The reaction among long term recycling folks was mixed. You know there are few people that said OK well so maybe they're going to stick to it. But there was a lot of doubt that they were going to stick with it for the long term partly because China had built up so much capacity. And they also have a strong demand for these materials and so the idea that China is going to be able to successfully banned the materials and not face an internal like supply issue was and in fact they are experiencing that internal supply issue. But there was a lot of people that thought well they're going to start off kind of a tough but then they're going to back off and we had all kind of experience the green fence back in 2013 where they did start requiring some improved standards but then they did that cycle ended.

So now I think people are recognizing that it's a little bit more serious than that. You know we don't expect those markets to come back. Good news there is there so many announcements for improvements on domestic capacity that we expect to be coming online and in fact you know looking at the announcements on capacity we expect that at some point there's going to be sufficient capacity to take up all the material that China was taking based on the announcements that have been made.

The unfortunate thing is that it's taking a while to build because you can't build a facility overnight. And so, we're looking at possibly 2021 before we really are kind of out of this trough with lower prices. I mean mix paper lost you know over 100 percent of its value

and it's really challenging when you say that you can lose over 100 percent of your value and cut the price still not necessarily stabilizing and then you know corrugated prices you know even since the end of December we thought that 2018 was going to be our are a challenging year but 20 19 you know the prices has dropped significantly since then. And so you know we're at some of the lowest prices that we've seen for the basket of commodities that the blood did value. So, you know that that pain is being felt throughout the industry. And you know on top of that you know Basil the parties to the Basel Convention last month did make an announcement that they were going to restrict plastic by adding a plastics to the convention. So, what it's going to require is prior notice and consent procedure for anybody that wants to export plastics between one party to another.

Unfortunately, the United States is not a party to the Basel Convention. So, in theory none of the countries that are party could trade with the United States on. So, our plastics exports could be even further reduced though since twenty sixteen are 2017 our plastics are down by two thirds in exports. It could drop it you know to almost 100 percent the OCD countries we would still have potentially the ability to export to those countries but most of the countries that we've traditionally sent our export plastics to are not OCD countries.

So, we're still waiting for the final fallout there. And of course, part of the reason why all that was instigated by all the Basel countries was the concern about the marine debris issues and there is a lot of worldwide concern I think on marine debris and you see it. I like one of the things I pointed out to a lot of our members was that in 2018, we had like a stat of the year that was announced and a word of the year that was announced in single use was the word of the year and the stat of year was ninety nine percent, I'm sorry, nine percent which represented the amount of recycled plastics and when you see that becoming like the general public. Where did the year you can really see how much this is weighing on people's minds and how focused there are. And you can see it with a lot of state legislation working on bag bans and straw bans polystyrene bans and so there's a lot of action occurring at different levels. We are definitely still experiencing lower commodity prices but obviously the majority of our recyclables or is paper and fiber, OCC and we anticipate at some point we are going to see an upturn. It's just not going to happen like next week. We don't expect it to happen really quickly, but I think there is like a dim, dim light at the end of the tunnel.

Liz: Good, good. And like you've said before many people have said we've been through this before and we've seen a lot. So, we're going to weather this as well. So, do you think more people are starting to think about end of life in the beginning of the product design process? Do you think we're getting there in that regard?

Anne: So, there has been, and I think in particular with this marine debris focus and that tremendous amount of focus that has been put on plastics there's been a lot of commitments by manufacturers over the past year for design for recycling as well as increasing recycled content. So, I think those are two things that we've seen coming out of some of the commitments being made by manufacturers for plastic.

So, I think it's becoming more of a focus. We as an industry aren't necessarily consulted as much you know there are certain people that you know to reach out to various companies within our industry but in general, they like to say make their determination. They work with a couple other associations and they'll run it by them. But sometimes our members don't necessarily agree with what's determined to be recyclable by other people. So sometimes we'll face something being deemed recyclable. Some of our members will be scratching their heads saying and who made that determination because we're not able to either collect it, sort it or have a market for it. And you need to have like all three of those things in order for it to be considered recyclable by our members. And so, there's definitely a feeling that you know we'd love to be at the table to talk to manufacturers about what can be recycled and what is recyclable and what needs to be done to the product packaging. And you know we've long recognized that the priority for the packaging is to protect what is in the package. So, we recognize that that's the greatest priority, but end of life should definitely be a consideration when designing a product.

Liz: And so, we've discussed a lot of it. What else do you think we should be paying attention to in the world of waste, recycling and organics?

