

Climate Solutions That Go Beyond Carbon: Reducing Food Waste in Georgia

Summary

Roughly a third of the food produced in the world is never eaten. In this Drawdown Georgia webinar, five thought leaders from across the state, Ciannat Howett of Emory University, Jasmine Crowe of Goodr, Natasha Dyer of the City of Atlanta, Suki Janssen of Athens-Clarke County, and Polly Sattler of Hartsfield-Jackson Atlanta International Airport, share the innovative work they're each leading to reduce food waste, fight hunger, and solve for climate change.

Key Takeaways

- Reducing food waste is Project Drawdown's third-ranked climate solution, ahead of solar and wind, and food waste rotting in landfills produces methane that accounts for roughly 8% of global greenhouse gas emissions.
- Emory University is targeting 75% local food sourcing to cut travel time and waste, and is partnering with Chandra Farley on "equity by design" guidelines for a planned anaerobic digester that turns food waste into renewable energy and soil amendment.
- Goodr, founded in Atlanta in 2017, treats hunger as a logistics problem rather than a scarcity problem, using technology to match surplus food with need across 26 markets, having recovered millions of pounds of food and unlocked millions in unclaimed tax incentives for its clients.
- The City of Atlanta's Food Matters partnership with the Natural Resources Defense Council found 125,000 tons of food went to Atlanta's landfill in a single year, leading to programs like a healthy corner store pilot that redistributed 15,000 pounds of gleaned produce in just three weeks, far outpacing its three-month goal.
- Athens-Clarke County's Classic City Compost Facility, one of only two permitted commercial composting facilities in Georgia at the time it opened, now composts about 1,000 tons of food scraps a year using low-cost aerated static pile technology, and Hartsfield-Jackson's food recovery pilot with Goodr diverted over 200,000 pounds of food and provided 181,000 meals in its first year.

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Ciannat Howett: Good afternoon, everyone, welcome to Drawdown Georgia's second in a series on climate solutions that go beyond carbon. Our topic today is reducing food waste, and I'm Ciannat Howett, Chief Climate Change Officer and Associate Vice President for Resilience, Sustainability, and Economic Inclusion for Emory and Emory Healthcare.

I have the honor of serving as moderator for an amazing panel of thought leaders on this topic, and I'm going to first provide some beginning remarks about the importance of addressing food waste to tackle climate change. I'll tell you a little about what's going on at Emory, and then I'll introduce the panelists. I want to invite you to please put your questions in the chat, because at the end of the panel presentations, we'll have time for Q&A. So let's get started.

To frame the issue, many of you probably know this already, but there's a strong link between food waste and climate change. Roughly a third of the food produced in the world is never eaten. Food waste generates about 8% of global greenhouse gas emissions, and there are many points along the cycle of food production and consumption where food gets wasted. It rots in the fields, it spoils in storage or distribution. It's wasted as we're over-served in restaurants or over-buy in our homes. It's rejected because of its appearance, and it rots in landfills. Up to 35% of food in high-income communities is thrown out by consumers. The global economic, environmental, and social cost of food waste is estimated at about \$2.6 trillion, nearly the GDP of France.

Reducing food waste can also help close the projected 60% gap between food availability and food needed by 2050, addressing the first of the United Nations' Sustainable Development Goals, zero hunger. Project Drawdown has ranked reducing food waste the number three most important climate solution, ahead of solar, ahead of wind energy, and many others.

I want to share with you this food waste hierarchy diagram — on the right side is the U.S. EPA's, on the left is the United Kingdom's WRAP program's. I share this because I think it's important for us to remember that first and foremost is food recovery, feeding hungry people. So whenever we think about food waste, we should first be minimizing the amount of waste. I also wanted to draw your attention to the first item under recycling, which is waste sent to anaerobic digestion. That's the top preferred approach before composting and other approaches, and it's part of the reason we're making some shifts in our work at Emory.

We do a lot of food waste reduction through local procurement. Our goal is 75% local or sustainable food in our campus and hospital cafeterias — right now we're at about 40% local food. Less travel time means less food waste. We also have an "ugly food" purchasing program for bruised or unsightly food that we procure to reduce that source of waste. We're also educating our students about not taking too much food and generating food waste, and we have an edible food recovery program, and are actually contracting with Goodr — you'll hear from Jasmine in a moment — to help us enhance our food recovery program at Emory.

Our goal is zero waste, and our tagline is, "There is no away when you throw away." As many of you know, landfills are disproportionately sited in African American communities in the South, also located in poor communities — though those two aren't necessarily linked, as Robert Bullard has shown us. What this does is depress property values, and leads to odor, litter, and air and water quality issues. So it's so important that institutions like Emory and others internalize the cost of our consumption and waste production, by managing our waste better ourselves, on site.

Many of you are aware that methane is produced by landfills, and it's economically wiser to rethink this waste as a potential fuel and feedstock. Right now, because of the pandemic, our diversion rate is down to about 50%, but pre-pandemic we were at 73% landfill waste diversion, through robust composting and recycling. Our plans are underway to take our food waste and our non-infectious animal bedding and use it as feedstock for anaerobic digestion. This will lead

to the same kind of climate change and social justice benefits we've seen from composting, by diverting organics from landfills, but it will also provide us a renewable energy generation solution.

We've embraced the City of Atlanta's goal of 100% renewable energy by 2035, so we can replace the fossil fuel natural gas in our steam plant with renewable energy generated through anaerobic digestion of our food waste. It will also result in a healthy soil amendment that can then be used to grow more food.

So we received an EPA grant for the conceptual design, and at the same time we've partnered with Chandra Farley, formerly with Partnership for Southern Equity, now with the Energy Foundation, who's helping us craft equity-by-design guidelines. We started working on this because we discovered that many municipalities around the United States are beginning to look at anaerobic digestion as a solution for food waste, and are kind of following the same frameworks for siting that have led to so many environmental justice problems. So equity by design is the simple concept that, at the outset, you say, I want renewable natural gas, I want a healthy soil amendment, but it must be odor-free, it must be aesthetically pleasing, it must be something I would welcome into my neighborhood.

