

NEW JERSEY CLEAN AIR COUNCIL PUBLIC HEARING

REDUCING THE IMPACT OF FOOD WASTE ON AIR
QUALITY AND CLIMATE CHANGE

(MICROSOFT TEAMS & IN PERSON)

* * *

New Jersey Department of
Environmental Protection
401 East State Street
Public Hearing Room
Trenton, New Jersey
Tuesday, April 16, 2024

Reported By: Debra Stevens,
Registered Professional Reporter
Job No.: 9096

1 PROCEEDINGS

2 CO-CHAIR CONNOLLY: Welcome,
3 everyone. Good morning. My name is
4 Maria Connolly and I represent the NJ
5 Department of Community Affairs on the NJ
6 Clean Air Council. I am currently the
7 Chair of the CAC and the Chair of this
8 year's hearing on food waste, along with
9 my Co-Chair, Steve Milgrom from the NJ
10 Department of State, Business Action
11 Center.

12 Before we get into our topic today,
13 I would like to recognize my fellow
14 Council Members that are here in person
15 and virtually, particularly my fellow
16 Vice-Chair of our hearing, Steve; and
17 Rick Opiekun, the Vice Chair of the
18 Council.

19 I also would like to recognize the
20 DEP staff that work tirelessly every year
21 to assist us with planning for this
22 annual hearing: Frank Steitz, the
23 Director of Air Quality and Radiation
24 Protection and his staff, especially
25 George Berdomas, who helps keep us on

1 PROCEEDINGS

2 track, and did not get angry at me when I
3 sent him like 100 Teams messages in the
4 last two weeks.

5 In addition, I would like to thank
6 Ky Asral and Emily DeMaio from the Bureau
7 of Sustainability, Helaine Barr from the
8 Bureau of Climate and Clean Energy, Dana
9 Lawson from the Bureau of Recycling and
10 Hazardous Waste, and Seth Hackman from
11 the Bureau of Solid Waste Planning and
12 Licensing, who all assisted in helping to
13 prepare the Council for this hearing.

14 Quick background on the CAC: The
15 CAC was formed in 1954 and serves in an
16 advisory capacity to the DEP on air
17 quality matters. Every year we hold a
18 hearing on a topic of interest and invite
19 subject matter experts to participate,
20 with the goal of making recommendations
21 to DEP.

22 Today's hearing is entitled
23 "Reducing the Impact of Food Waste on Air
24 Quality and Climate Change." And I just
25 want to say that I'm personally thrilled

PROCEEDINGS

1
2 to be chairing this discussion on food
3 waste, a topic I'm deeply passionate
4 about as a land use planner. One of the
5 goals of land-use planning is to create
6 sustainable communities and reducing
7 waste promotes a more sustainable food
8 system.

9 As you know, millions of tons of
10 food are discarded every year,
11 representing a colossal waste of
12 resources. But beyond the ethical and
13 economic concerns, this wasted food
14 decomposes in landfills, releasing
15 greenhouse gas emissions and other
16 emissions. The link between food waste
17 and climate change is substantial and we
18 are going to learn more about that today.

19 Today we are going to delve into
20 this pressing issue and explore solutions
21 that will reduce our environmental
22 footprint. The good news is, the problem
23 is not insurmountable. We have lots of
24 experts here that are going to help us
25 with these recommendations. And by

PROCEEDINGS

1
2 working together, we can develop
3 innovative solutions to reduce food waste
4 across the entire supply chain from farm
5 to table.

6 We don't normally hear that
7 expression with regard to food waste but
8 it is true. New Jersey, we are already
9 working on solutions. As many of you
10 know, New Jersey has taken many
11 legislative steps already to reducing
12 food waste emissions, with the 2017 law
13 aimed to cutting the state's food waste
14 in half by 2030 and then the Food Waste
15 Recycling and Food Waste-to-Energy
16 Production Law -- a mouthful -- enacted
17 in 2020, which tackles food waste
18 generated by businesses. DEP is really
19 working hard to implement these laws but
20 there is still more we can do.

