**Sustainability and Resiliency with Doug Walters of the Department of Sanitation & the Environment**

**Episode 120**

Doug Walters:

Anyone can solve a problem, right? You don't have to have a bunch of letters after your name, just all your passion on any of these types of topics, and you can have a great input.

Christina Barsi:

Hi, I'm Christina Barsi.

Sun Ezzell:

And I'm Sun Ezzell, and you're listening to the Magic Mountie Podcast.

Christina Barsi:

Our mission is to find ways to keep your ear to the ground, so to speak, by bringing to you the activities and events you may not have time to attend, the resources on campus you might want to know more about, the interesting things your colleagues are creating, and the many ways we can continue to better help and guide our students.

Sun Ezzell:

We bring to you the voices of Mt. SAC from the classroom to completion-

Speaker 4:

And I know I'm going to achieve my goals, and I know people here are going to help me to do it.

Speaker 5:

She is a sociology major and she's transferring to Cal Poly Pamona! Psychology major, English major.

Sun Ezzell:

From transforming part-time into full time-

Speaker 6:

I really liked the time that we spent with Julie about how to write a CV and a cover letter.

Christina Barsi:

Or just finding time to soak in the campus.

Speaker 7:

To think of the natural environment around us as a library.

Christina Barsi:

We want to keep you informed and connected to all things Mt. SAC. But most importantly, we want to keep you connected with each other. I'm Christina Barsi, Mt. SAC alumni, and producer of this podcast.

Sun Ezzell:

And I'm Sun Ezzell, Learning Assistance Faculty and Professional Learning Academy Coordinator.

Christina Barsi:

And this is the Magic Mountie podcast.

Christina Barsi:

Today we are talking with Chief Sustainability and Resiliency Officer Doug Walters of the Department of Sanitation and the Environment in Los Angeles. And he shares with us an overview of the Green New Deal and the environmental goals it harbors to create a more sustainable existence worldwide. Doug also shares the many environmental issues that are being faced and addressed locally and how you can get involved now and in the future by choosing a career path that supports these efforts.

James:

It's my distinct honor to welcome Doug Walters from the Los Angeles Department of Sanitation and the Environment to Mt. SAC. He plays the role of the Chief Sustainability and Resiliency Officer there. And Doug got his degree as a civil engineer from UCLA, and he has achieved several things. While in that capacity, he helped implement the rapid conversion of the ocean discharge of the city's biosolids to a 100% beneficial reuse program. He designed the city's first composting facility in Griffith Park, and he transformed the Lopez Canyon landfill to an active composting and energy recovery facility. In addition to that, he implemented proposition O to improve water quality in our rivers, lakes, and beaches. And he implemented the water integrated resource plan that is spearheading our effort to recycle 100% of the city's wastewater.

James:

And at this time, and this is the main reason Doug is here today, he is leading Sanitation's role, the Department of Sanitation and the Environment's role, in achieving a lot of the high profile goals in mayor Eric Garcetti's sustainability plan LA and resilient LA plan. And finally, he's working to help make the upcoming Olympic and Paralympic games the first zero waste games. So with that, let me stop sharing and turn it over to Doug.

Doug Walters:

Thank you so much, James. So great to be here. Thank you so much for that lovely introduction and happy Earth Day to everybody. In addition to all of the work that and responsibilities that I have, I'm in charge of recruiting, specifically environmental engineers, to help us with these great many goals. So I'm always looking for bright and motivated scientists and engineers. Of course, it takes a whole slew of folks. I sleep well at night knowing that all 3,500 of my colleagues here at Sanitation and the Environment are doing the great work to help improve and sustain the quality of life and make LA more sustainable and resilient. And I hope some of you are thinking about how to do this either in your community or joining us here at the city of Los Angeles. And I really want to empower you to take stock in your future.