I'll show you a little cartoon that shows the cycle — food is grown and eaten, food waste is generated, then it can be taken to be composted, or to produce renewable natural gas through anaerobic digestion. A soil amendment is produced that then grows more food. That's the circular economy of food when it works right. Many of you may be aware of what Emory has been able to do with wastewater treatment, treating over 400,000 gallons a day on our campus, so we're rethinking what traditional wastewater treatment looks like, and we want to do the same thing for anaerobic digestion, making it odor-free, beautiful, and an opportunity to use more biomimicry.

So I'm going to stop my share, and again, we'll have time for questions at the end. I want to turn to this panel, because I'm so excited to hear from these amazing leaders who are with us today.

First is Jasmine Crowe, an award-winning social entrepreneur, TED speaker, and leader working to make the world a better place one cause at a time. Jasmine's goal is to foster change and create awareness about the leading socioeconomic issues and challenges of today, including poverty, food waste, and hunger. In 2017, after years of feeding people experiencing homelessness from her own kitchen, she launched Goodr, a sustainable waste management company that leverages technology to combat hunger and reduce food waste. She's been featured on CNBC, Oprah Magazine, Forbes, Fast Company, and the New York Times, and was named by Entrepreneur Magazine as one of the top 100 influential female founders. Under her direction, Goodr has redirected nearly five million pounds of surplus food from restaurants, event centers, airports, businesses, and higher education institutions, to millions of people who are food insecure. Goodr's clients include SAP, Netflix, Hartsfield-Jackson Airport, the Georgia World Congress Center, and many more. During the pandemic, Goodr pivoted to food distribution by organizing pop-up grocery stores for the community, as well as launching a grocery delivery program that provides weekly delivery to over 2,000 seniors. Since March of 2020, Goodr has provided over two million meals to people in need.

Thank you for being with us today, Jasmine. I'm going to introduce the rest of the panel, and then you'll go first.

Natasha Dyer is Community Programs Manager with the City of Atlanta Department of City Planning. She has her master's in urban sustainability from Antioch University. In her role with the City of Atlanta, Natasha focuses on creating programs that increase wasted food diversion from landfills as part of the city's climate action and food access plans. These programs include recovering surplus food to feed food-insecure residents, and collaborating with external partners to create decentralized composting systems that benefit municipal urban agriculture.

Suki Janssen is with us — Suki is Director of the Athens-Clarke County Solid Waste Department, and has been there for 18 years. Prior to her position in Athens-Clarke County, she was program coordinator for the Keep Georgia Beautiful program within the Georgia Department of Community Affairs, Office of Environmental Management. She's a certified middle school teacher, grades seventh and eighth, and taught science in Cobb County, Georgia for five years. She's past Georgia Recycling Coalition president and board member, current Northeast Georgia Regional Solid Waste Management Authority board member, and Solid Waste Association of North America Georgia Chapter president. She's a Georgia Master Gardener, Master Composter, and Master Naturalist. She published a children's book about nature's best recycler, the vulture — the book is titled "There Goes the Neighborhood," and came out in February 2020. She lives in Oconee County with three dogs, two snakes, and a husband.

Polly Sattler has a master's in Environmental and Resource Policy from George Washington University in D.C. She's Senior Sustainability Planner for Hartsfield-Jackson Atlanta International Airport. Ms. Sattler is updating the airport's 2035 Sustainable Management Plan, and working to update the airport's ISO 50001 certification. She's also working with Delta Air Lines on EV charging infrastructure to allow conversion of diesel ground service equipment to electric. She manages the airport's employee commuter program, implements the green infrastructure policy, and is developing a green purchasing plan. Polly recently initiated the launch of a Change the Course program for the airport, which will restore water to the Flint River and other watersheds around the country. She serves on the Flint Riverkeeper board and the Georgia Solar Energy Association board.

So as you can see, we have a powerhouse team of rock stars. Jasmine, please take it away.

Jasmine Crowe: Thank you. Super excited to talk to everyone today about Goodr. I'm going to share my screen and take you through a brief presentation of who we are. Goodr is solving hunger and food waste using technology and logistics. What I really want to dive into is food waste in America and the big problem that creates, not only from an environmental standpoint and how it affects hunger, but also how businesses are throwing away a lot of money — laws have actually been created to encourage them to do the right thing with their food waste, and we still have a long way to go.

Recent statistics show that we waste about 80 billion pounds of good food every single year, mostly by businesses — this does not include the waste coming from our households. At the same time, nationwide last year, 54 million people were living food insecure. If you look at this pie chart, you'll see how this shapes out — only about 2%, or 10 billion, of this \$408 billion total value of the food surplus that goes to waste is getting donated, which is a huge opportunity to help combat that 54 million people living food insecure. 28% of this food gets recycled, and still 70%, or \$285 billion worth of perfectly good food, is going to waste.

At the same time, right now, businesses are wasting about \$40 billion in unclaimed tax incentives. With the PATH Act — this has now lasted through two administrations, put in place in

2015 — businesses, depending on how they're structured, can write off up to 30% of their annual income in food donations. Currently, over \$40 billion in unclaimed incentives are being wasted as businesses continue to waste food.

Goodr believes we are a solution to these really big problems, so we're taking a radically different approach to solving hunger and food waste. We believe hunger is not an issue of scarcity, but really a matter of logistics. If we're living in a time where we're wasting 80 billion pounds of perfectly good food, we don't think the issue is that we always need to grow and produce more food — we really look at how we can connect this food that's otherwise going to waste with people who need it.

And so, Goodr, we started in 2017, and we've really been leading the fight against hunger and food waste. While we started in Atlanta, we now operate in about 26 different markets, and we really serve as an end-to-end solution for businesses to reduce their food waste, as well as a logistical arm for fighting hunger and providing hunger relief services in both the public and private sector.