Anne: So, a couple of things that are a big focus for me right now... One is forced to PFAs... these are poor and poly floral alkali substances and there's a lot of laws and regulations being pointed at PFAs and what these are. It's a group of substances that is used in a tremendous number of different products. Anything that requires like a

nonstick or stain resistant coating will have will generally be stain resistant or nonstick because of PFAs. So you're Teflon pans or that core inside of microwave popcorn bags or candy wrappers or you know all sorts of food products a lot of carry out containers might have families lining them but your upholstery and your carpeting and your rain repellent jackets and you know all that kind of stuff will have PFAs and not just that but cleaning products and personal care products and dental floss and you know there's just thousands and thousands of different applications. And so clearly as people like you some of these products and they get thrown away and they make it to the landfill. You know it's some of these PFAs are making it into the landfill Leach and the landfill Leach. Of course, gets sent over to a wastewater treatment plant and the wastewater treatment plants are getting tested and you know they don't want it. And so you know there's there becomes a conversation where well we need to figure out how to work with everybody on the PFAs issue and make sure that environment is protected but also make sure that people understand that you know their exposure to PFAs on a personal level is probably interacting with products that have PFAs in it more so than anything with landfills and because right now a lot of lawmakers have been looking at landfills as the source of PFAs and frankly it isn't. It's not that it doesn't have it in there but it's at such low levels that your exposure to be force is likely from food to eat products you use, rather than from anything related to the landfill.

So, you know we're working with internally as well as with some of our chapters as well as with other groups on trying to address the PFAs issues as they arise.

And then we're also really focused on trying to come up with something on lithium batteries. We have been working with all the other industry associations as well as EREF to try and do what we can to focus on getting our arms around like what all the issues are.

So first of all, we're having increasing frequency of fires occurring at our recycling facilities and in some of our trucks and often the source of that is a lithium battery. And with the lithium batteries getting smaller and more compact and more powerful trying to figure out what we can do to address lithium batteries how we can get them removed from our recycling stream so that we don't have these problems. And then also to try and come up with best practices so that our members will be prepared when they do encounter these batteries like how to recognize them, how to remove them, where to

store them, how to store them, you know, that kind of stuff so that they minimize their risk for a fire.

Liz: Right. That makes sense and I think that's on everyone's mind. So, what advice would you give to professionals considering entering this industry?

Anne: Anybody that wants to get into the waste and recycling industry, first suggest that it's a very exciting profession. It's never the same thing. The industry has changed so much since I started, and I expect it.

There are no significant number of changes to come. We see that when we do our presentations at WasteExpo and people start talking about the future and you know we know that automation will continue to accelerate but at the same time, there's also a lot of dealing with people you know are trying to improve industry safety, trying to improve technology, trying to make sure that the environment is protected and that we're trying to improve our resource conservation and as we tackle you know and effectively tackle one issue another issue will become the most prominent issue.

So, for example you know if we manage our recyclables and we end up coming up with a mature Staples system for recyclables then the attention will naturally turn to what the next issue is and you know so we already have heard more attention being focused on things like food waste because that's the largest material that's still going into the landfill. So, I think a lot of people are saying OK so if we if we are able to take care of our recyclables now let's turn our attention to food waste what can we do to keep that material and make it into a valuable product. And then like one of the things that is also rising in frequency at the landfills is a fast fashion you know a lot of people there's a lot of textiles and the management of textiles is going to I think become increasingly an issue. But that hasn't become the issue yet but as we continue down you know there's always going to be something else something new that we're going to be focused on.

Liz: It's so true and that's part of what makes it so exciting for new people and young people to get into this industry. So, it's great.

Anne: Exactly. Solve the world's problems. Come join us.

Liz: Exactly. So, what keeps you busy outside of work or are you still teaching yoga? Are you riding your bike to the office?

Anne: Yes. I got rid of my car a couple years ago, so I do ride a bike, but I do use one of those bike shares so that if it starts raining halfway through the day then I have the opportunity to change my mind. And I take the Metro home. But yeah, it's been great not having a car and not like relying completely on a bicycle. Yes, I am still teaching yoga. I know you think yoga is like one of the things that keeps everybody young and so I encourage everybody that is listening to this podcast to take a deep breath. and you know do a couple of stretches and it is wonderful it makes you feel so much better.

Liz: Oh, I love that. I agree every time I get away from yoga and I go back I wonder why the heck I ever left it to begin with. So, tell us how our listeners can hear more from you would love people to reach out to me.

Anne: Yeah they can reach out to me directly on my email a domain at waste recycling dot org or you know they can reach out to me on LinkedIn and annegermain@recycling.org and I'm easily found there and I'm happy to connect with other people that are interested and passionate about the industry.

Liz: Well you make that so clear and thank you for all you've done already, and this has been great. Thank you for spending so much time with us.

Anne: Thanks Liz.

Liz: OK talk soon. Thanks Anne.

Anne: Bye.