Doug Walters:

I've been with the city for a long time, and we've done a lot of great things. A lot of innovations, a lot of integration, bringing communities together, city departments together, regulators, lawmakers, all the movers and shakers that make living in LA and the region so wonderful. And we want to hold onto that. So thank you again for having this. I mean, every day is Earth Day here at LA San, I like to say, and I sincerely believe that. With that, I want to talk a little bit more about what I do and how you can play a role. Governor Newsom just recently declared a drought in two of our Northern California counties, and I'm sure it's a matter of time before those same declarations move further south. We're no stranger to droughts. I think many of you who maybe either grown up here or been here for some time realize that.

Doug Walters:

So here are some great, great orchards, and all the wildfires that have been taking place year after year in rapid succession, all the increase in heat here and in the city. And I also use this slide to kind of underscore some of the gloominess that we have experienced in terms of the social unrest that all of us have faced, and watching various occurrences and court rulings and juries, et cetera. We're no stranger to any of these issues. And it points to me the convergence of a lot of the seriousness in all of this and how such an undertaking can really take hold of our awareness and of our plans.

Doug Walters:

I'll never forget being at a civil engineering society meeting where, I typically expected to meet a lot of civil engineers and talk about infrastructure, and things pretty normal, and this was just a couple of years back. And there was a woman who came all the way from her town in South Africa, wasn't an engineer, but really wanted to kind of see what we were doing here in Los Angeles. And I'll never forget her. She was a very colorfully dressed woman, very attentive and spoke with such raw emotion that it really left me with, and everyone in that room, with a feeling of the urgency to act.

Doug Walters:

She talked about how so many planners and engineers like myself are working so hard here in, as she put it, in the Northern hemisphere to really lay out a lot of efforts, but she also reminded us of those who are disadvantaged, those from her perspective group grew up in the Southern hemisphere, right? And so to the degree, if we're not able to manage and plan for all these credible catastrophe scenarios, what happens is people lose trust in the institutions that generally have served us pretty well.

Doug Walters:

And there starts to be an uproar that grows. And we've seen this here in our country. And her point was that we have to really not let perfect get in the way of good, you maybe have heard that saying, but to the degree that we really need to act to level the playing field for so many of our communities, here in Los Angeles and across the globe, right? So it's really important that we have that in mind, and you guys are in a great position, as you're soon going to be graduating in the next few years, to really come on in and implement a lot of the plans that we're working on. So that's kind of my underscoring thought there. So let's get into some of the principles of the Green New Deal that help to inform us and to help us to engage with residents here in Los Angeles, specifically, but virtually all of it applies to everyone across the world.

Doug Walters:

We want to act with urgency to uphold the Paris Climate Agreement. That's something that our current president made that a priority. And so we're rejoined back with about 190 other nations to deliver on environmental justice and social equity in our communities because there's been so many emissions and lack of connection to underrepresented communities, whether they be minority communities, whether they be communities where there's been a lack of education, where there are historic disease and conditions where people don't live as long. That's one of the things that drives me is that somebody living say on the east side of Los Angeles is going to, on average, live 11 years less than somebody on the west side of town, the more affluent side of town. I just can't accept that. So we're working hard here in the city to address that here in Sanitation through a lot of ways, which I'll talk about along my presentation.

Doug Walters:

Of course, creating pipelines to good paying jobs. That's a great factor for you, again, who might be considering getting into work, whether you're a scientist, even if you desire to be working in Hollywood, for example, telling stories and getting into media and communications. I mean, there's just such a fervent hunger for this type of information and to underscore the stories, right? Because everything is impacting our lives, right? It's that sort of convergence of healthy food and healthy soils, clean water, clean air, and a lot of it, there's the green jobs, right? So we're kind of in this transition just in our country, right? To get away from more traditional energy sources, for example, and to move toward a green economy. And of course, everything we attempt to do is leading by example. A lot of people don't realize LA has a 55 mile river running through it. In technical terms, it's a storm drain channel, but certainly, anecdotally, it's a great place to kayak, to canoe.