Since our inception, we've helped our clients save about \$8 million in tax deductions, through a combination of our food recovery plus our hunger relief services — the grocery delivery, the pop-up grocery stores, and our free-standing grocery store, which we just opened our first of in College Park, Georgia, and we're opening about 12 others over the next six months. We've provided 31 million meals to people, and we've diverted now 7 million pounds of food. I always laugh every time our bios are read — the numbers always go up, and that's a good thing, they increase on a daily basis — and prevented nearly 10 million pounds of CO2 emissions. We're using technology to do this — we've built a portal as well as a mobile app. Our portal allows for seamless scheduling of pickups and requesting organic food recycling or food to be donated. It gives our clients direct access to our national logistical and nonprofit network, and provides them with real-time tracking and analytics, so our customers can see exactly what's going to waste, how often, and what's taking place across the spectrum. They're also able to see their financial impact, estimated tax savings for all of their food donations, and compare this data across their various locations.

On our mobile app, similar opportunities — they can request surplus food on demand, assign and deploy drivers for pickups, and capture proof of delivery, which I think is really great. As our food is delivered, a nonprofit signs for it like they would a UPS package, and their signature automatically generates a donation letter, plus a lot of that data flows right into our customer's platform, so they can always track that progress.

We've been fortunate to work with some of the greatest brands in the world through both of our services, including Atlanta Public Schools, the Atlanta airport, which you'll hear about today, but also sports teams like the Los Angeles Lakers, the Atlanta Hawks, and the NBA. Our value proposition is really simple — as we try to get more people to join us in this fight to reduce food waste, we're helping them see this as a triple-win solution. They're reducing waste, thus improving their carbon footprint, and we're allowing them to empower their local communities and save money.

The big thing that's really unique about Goodr is we're making a data-driven approach to how we track impact — at every single touchpoint across the globe where Goodr has had any giving initiative, whether food diversion or hunger relief, we're able to track the impact we're bringing to that community by zip code. So you can see, in zip code 30318 in Atlanta, we've recovered over

165,000 pounds of food, and served about 156,000 meals. This value is over a million dollars, and the carbon offset is nearly 91,000 pounds. This is the data Goodr tracks across the country.

I've put in a brief case study that shows a bit about what we do and how we do it. This was captured over six months at the Atlanta airport, from one concessionaire. As you can see in the pictures, this is the kind of food we recover, and I'm sure you'll agree it looks really good, and it actually is really good — a lot of times, use-by dates or certain regulations that airports or other businesses are under require the actual production of food on a more constant basis, but that doesn't mean this food is bad. Collectively, this accounted for about 106,000 meals in the timeframe of this case study, 127,000 pounds of food diverted, and \$400,000 worth of tax savings.

Another customer we've worked with in the past is Wellstar — we've worked with them on the hunger relief side, but we also recover surplus food from several of their hospitals, and again track the meals we're providing, households we're serving, economic value, and how many pop-up grocery stores or hospitals we're recovering from.

A bit about my founder story — as Ciannat said, I started Goodr in 2017. Prior to that, I really led a consultancy for over a decade, helping people start, run, and manage their foundations, and I would say to them, people standing in line for a turkey in November are probably hungry in April, and that's what really got me onto this journey of feeding people. I really love the work I'm doing — we've been featured in a lot of different press outlets, but we think we're still at the beginning of a long journey ahead to disrupt something that is massive, and I'm really excited to share more. Thank you.

Ciannat Howett: Thanks so much, Jasmine. Natasha?

Natasha Dyer: Okay, hello everyone, thanks for joining us today. I'm Natasha Dyer with the City of Atlanta, and as mentioned earlier, I work on teams focused on creating programs that try to correct the current, mostly linear model of the food system, where unwanted food — whether that's surplus on the farm field, surplus in the grocery store, or the food scraps on your plate — we're trying to show the value in all food, elevating why none of it's actually waste, and why we need to view it as a resource, creating more circularity and skipping the waste stream altogether.

This work, as mentioned earlier, is housed under the city's Climate Action Plan and under our Fresh Food Access plan. All the resources, love, and feel that went into growing food that's sometimes been transported between fifteen hundred and three thousand miles — forty percent of it still doesn't even reach the consumer, it's just wasted. This is very important because one in six children in Georgia is hungry, and one in eight adults in Georgia is hungry — and this isn't just your homeless population, this is senior citizens, this is your neighbor, people in between jobs. So it's really important that we start to look at food waste and capturing it for people who are just hungry. If we actually were able to corral all the food in the world, we could feed every hungry person four times over.

Food waste wastes a lot of resources — about 21% of the water outputs in our nation every year, and 10% of our energy output. Food decaying in landfills is responsible for a third of the methane emissions that are exacerbating climate change, and it also hits us in the pocketbook — a family of four wastes about \$1,500 a year on food they buy just to throw away.

So, just to discuss what governs how we work on food in general at the City of Atlanta — in 2010, the USDA did a study mapping out food deserts in the nation, and it was determined that about 52% of our population was not living within half a mile of fresh, affordable food. By about 2015, the city started fast-tracking this, knowing it needed to do something about it, and started to work on urban ag — it hired an urban ag director, and created a goal of getting 75% of the population within half a mile of fresh, affordable food by 2020.

Having reached that goal a little early, in 2019, we've now created a goal of 85% access by 2022, and we're well on our way. At the same time this work was happening, where our urban ag director was working to grow more local food and work with Invest Atlanta, an organization that works with businesses in the city to create more brick-and-mortar locations for food outlets in low-income, low-access areas, the City of Atlanta was given a grant to work with the Natural Resources Defense Council to determine how much food is going into the landfill, through their Food Matters project. The NRDC goes from city to city doing this work, primarily as a means to help cities look at ways to build more infrastructure to save edible surplus food before it enters the waste stream, and then redirect it to food-insecure populations.

So these were our results — what you're looking at represents 125,000 tons of food ending up in the landfill. And because we know that forty percent of all food being disposed of is actually edible, this makes you begin to look at the possibilities.

Fast-forward to 2020 — I'm really proud to say we now have two teams at the city that came out of their silos to work together to create a food systems team that's now creating a food access plan. That's the urban ag team charged with growing more food, and now this work around saving more food, because of our work with the NRDC, is actually part of the city's food access plan. Previously, this was your standard food system model, just looking at production, processing, distribution, and consumption, with no thought given to the resources that could be found in food scraps, or the resources found in recovered food. Now, with this new urban ag team, the vision has been expanded to actually look at wasted food management, realizing that 26% of our country's total greenhouse gas emissions are coming from the agricultural sector. So it's about trying to figure out ways to really treat food as a circular system, and not just the linear model we've been so used to.

Breaking apart the Food Matters project, we're looking at prevention, which is reduce, and recovery, which is reusing, capturing, and sharing with food-insecure residents. Then there's composting, which is recycling — taking all pieces of food and the supply chain and making sure we're utilizing it to our best capabilities. After getting those results in 2018, of what's in our municipal waste stream that's actually recoverable, we applied to work with the NRDC on a multi-year work plan, getting more technical assistance, because that first year of mapping our food waste together was really just a one-off.

But now we've been accepted into a Southeast regional cohort — we're working with five other cities to support one another in crafting local and community solutions to food waste, so we can leverage our shared experiences and successes to increase wasted food diversion from landfills in this region. We had to apply, and even after working with them, there was an application process — the city had to have a public commitment, so our mayor had to come out and say she was going to start looking at food waste and food recovery.

I like to say that right as this 2018 study came out, it was kind of lukewarm — no one was really looking at food waste or food recovery as part of a food access plan, which I was of course

pushing for. But something about COVID, where people were having challenges eating — and I mean, those are people in homes, those are your neighbors, those are your seniors — the mayor was working very closely with Goodr to get people fed. I hate to say it was a "perfect" time, but COVID created this laser focus, this look into food and supply chains, and I think it elevated this work we were starting to do around food recovery, because we had a mayor very concerned about feeding people where they were.

So this multi-year work plan has had me working on business challenges — I did a restaurant challenge at the airport, we got six restaurants to save their food over a three-month period, saving 21,000 meals with Goodr again, and got that into nonprofits where people were actually hungry — this was actually before COVID. We've also done some waste audits — we did a waste audit at the airport just to see what's in their waste stream, and we're also doing outreach.

Another thing that came through with COVID is that, last year, the EPA saw an opportunity — because I think a fact that isn't well known until you actually work in the space is that 9 million tons of food is wasted annually on the farm floor. That's food that's grown and either sits there to rot or gets plowed under because of some breakage in the supply chain — either they grew too much, or it wasn't sold, or it's considered not cosmetically fit to be sold. COVID only exacerbated this, because once you had businesses like hotels, restaurants, and schools not purchasing food, that's a lot of food not making it to market. Restaurants, for example, buy 40% of the country's onion production, so that's a lot of onions not going to market because of COVID. So the EPA last year saw an opportunity, and wanted to put some money into creating a shared revenue process for getting that food moving.

So a lot of how this program came about — we're trying to create healthy corner stores with food that's lost on the farm field, replicating or emulating something Morehouse School of Medicine was doing in Atlanta, where they were subsidizing this type of farm food loss to be put into corner stores in low-income, low-access neighborhoods. But our whole challenge over this last year and a half has been trying to create a shared revenue process, so that once a grant runs out, this food can continue finding its way onto the shelves.

Our first pilot was a pay-and-donation model — we identified a consortium of nine farms in East Georgia, and paid them directly for the labor to glean surplus produce off their own farms, creating a new income stream for them, then transported it to Atlanta to different hunger-fighting partners and nonprofits, where it was donated in areas that need it most. Our goal was to move 10,000 pounds over that whole summer, three months — we actually ended up moving 15,000 pounds in three weeks, and 900 families were fed.

One of our organizations is called Ooby Feeds, and she was able to set up a pop-up, shop-style produce distribution at her community garden, where 50 community members, mostly seniors, were able to pick out produce like they were shopping. Two Pieces of Toast is a caterer who works with all kinds of organizations that distribute food to families, and she got food into seven different cities in those three weeks for nonprofits, 150 families each week, through donation. And MUST Ministries distributed produce to 300 families through their food pantries and senior home delivery program — they're actually now one of our first participants in the shared revenue pilot.

So basically, what we're doing now is loading the food onto an app called Forager, a new marketplace for farmers with this surplus, and then Gleaners, another agency in this space that normally works with nonprofits, is one of our partners. We're also getting the food to food

recovery agencies that are normally just saving food — they're now the last mile getting this food to the healthy corner stores we're trying to put the food into, and this is all a new revenue stream, so it becomes sustainable in the end.

Another piece of looking at wasted food is food scraps. We run some urban ag installations and have some community compost spaces — this is being installed right now, we're making it a sustainable model, we have a five-family drop-off of food scraps at one of our food farms. What we were noticing is that people weren't coming to turn the pile anymore, so now, with some funding from the NRDC Food Matters project, we've been able to put a solar panel on it — it's being built right now, and this pile will eventually turn itself every hour for thirty seconds, producing compost that goes right back into creating food in these neighborhoods, to supplement outlets for food.

Then there's also prevention, because you can't look at reducing food waste without looking at reduction. We also got some funding through the NRDC Food Matters project to run a campaign on MARTA for about two months, with about six different posters educating people about the waste, for your pocketbook and things affecting the planet, when it comes to food waste. We also got our message into utility bills, so that 96,000 homeowners saw a message on their water bill in July saying, "don't waste food." The city is also now hosting a website that tells people how they can prevent food waste, and also compost — probably no reduction, excuse me, no donation from homes, but we're showing people how they can get involved with different recovery agencies to help the work continue.