Doug Walters:

It's generally open for that during the warm months, we don't ever want to expose anybody to any flood potential. Back in 1938, there was a huge flood in Los Angeles that killed hundreds of people and destroyed hundreds of homes and businesses. So that's why much of the LA river is channelized with concrete, but there are vast portions where you can witness a five foot tall Blue Heron. It's pretty amazing. We've been working with communities to get them to accept recycled water, certainly for non-drinking purposes like irrigation, and one of our many wonderful lakes here in the city and Van Nuys is Balboa Lake. We have what we call LA's five zeros, the zero carbon grid, right? Which is achieving a hundred percent renewable energy by 2045. Our mayor, in fact, is the chair of C40, which has actually grown to about 97 international cities that are made these very strong commitments to reduce the carbon in our environment.

Doug Walters:

That includes having zero carbon buildings by 2030, and all new buildings by 2030 and all buildings by 2050, so being aware of all these structures that just consume a lot of energy and water. Zero carbon transportation, as you have heard, LA is going to be hosting the Olympic and Paralympic games. We expect tons of people to come here and many more to even watch on television. But for those that live and work and are going to visit here, getting down to zero emission vehicles by 2050. I just bought my electric car last October. Really love it. I was a little nervous, but it's worked great, no regrets. Zero waste. These last two are kind of where Sanitation and the Environment focuses the most. Zero waste, which is stop landfilling, getting everything out of our very scarce, scarce landfills. And so we need people to kind of help us with those kind of the high hanging fruit. As you know, we've already tackled all the glass, the plastic, the bottles, the cardboard, paper, et cetera, et cetera.

Doug Walters:

And there's some, some much more difficult items like textiles, mattresses, that we need to kind of get some innovative thinking along, how can we recover those, reuse them, maybe repurpose them? I know with some tires, we make a rubber playgrounds for some of the parks and school grounds. And then of course zero wasted water, right? A lot of the water in Los Angeles has just run off, like the stormwater, it just runs off because 60% of our city is asphalted or paved with concrete. And so little by little we've been putting in green infrastructure projects to capture and infiltrate that water so that we can pull it back out, treat it, and use it because who knows when the next large earthquake is going to happen. Not a matter of if, it's a matter of when, so we have to plan to use less water.

Doug Walters:

I don't know if you're even aware how much water you use. You live in the city of LA, it's on average 80 gallons a day. But what if you got a news break saying, "Hey, you got to only use 20 gallons a day per person." Could you even do that? So we do a lot of public education along these lines. So for zero wasted water, there's just some of the big goals that we have, sourcing 70% of our water locally. Did you know that currently about 85% of our water comes from outside, far away sources, mostly in the upper Sierra mountains, which is why the snow pack during the winter is such a critical element. Many times previous governors have gone out there with their boots on and put a stake in the snow just to see how, sadly, typically, it's been less and less snow, and you can track it via geo satellite and just see how devastatingly less snow typically falls because that snow melts, right?

Doug Walters:

And a lot of that water comes down to the two thirds of the people that live in Southern California. As well as, like I said before, the storm water capture, coming up ways to capture either the actual 15 days worth of rain that it does rain here and in the LA area, as well as managing the urban runoff. I like to call it urban slobber. A lot of people who over-water their lawns, wash their cars on their driveway, they don't have any rain barrels or catch basins, so all of that kind of flows down the pavement, down the sidewalks, down the street to the catch basins, carrying all the brake dust from our vehicles, dog manure that isn't picked up, fertilizers from people over fertilizing with chemical or synthetic fertilizer. So it can become a toxic stress point to all the animals and Marine life that live downstream, which is either the LA river, Ballona Creek, and ultimately Santa Monica bay with devastating effects to the health of the bay.