So yeah, I think that's it in a nutshell — that's the work we're doing behind prevention, rescue, and recycling of food waste in the City of Atlanta.

Ciannat Howett: Thank you so much, Natasha. We're going to turn now to Suki, to tell us about her work in Athens-Clarke County.

Suki Janssen: I'm just here to talk about composting — no, not just about composting, because we do a little bit more material than you're getting at those aerated static pile compost bins at a community garden. Athens, back in 2010, we opened a commercial composting facility, so we're pretty excited about our facility — we're the second permitted facility in the state of Georgia. Dublin, Laurens County, can you believe it, beat us to the punch on getting a permit for a commercial composting facility.

Back in 2010, what we did was mainly compost biosolids, with our leaf and limb debris, and we've grown now to composting food scraps too, so we actually have two compost streams at our facility. Our facility opened in 2011, and the cost to open our facility was about \$1.5 million — public utilities, we were fortunate enough to have public utilities pay for our facility. Our facility is a nine-acre site, co-located at our landfill. Our landfill has over 400 acres, and we had an area of our landfill that was sited to be a landfill, and instead of creating a landfill in that space, we created a commercial composting facility.

When we started out, we started with windrows, and noticed pretty quickly that windrow composting took up a lot of space, and there was a lot of wasted space on our nine-acre site — really only half of the nine-acre site is used for actual composting, the other half is used for curing our compost, or storage of feedstocks for our compost program. So we looked into — I think it's been about five years ago, maybe longer now — we toured several commercial composting facilities across the United States, mainly in the Southeast, because unfortunately,

there aren't a lot of facilities in the state of Georgia. That's why I'm here speaking today. I would love, as the SWANA Georgia chapter president, to have so many commercial or small-scale composting facilities that we could have a robust conversation about composting in our state — unfortunately, we often have to look outside the state for good composting infrastructure.

So our staff toured lots of facilities, and learned more about aerated static pile composting in commercial settings. We converted our windrow composting facility over to aerated static pile, and we do that all with two full-time staff members, and we do have inmates that help us — we typically have two inmates and two full-time staff members. We compost leaf and limb material, picked up once every six weeks from every single-family home in Athens-Clarke County, so we roughly get about 7,500 tons a year from our leaf and limb program, and we compost that with biosolids. We get about 5 to 6,000 tons per year of biosolids from our wastewater treatment facilities — that's composted separately from our food scraps.

A couple years ago, we had a community composter — a woman who was really attempting to get compost collection off the ground in Athens. Unfortunately, she wasn't able to sustain that business, so she came to us and asked if we'd be willing to attempt to continue servicing her customers, by picking up their food scraps and bringing them to our facility. So we decided to do a pilot — we laugh and say we're still kind of doing the pilot, because we haven't really called an end to it, we've moved from the pilot into regular food scrap collection. We collect about 1,000 tons of food scraps annually — we're still in our infancy of collecting food scraps, compared to 5,000 tons of biosolids and 7,500 tons of leaf and limb material. We compost that through our aerated static pile, and sell our end product for \$20 a cubic yard.

Here's our facility — you can see our aerated static piles. The really awesome thing about aerated static pile composting, even on the commercial level, is that it takes up a very small footprint, and it's very inexpensive. We had \$50,000 that we put into our capital budget, I think five years ago, and we're still using that initial \$50,000 investment to convert from windrows to aerated static piles. What we mainly purchase with regularity are those blowers — those little green blowers, those are bounce house blowers, that's all we use, on a timer, so we can infuse our piles with oxygen, and we no longer have to use our windrow turner to turn the piles.

We compost biosolids separately from food scraps, so we can sell them to two separate groups of clientele — there are some folks who don't want biosolid compost, and some folks who don't want food scrap compost. This is how we do it at the Classic City Compost Facility, again co-located at our landfill. You can see a little more of our end product — the top left picture is our leaf and limb pile, that's where our feedstocks stay when they come in, and every other month we privately contract out a tub grinder, they come in and grind up our leaf and limb debris, giving us a wonderful carbon source. Then we bring in food scraps and biosolids separately, those are our nitrogen sources for our two different composts.

Sometimes it takes about a month and a half to get good compost — we'll move that material off the pipes, store it till it's ready to be screened. You can see our screener, that's really our biggest piece of equipment, and we wouldn't necessarily have to screen, but it's nice, especially with food scrap composting, because food scrap composting does have some contamination — forks, believe it or not, metal forks aren't compostable, and sometimes they slide in there. Glass, like a pint glass a beer was in, not compostable, sometimes that gets in there too. Our screener helps us screen out that contamination.

Once we get the material composted and screened, it has to cure and stabilize, go back to ambient temperature and a neutral pH, so we can sell that material to a variety of customers — we have farms, golf courses, and, weirdly enough, other landfills that want to purchase it, because it's great at growing grass, and all landfills across the state, once they close, have to maintain a vegetative cap to prevent erosion, so it's great for that too. Two of our biggest customers are local landfills.

We have a great education staff, and annually we celebrate International Compost Awareness Week, the first full week in May typically — we've had to put most of our programs virtually the last couple years, and that's how one of our program education specialists found out that former UGA coach and athletic director Vince Dooley was going to be out there picking up compost, because everybody during COVID had to have appointments to come to our landfill.

Here's some of our collection infrastructure — this is the truck we use for our pilot, to pick up compost from 30-plus customers, and that continues to grow now that we're coming out of COVID. During COVID we lost some of our restaurant customers, but we mainly have restaurant customers, and some other customers too. Before COVID hit, we had some beauty salons that wanted to compost hair and other products. We get a lot of coffee grounds from our roasters, and we had a special composting program during the month of October, where we partnered with one of the largest pumpkin farms and composted all the pumpkins that either weren't sold or had already started to decompose on the lot.