Doug Walters:

Recycling all of our wastewater for beneficial reuse by 2035 is another huge goal. We're bringing in a lot of technology at our water reclamation plants. If you haven't been to any one of them, I recommended a tour, once COVID is over, of course, just to see just how your water is treated. Most people, again, don't know where the water comes from, and they don't know what happens to it after they flush it. And I might add, not all water is toxic sludge. All sewage is 99% pure water, and only 1% of it is the contaminants. We bring a lot of school kids through our environmental learning center, which is stationed at our largest water reclamation plant, Hyperion, which is just next door to LAX in Playa Del Rey, for your reference.

Doug Walters:

And we offer tours that are free, as well as the two story of exhibits at our learning center. It's a great community center there. We've got a number of rooms where you can host gatherings, and it's just a wonderful amenity to anybody that would like to use it. Building lots of stormwater projects. I want to thank everyone who voted two Novembers ago for Measure W the Safe, Clean Water Act that has finally, no pun intended, was a watershed event for all of us that work in making sure our river, lakes, and beaches are cleaned up, right? All the pollutants that come from people discharging... Sadly, there's some what we call midnight dumpers people that may charge the customer or the vendor, the restaurant, platers, the automotive industries, there's so many industries here in LA.

Doug Walters:

They might charge them, "Oh, well, I'll take that to the landfill for you." And then they wind up, when it's dark outside, backing up the truck to the LA river and just dumping it in there. It's happening less and less because there are a lot more people aware of it, and we are trying to get more cameras out there, but it's sad, right? Because that just kills a lot of fish, just makes it impossible for people to recreate in that water, and just very damaging to our environment. So we have a major program called LA Industries where we work with all the categories of people who discharge in our sewers.

Doug Walters:

Even the little local donut shop on the corner is part of it. They have to put in grease traps to intercept the grease that would otherwise go down the sewer. Dentist offices. Car washes. You name it. It's kind of a really exciting time because there's, again so much technology and so much innovation, not all of it's high tech, some of it's low tech, but when we bring those people together, they like to talk about it. And we talk about grant opportunities because finances is often tight, especially for small businesses in LA and in the region. So just again, encouraging people to do the right thing. Of course, reducing potable water, big numbers there, of course, 2035 all the way to 2050. If you were to walk through the environmental learning center, hopefully by now, especially young folks, I think you've had teachers along the way that have hopefully taught you about turning off the faucet when you're brushing your teeth or taking shorter showers. All of that adds up.

Doug Walters:

It's amazing. I remember being at a meeting, talking about our big plans for a lot of this and teaching people about how safe water is and how it's treated to become safe and clean. And there was a retired plumber in the back of the room, and I just thought he was there for the free food, quite honestly. And towards the end of the meeting, he raised his hand and he said, "Why aren't you guys doing waterless urinals?" This was back in the mid nineties. I didn't know what the heck he was talking about. Right? I'm a guy, I've been to many restrooms, and I've never heard of a waterless urinal, back then. And he talked about it and he came back to several meetings and he said, "There's the path to do it. You need to change the plumbers code, the building code. They work great."

Doug Walters:

He made some in his house and little by little, we understood what he was saying and pursued that with a lot of the city folks and people up in the state, Sacramento. And now it's very commonplace, at least for the guys, just to see the waterless urinals. And it's saved us hundreds of thousands of gallons of water in facilities since that time, since they came more commonplace. Right? So my point is anyone can solve a problem, right? You don't have to have a bunch of letters after your name, just follow your passion on any of these types of topics, and you can have a great input.

Doug Walters:

Moving along, we take our water seriously. And I just wanted to remind ourselves that we have the substantial pretreatment program that I talked a little bit about, how we work with industries to limit their discharges, whether it's volatile organic compounds or oil and grease or physical trash. Sometimes you see that floating in the river, floating in some of the creeks. Who gets fined for that? City of Los Angeles, right? It's very hard for us to pick up after 4 million Angelenos. So we want to remind you that everyone plays a role. If you encourage your friends, your family members, your neighbors, too, to pick up after themselves, life would be so much easier, the city would be so much cleaner, and the bills, utility bills, wouldn't be as high.