We only pick up commercial compostable food scraps right now — we don't do residential collections, but for residents, we have drop-off sites around Athens-Clarke County, free of charge. There are three locations on the flyer I shared today, but we just added a new location at Winterville, one of our cities within Clarke County. So we're pretty excited to have multiple drop-off sites for residential customers, so they can drop off their food scraps regularly at no cost, and those get picked up through our commercial program and delivered to our commercial processing facility at the landfill.

Ciannat Howett: Thanks very much, Suki. We'll turn now to Polly, who'll talk about her work at the Atlanta airport.

Polly Sattler: Okay, it's really amazing to be on this panel with such inspiring people, so I'm glad to be telling the airport's story. After COVID, we're a little bit at a restart, and the timing of things is really pretty amazing for us, to galvanize all the work we're doing and be able to really implement and achieve our goals.

One of the things we're doing right now is reestablishing our 2035 Sustainable Management Plan — we're going back through and looking at what did we achieve before, where are we now, what's next, and how are we going to achieve those goals. Energy and greenhouse gas emissions, and the waste as well as the water, are all impacted around food, and we have a lot of initiatives in that area, trying to manage our carbon, waste, and energy.

Also, something that's a first for the airport is that the CFO has asked us to do our first Environmental, Social, and Governance report. For the most part, that's been something corporations have been doing, and it's beginning to make its way into the aviation industry. For us, it's great, because it helps us with transparency, and helps us make the connection for other stakeholders at the airport about the social impacts as well as environmental — when they think sustainability, a lot of the time they think environment, and don't make the full connection. So

doing an ESG report is really helping motivate and push our work, and engage with different divisions across the airport.

Two other things — we're updating our ISO 50001 energy management system, which really helps us dig into actual energy efficiency updates, how we manage our energy, including our waste. And earlier this spring, Airports Council International set a new goal of net zero by 2050, which goes beyond what the city has put into place. So all of these things are really helping us put the stepping stones into place to get us where we want to go.

So, what guides our work? There are all these external factors — a lot of people always ask, "why don't you do solar at the airport?" Well, there are FAA regulations around that, and we have to manage glare — the airport has seven different jurisdictions that have a say in how we operate, so there are a lot of stakeholders. One of the biggest, in addition to the FAA, is the City of Atlanta, and the ordinances and resolutions passed by the city council have really helped us leverage the work we want to do. The first is the Sustainable Development Ordinance, which requires achieving LEED Silver for new construction, and going forward will require EBOM certification, Existing Buildings Operations and Maintenance, which helps with the management and day-to-day running of buildings once they're built. The big one is the 100% clean and renewable energy ordinance, and then the plastics ban ordinance, which started in January of '21. There are more ordinances, but relative to food, these are the pieces that most impact it.

The Atlanta airport was the first airport to do a Sustainable Food Court Initiative — in 2011, we put this into the contracts, requiring concessionaires to use biodegradable takeout materials as they provide food to people coming through the food courts. On top of that, with the city's plastic bag ban ordinance, we've been able to take our program one step further. The goal of the Sustainable Food Court Initiative is to bring zero waste initiatives to food courts, and develop best practices both back and front of house. This was all set up to get us in line with something many of you have probably heard of, Green Acres, which is going to be a site at the airport that takes all our waste and compost, and we're looking at anaerobic digestion there too. We didn't want waste that wasn't compostable and able to be turned into energy, so we set this system up first — we've been developing how we manage waste first, and then, as we move forward with Green Acres, or ATL Energy Park —

With the Sustainable Food Court Initiative, two things have been really important in helping us achieve what we have — we've done a lot of education with concessionaires. This has all been new to a lot of them, it's not the way they were necessarily thinking about doing business, so we've been able to engage them, provide product information, and make connections for them, so they've been able to find the kinds of products they need. We had a whole session just on straws — it's a process. We've also been doing waste audits — there are over 300 concessionaires at the airport, not all of them food, but a lot of them providing to-go materials — so as part of the waste audit, we went out, looked at the waste, evaluated it, calculated what it was, where it was going, and where we were having successes and failures. We had a pretty good response with the plastic ban and concessionaires achieving the Sustainable Food Court Initiative.

Of course, our partnership with Goodr for food recovery — we started a pilot in 2018 to 2019, with 20 concessionaires, though the number has floated throughout the program. Through that, we diverted more than 200,000 pounds of food, created almost 181,000 meals, reduced our emissions by 167,490 pounds, and the tax benefit to the concessionaires was valued at \$406,000 — we were able to support 18 different organizations and charities through this

program. Our next goal is to engage all restaurants — that's the next phase for us, we want 100% participation at the airport.

Just on the waste side, the airport recycles about 13,000 tons of material annually, over 24 different materials — we do some clothing recycling, paper, plastics, e-waste, concrete, batteries, so there's a lot going on. And we plan to launch a back-of-house composting pilot within the next year or two — so we're moving forward with that.

Ciannat Howett: Thank you so much, Polly. There was a question, Natasha, about the programs you mentioned — are those continuing, or were those just pilots? And there's also a lot of interest in how you were able to establish such large and impactful programs, and what suggestions you have for someone trying to do something similar in a community. Very often there are a lot of individual efforts, but you've really developed a level of coordination between them, and people are curious whether that was top-down, grassroots, or both. So if you could, Natasha, address some of that.

Natasha Dyer: Sure. The pilots where we started with donation, those really were just pilots — but because we know that not all food can be sold, there will be donation wrapped into these shared revenue programs. Just like anything, we're trying to create a profit for the farmers, but anything that's truly seconds, not a first-level part of the produce, those seconds, or things that can't be sold, will be wrapped back into our donation programs, if that answers the question. But right now, we're accelerating a shared revenue program through the Forager app, to get to our local neighborhood markets.

Ciannat Howett: Fantastic, thank you, Natasha. Jasmine, there's a question for you — how do you reach businesses and get the word out, and what are the issues that prevent businesses from doing what they need to do to claim the tax write-offs you mentioned?