Doug Walters:

All of that wastewater that we collect, that's 320 million gallons every day, that would fill up the Rose Bowl about three times. So that's a big amount of water that we have to take take advantage of. It used to be twice that when I started with the city a long time ago, and it's amazing how much conservation has taken place, but regardless of how much water it is, it's all conveyed through 6,700 miles of pipe, ranging from six inches in diameter to 12 and a half feet. It's a massive infrastructure, and it's incredible asset that we have in the city.

Doug Walters:

We have a separate stormwater system that goes out ultimately to the bay, as I explained, and the sewer system, unlike most other American cities, are separate. All of these go to one of our four water reclamation plant, Hyperion being our largest, but we have two upstream from there, and one down at Terminal Island. Just a shout out to all the operators and people who maintain and engineers who treat and purify the water at these plants to make it safe to reuse. We used to call them wastewater treatment plants, but because we're purifying the water and so focused on reusing it, it's really reclaiming all of that water, which is exciting. And a lot of civil engineers in particular, worked on making sure this infrastructure continues to operate 365 days a year.

Doug Walters:

We pull in 29 other surrounding cities who don't either have their own water reclamation treatment plant, so yeah, a lot of square miles. And we of course charge them. LA residents aren't footing the bill for people in Glendale or Burbank, so everyone pays their fair share. And it's wonderful because, right, if you want to become a developer and put in some movie theaters or a restaurant, you have to make sure that you can discharge your sewage without impacting or clogging drains that might be otherwise too small. So in some cases, those businesses have to upgrade the size of the pipe and pay to do that. I'll shout out, again, to all the hard working blue collar folks who do a lot of our preventative and proactive maintenance. I don't know if you've ever seen inside of a sewer, we actually do CCTV and rate all of our sewers.

Doug Walters:

You've got a team of eight, the engineering techs, and these are some of the ways in which we can identify where there might be clogs. So every sewer segment gets rated A to E, E being E for emergency, where we've got to take it out of service as soon as possible to avoid any spills. I'm really proud of the record. We all here at sanitation are really proud of our record. Back about 20 years ago, we were experiencing about two spills a day, may not sound like a lot, for a large city, but my gosh, if it was your home, your school yard, near a cemetery, a park, it was bad news. And it was hard to control, at the time, given how low our rates were back then. And we got sued by the EPA and by a organization in south central Los Angeles, as it was referred to back then, and we had a 17 million dollar judgment against us.

Doug Walters:

And what we decided is, we went to the council, we went to the attorneys for all the parties involved and said, "Hey, if we can take that $17 million and put it back into our sewers, we can clean up the spills, reduce the spills, reduce the odors." And sure enough, we agreed. We agreed on a consent decree to do just that, so this whole program exists from that as well as replacing and rehabilitating 60 miles of sewer every single year. And we went from two spills a day to about less than two a week in these past several years. So huge thing. If you've been to Los Angeles, if you live here, I bet you don't smell or see spills hardly at all, compared to other American cities. So again, something that we're really proud of.

Doug Walters:

And again, here's how we do some of that. We do a lot of lining, which is how we rehabilitate existing sewers. So if they're not completely cracked up, because some of these sewers are 60, 70, 80 years old made of different types of materials, so we put up synthetic liner in some of these pipes that restores their ability to convey the wastewater. Odor control program is state-of-the-art, this is something that's just wonderful. Some people really get into odors, and all the latest state-of-the-art technology to monitor and treat odors. We get them so clean, we almost need to dump some odorous compounds in there because the carbon activation is just so strong and so effective. And of course we monitor this. So that's another great facet of work that we do.