Jasmine Crowe: I think a lot of what we have to do is still educate people, and that's probably 99% of our job right now. We're still having to educate people on the fact that the Good Samaritan Act exists, that they can donate their food in good faith. A lot of it is just educating people, getting in front of them, and trying to book time to speak with them. I think that's the biggest thing we have to do, just get in front of people to have conversations — that's how we really begin attracting and getting customers on.

Ciannat Howett: Jasmine, I'm glad you mentioned the Good Samaritan Act — I wonder if you could say a little more about that, because I know when I started working, there was an urban myth going around that there was some risk or liability issue around food donation, which simply isn't the case. Can you say a little more about that?

Jasmine Crowe: Yeah, and I'd say that myth still 100% exists. What I'll say is the Good Samaritan Act has never been tried in court, whether favorably or unfavorably — even though it exists, and has existed for 25 years now, since 1996, no one has actually tried it in court. So that does give some businesses some fear. Goodr goes really beyond that with the liability insurance protection we offer to all our clients, and we also have a really strong agreement in place with everyone who receives food from Goodr, so there are some things we do that are a little different. I wouldn't quite call it a myth, because people are still so afraid of it, but 100%, it's really false — you can do the right thing, we just have to figure out how that happens.

Ciannat Howett: Got it, thanks. And while you have the floor, I wonder if you'll also answer a question about the technology that powers your portal — can you talk a little more about that?

Jasmine Crowe: I'm not sure what else to say about it — it's essentially technology we've built proprietary to us, that's kind of what powers it. I'm not sure if they're asking what it's built in, so I'm a little unsure of the question, but feel free to send me a direct message and I can dive in a bit more.

Ciannat Howett: Well, I guess the aspect of the question I'm interested in is, I'm so fascinated that you frame your work as logistics, because in some ways this shouldn't be so hard, yet all of us who work in this space know it's actually very challenging to get food that hungry people need to those people. I wonder if you could reflect a bit on some of the challenges and solutions you've come up with, thinking about those logistics.

Jasmine Crowe: I think one of the biggest things we really focus on building is a massive nonprofit network, as well as a massive logistics network, before we even had customers in those areas. So Goodr now has nonprofits located in 47 states and 17 countries, many that we're not currently serving right now, but we wanted to make sure that anytime we turn on a customer, we can match them with need. We also wanted to be able to show how big the need was, so we registered nonprofits, and continue to register them. In the logistics space, we've built APIs that really integrate how we get food moving — we have haulers and partnerships with everyone from Roadie to DoorDash to Uber Freight and Omni Logistics, and we've built technology that can connect drivers within our platform, show them where that food delivers, and help them walk through our process.

Ciannat Howett: Great. Several panelists mentioned the benefits in terms of carbon emissions reductions, and one of the audience members is wondering what formula or website was used to calculate the carbon reduction from food waste recovery — does anyone want to share what you've used? I know the EPA has a calculator, but are there others?

Polly Sattler: For that bit of information around food waste, we use Goodr's calculator, so that's gonna be back to Jasmine.

Jasmine Crowe: Yeah, and I'd say we use the EPA's tool as well — we've worked with the EPA on their WARM tool. Also, within our platform, we capture a lot of other outputs — similar to how Natasha was speaking about water, cars off the road, trees planted. So the EPA essentially has a calculator for that, and I'd say we've really just built technology to make those calculations move a lot faster — as pounds are picked up and diverted, we're able to showcase what that means for the offsets. Another good company I'd mention that Goodr has recently partnered with, and we're going to be doing a lot more with, is a company called Cloverly, which helps companies find and purchase carbon offsets — they're going to be working with Goodr on the offsets we're helping our customers achieve with their food diversion.

Ciannat Howett: Fantastic, thank you. So there are a number of comments, Polly, in the chat congratulating you on the busy work at the airport, which is wonderful to see, and a comment about how great it is that you're moving toward on-site processing, to save on transportation costs and greenhouse gas emissions. We've heard about Green Acres now for many years — I'm curious, what's the timeline, and where does that all stand?

Polly Sattler: It seems to change every month — they're definitely still in the conversations, there was some renegotiation of the contract, and now that's really under review with procurement and legal again. But it's something we feel is really important for our ability to truly achieve zero waste at the airport, so it's definitely going on. We're talking about updating the name from

Green Acres to ATL Energy Park — a little more relevant these days. It's still in conversation, it's a third party, not our own — it would be a business partner with the airport, so we're hopefully continuing to push along.

Ciannat Howett: Fantastic. And there's another question for you, Polly — can you give everyone an update on what's happening with the airport and the Flint River?

Polly Sattler: I hope most of you know, but the Flint River starts just north of the Atlanta airport, flows underneath the airport for about two miles, and then daylight just south of the airport. It's really one of the prettiest places, and one of my favorite places to go at the airport. There was a spill recently, and there ended up being a fish kill, and I imagine that's what the question is about. So there are conversations with EPA, EPD, and the nearby cities about how to be more effective in communicating when those types of episodes happen. We're continuing our partnership with Finding the Flint, American Rivers, and the Flint Riverkeeper, to be a steward of the river.

Ciannat Howett: That's great, thank you for your work there. I guess one thing I wanted to ask about is, doing this work, contamination of the composting stream comes up a lot — Suki, I know you talked about that a good bit, how you do the screening. I'm sure, Polly and Natasha, you have these issues the same way we do. I'm curious, some of that has to do with culture change, and people just getting used to the concept of composting and knowing what is an organic material — I wonder if each of you would reflect on how much of your job you see as culture change versus the logistics part of it. Is the main barrier that we don't have the technology or logistics, or that we don't have the culture of composting embedded yet in our community? Whoever wants to start.

Natasha Dyer: I interestingly think it's culture change within the business frame, or where I work, City Hall, or with elected officials or people who should be making these changes. Every time I walk outside, people are asking me, when are we going to get more composting, when are there going to be more solutions to food being in a landfill? It seems like the people get it, but the real change for me is getting my administrators to get on board with this stuff. So a lot of it is system change — working on system change, not really that people aren't ready for it.

Ciannat Howett: Polly, do you want to address that?

Polly Sattler: Well, we've got a long way to go with culture — hence, we're starting at back of house with our pilot project. But with the Sustainable Food Court Initiative, part of that really was to address contamination and try to deal with that — I mean, honestly, we have to get our recycling where it needs to be, and it's all integrated, it's all what we've got coming down the pipeline with the sustainable management plan. But it's baby steps — we want to have wins, because I think that's really important for all the stakeholders, we don't want to give any reason for people to dismiss it or not find value in it. So we're for baby steps, so we can have some wins and bring everybody along.

Ciannat Howett: Yeah, culture change. Suki, do you have anything to add?

Suki Janssen: Yeah, sorry you guys, I'm struggling with connectivity, so I might be breaking up still, but yes, it is a cultural change. I'll say the best composters in Athens are the ones where it's a business mandate — for example, Maypole, one of our awesome restaurants here in Athens, Peter Dale, he and his brother own multiple food establishments, and their whole business model is based on sustainability. They don't have a trash can for folks up front — everything is

either compostable, recyclable, or reusable. They're great composters, but they work really hard at it — they even hire a person just to be in their small restaurant space, to help people distinguish what is reusable, compostable, or recyclable.

Those are the best programs, where it's embedded from top down, an expectation. And just like Polly at the airport, we can't seem to get recycling straight, so I don't know how we expect people to get compost straight — I think a lot of people are just wishful, they want things to be recyclable, they want things to be compostable. Because recycling and compost are so different wherever you're at in the United States, our messages are so mixed everywhere — the color of recycling bins might be different in one place versus another, the messaging on the outside of the bins is different. So for recycling and composting, I think we need to get our message together, which is difficult because of feedstock availability, and where materials go afterward — there are so many variables. But as long as, when we're talking about composting or recycling, we make sure people check locally with their rules — that should always be the caveat, no matter what you're writing or speaking on, check with your local recycler or composter, so you know exactly what the rules are in your area. So many of us make too many blanket statements, and it just gets everybody confused.

Ciannat Howett: Yeah, very good point, thank you, Suki. And I believe that was the Maypole restaurant you were referencing, correct?

Suki Janssen: Correct.

Ciannat Howett: Okay, great. And while you have the floor, I'd love to follow up, because one of the issues that comes up a lot for those of us who've asked concessionaires to switch to compostable materials is the ability of those materials to actually break down. I know you have vast expertise in this area, Suki, as a certified landfill operator and certified composter — could you say a word? I know there are certifications that can help you feel more comfortable purchasing compostable ware, but can you speak to that?

Suki Janssen: Yeah, I mean, there are certifications — always look for the certifications, those have gone through extensive testing to make sure they're compostable. But, again, it goes to — these wares that people are purchasing, some of them with good intentions, still don't break down in certain composting facilities, and/or become litter in certain facilities if they're not mixed in properly. We do accept them at our facility, but we have to say — Maypole, I hate using Maypole as the only example, we have other examples in Athens, but they came to us and asked what we would like to see, and worked with us on the front end. That's not always the case — people get panicked at the back end normally: "oh, we already purchased a lifetime supply of this product, can we recycle it or compost it?" And by the time they tell us that, it's already kind of too late, you were committed. So I think speaking to your local composters is very important.

Those products, the cutlery especially, often have to go through several cycles — some of the cutlery used takes a little longer to compost, and for us, we don't have covers on our aerated static piles, some places do, some don't, so we have to be very conscious about mixing in cups in particular. It'd be nice if we had a shredder — some compost facilities can shred that material, which exposes more surface area, and cuts down and minimizes that material becoming litter and getting embedded into the piles. So if you can shred it, purchase a shredder and shred that material before you put it into your pile — it helps minimize litter on the site. The cups like to catch wind for us, so our operators have to be really cognizant of that.

Ciannat Howett: There's a really good question in the chat about getting school boards interested in working to put in place recycling and composting — in particular, I think this has to do with reducing food waste in school districts. Many individual schools do a little bit, but the audience member would like to hear more about getting schools engaged. Polly or Natasha, do you have thoughts on that?

Natasha Dyer: What about you, Ciannat?

Ciannat Howett: My expertise is not school boards, but I definitely know about the challenges of a school. I think it's a really interesting question and challenge we face. Natasha, has that come up for the city — are school boards looking to you all for expertise in this area, and considering it as part of their long-term planning?

Natasha Dyer: Well, I know as we rolled out our mandatory plastic ban for municipal buildings, schools did approach us wanting to align with their sustainability plans. We've been working with the airport and other departments trying to create our own sustainable operations memo, and we want to be able to let other organizations come in and kind of create a sounding board and try to work together. But up until now, we haven't really met with other outside external organizations to align ourselves quite yet — but higher ed has approached us wanting to align with us.

Ciannat Howett: Yeah, and I think it's really one of those areas where other cities in other parts of the country — I know I lived in Seattle in 2000, 2001, and we had curbside composting, and the schools had composting. It may be worth it, if you're trying to organize such an effort, to talk to some school boards in other parts of the country to see how they were able to approach it. Also, there's a resource named in the chat, PLAN, the Post-Landfill Action Network — we've worked with them, and our members at EMRI can definitely recommend them for higher ed institutions, but they may also have resources that would pertain to the K through 12 space as well.

This has been a really exciting and stimulating conversation, and I'm so grateful to everyone for participating today. I look forward to maybe reconvening this time next year or so, and seeing how far we've come, because I do think post-pandemic we'll have a lot of things that were put on hold able to move forward. So look forward to that. Polly, Natasha, Suki, Jasmine, thank you for everything you're doing, and unless there are other questions, we'll say goodbye. Thank you.