Doug Walters:

Again, on the water side, knowing where our water comes from, realizing that all water is recycled. Depending on the audience, I may tell them that we're all drinking dinosaur piss. I don't want to scare anybody, but there's no new shipments of water coming from other planets. There's no secret vault in the Swiss Alps, right? That it's all water that just goes through the hydrologic cycle. So if you're interested in that or taking a course in that, you'll really appreciate that. So, and potable water is the small percentage of all water on this planet, right? So we want to value it and avoid wasting it. Mayor Garcetti announced, just two years ago, that we are going to recycle a hundred percent of all wastewater by 2035. So we're undertaking a lot of technology, things like membrane, bio-reactors, reverse osmosis, and ultra violet advanced oxidation processes, and this just gets the most minute things out of the water, the viruses and things that you just can't see with the human eye or hardly even see with some telescope- microscopes, rather.

Doug Walters:

So that's a big, exciting goal. We talk about it all the time. And City Sanitation has its own boat where we actually sample to check the water off shore. We also do a lot of analysis of fish and other Marine mammals to make sure that the pollutants are lessening. And since we stopped putting sludge in the ocean back when that was my first job in the late eighties, the water has just gotten cleaner and cleaner, far less reports of surfers getting sick, coral starting to come back. The rest of the water that comes from the pollution, right, as I mentioned, when it does rain, sadly, we have to close beaches down for several days to do the bacteria testing to make sure that it gets safe, but [inaudible 00:28:00] rides for the chemist and the water microbiologists that do this work. It's really a great thing.

Doug Walters:

One Water LA is a collaborative effort that we took on. This is a way to really look at all sources of water as one source, and how do we plan for it, right? So we undertook a huge collaborative effort working with all the communities in LA, faith communities, environmental organizations, employment organizations, neighborhood councils, [inaudible 00:28:32] advocates, people who- who doesn't have a vested interest in water, right? And so we came up with all the scenarios of what would happen if an earthquake happened? What would happen if a major policy or regulation came down from Sacramento or Washington, DC, that we couldn't quickly respond to enough? So we've looked at all those scenarios and we have plans in place to add more sewers if need be, do more advanced treatment. It's very comforting to have that blueprint in place, so that's something that's just... It's really great to have.

Doug Walters:

It won us the US Water Prize in 2011. And it's just something that we hang our hats on, but it's a living document, right? And every large city should certainly have a document like this. Moving a little bit towards the energy side, we utilize all the digester gas. Here are our egg-shaped digesters, which only one third of them are underground, the rest are above ground. And this collects all the solids that come from the physical, biological, and chemical treatment processes that take place at Hyperion. And all that gas has allowed us to power the plant, so we're no longer on the grid, which saves us a ton of money and allows electricity for other people that are on the grid. Major path to carbon neutrality, Green New Deal accelerates our greenhouse gas emission reduction, all those C40 cities and all cities, really, need to address this, right?

Doug Walters:

There's been lots of respiratory health challenges for people, specially in disadvantaged communities, but anyone with asthma, a lot of premature deaths in our large cities like Los Angeles. So there's a great savings in just the human health, as well as an influx of green jobs, if we can move all these business sectors into reducing down to the lowest amounts possible by 2050. And it's happening, it's pretty amazing. I was head-scratching in the beginning some years ago, but look at people buying electric cars, right, or doing things like putting on solar panels. LA is the number one city, large city, with solar panels, so that's a great way to do it. We have a lot of them on some of our buildings. Storage capacity is sort of the new field. We're looking to electrify our fleet.

Doug Walters:

We've got 700 trash collection vehicles that pick up all the recyclables every day. Well, it's every weekend in various neighborhoods, if you're a homeowner, but every day they're working on the streets, right? So to the degree, even our medium duty and light duty trucks are moving towards electrifying. That's just like the buses have done. And it's just going to be a lot cleaner air. I notice it every day, as well, compared to when I was a kid and 30 years ago, no more rubbing my eyes. Also, for those of you aspiring to be urban planners or architects, this last bullet is improving our building's energy consumption through committing to LEAD principles. Hopefully you've heard of LEAD, but their environmental principles in how we build our buildings, using indirect light, using certain materials that aren't so intrusive to the rainforest, where some of these materials come from, using recycled water when making concrete, things of that nature.

Doug Walters:

Moving on, zero waste. This is another big factor, big important arena for us. It's just as large as our water program. As I said, we want to become a zero waste city faster than even some of these deadlines are. It's real tough, as I said, to find ways to build a circular economy around textiles and tires and mattresses and some of those types of items, but we're working toward it. We're bringing very motivated young people graduating from local universities to help us rethink, get outside of the box. How can we do that? We do a lot of benchmarking with other industries, other cities, not just in the US, but internationally. I was fascinated, we had a delegation from the Netherlands show up year before last, last year was just a wipe out, right, for touring and traveling.

Doug Walters:

And one thing that they do is they take all the uniforms, the used uniforms from their soldiers, and remake them into clothing. They don't have homeless people, very many, surprisingly, but they have a lot of Sudanese refugees coming in to the Netherlands. And so that's how they clothed them. And you need to have a lot of thick clothing when you live in Amsterdam or around the Netherlands. Just that was a great idea. Why can't we do things like that?

Doug Walters:

Reducing our municipal solid waste, right, per capita. That's all of us who live here, whether we rent an apartment, or have a home, or have a business here, we want to especially reduce the organic waste. Those are the food waste, the yard trimmings, coffee grounds, eggshell, all of that material that has so much energy in it. We have some projects where we capture energy and run it through an anaerobic digester to feed the trucks with LNG, liquified natural gas.

Doug Walters:

That's really exciting. That's happening in Riverside county because we haven't been able to permit it quite yet, still in a pilot phase, but it's been running successfully for about three years. And increasing the proportion of waste products that are reused or repurposed, right? Working with the manufacturers to take back some of their materials, right? Just to give consumers an option. Boy, being at home most of this last year, I realized how much cardboard Amazon sends me, right? So what can we do with it rather than just constantly throwing it away and hoping that it gets recycled? Most of it does, but it's really piling up. We're still avid consumers, even in a pandemic. Bulky item pickup program, a lot of people were home and cleaned out their garages, threw stuff out, I mean, just the normal things that you may see driving in Los Angeles.

Doug Walters:

So we have free bulky item pickup. All you have to do is call our 24 hour hotline or put in a request via our app or our website. We used to get 4,000 calls a day. This past year, we've moved up to about 6,000 calls a day. It's tough to service all that many extra calls with the strict hiring freeze that we're under. But nonetheless, I'm grateful that people are more aware and are trying to clean up their streets and alleys. So that's wonderful. Food waste is a big deal. All of us who consume, certainly, I know when I was a student, I was just eating and studying. I barely did anything else, did a little bit of sleeping. There's so much food waste. The average American family of four can feed a fifth person. It's just staggering.

Doug Walters:

So we need to shop better, be more wise to that issue. A lot of disadvantaged communities, again, are insecure, so we're very aware of that, as I mentioned. Can you believe if food waste were its own country, it would be the third largest source of greenhouse gas emissions? Isn't that just appalling? Right? So to the degree, we can get it to people while it's still edible or shortly after into either animal feed or pull the energy by taking it through to the sewers or to our anaerobic digesters. Mulch compost, we do a lot of teaching of workshops. We make the material available. We do a lot of work with community gardens, just trying to improve those food deserts in a lot of places there's just liquor stores and fast food restaurants, and where a lot of the south LA places are growing their own food and just teaching the principles of how water and natural fertilizers, avoiding pesticides, how critical is.

Doug Walters:

So thank you for listening. I just want to encourage you all to take part. You can all play a role in this. It's a great career choice on any capacity to either talk about this, to network about this, to help develop your communities, your neighborhoods, as well as sort of the higher tech options of becoming an engineer, we hire a lot of chemical engineers, civil engineers, of course, architects, GIS folks, chemists, biologists. There's just a great amount of work to be done. And I know you'll have to deal with it one way or another, so I hope you take urgency in everything you do and think about. I know you'll all be successful. So again, thank you for your time.

Christina Barsi:

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