21 We are seeking specific
22 recommendations on the following issues:
23 Policies, best practices, control
24 technologies and funding opportunities in
25 each of the categories shown in EPA's

1 PROCEEDINGS

2 revised Wasted Food Scale. This hearing
3 has brought together a group of diverse
4 stakeholders that will help with us with
5 that today.

6 The Clean Air Council is especially
7 honored to have Assembly Speaker Craig
8 Coughlin participating today as well. We
9 are going to hear from all their
10 perspectives, explore potential
11 solutions, state-of-the-art strategies
12 and chart a course of action to make our
13 food system more sustainable. I think we
14 can work collaboratively to find these
15 solutions that will benefit our
16 environment, our economy and our
17 communities, and I look forward to a
18 productive discussion.

19 With that as background, let me
20 hand it to my Co-Chair, Steve Milgrom.
21 He's going to provide you with a brief
22 overview of the format of today's
23 hearing. Thank you.

24 CO-CHAIR MILGROM: Thank you,
25 Maria. Here is what is going to happen.

PROCEEDINGS

1
2 Now I am going to introduce you to the
3 Clean Air Council and I am going to talk
4 about some etiquette and some
5 housekeeping that we are going to have
6 for this hearing.

7 I want to thank the Council. This
8 is a great group of people who really
9 provide a valuable resource to the State
10 of New Jersey and, really, to our planet.

11 I will introduce the Council.
12 Representing the Department of Community
13 Affairs, you met Maria Connolly, our
14 Hearing Chair, our Council Chair. She
15 does it all. Thank you, Maria.

16 Representative from the Department
17 of Health, Dr. Richard Opiekun, who as
18 Vice Chair has done invaluable work. I
19 appreciate your advice for me today.

20 I am from the Department of State.
21 I am Steve Milgrom, Business Action
22 Center.

23 From the Department of Agriculture,
24 Timothy Fekete.

25 From the New Jersey State Chamber

1 PROCEEDINGS

2 of Commerce, our anchor of this Council,
3 Michael Egenton.

4 From the New Jersey Society of
5 Professional Engineers, Toby Hanna.

6 From the New Jersey American
7 Industrial Hygiene Association,
8 Dr. Robert Laumbach.

9 From the New Jersey Association of
10 Counties, Allen Weston, who was our past
11 previous Chair. I appreciate his
12 efforts.

13 From the AFL-CIO, Adam Neuman.

14 From the public, Kim Scarborough.

15 Also from the public, John Valeri.

16 Dr. Leonard Bielory, thank you for
17 all you do.

18 From the public, Sharon Brown.

19 Now I will go over some rules that
20 we hope we can follow. All participants,
21 except the presenter, will be muted
22 during this presentation. If you have
23 any technical questions -- say you can't
24 see the screen, you can't hear -- use the
25 chat function and the moderator will help

PROCEEDINGS

1
2 you with that. Do not use the chat
3 function for written comments.

4 You have until April 30, 2024, to
5 provide the Council with written
6 comments. Please do that and do not use
7 the chat for any written comments. The
8 written comments will be sent to the DEP
9 Clean Air Council, 2024 Clean Air Council
10 hearing.

11 Now for my housekeeping
12 announcements. Out of respect for the
13 speakers and other attendees, please
14 either turn off or place your phones in
15 silent mode. If you need to take a call,
16 please leave the room. You can exit
17 through the door you entered.

18 Only Council members will be
19 permitted to ask questions of the
20 presenters and should turn on their
21 cameras when they are speaking.

22 Regarding the format of the
23 hearing, the invited experts listed on
24 the agenda will each give a 20-minute
25 formal presentation, including questions

PROCEEDINGS

1
2 from Council members. There will be a
3 verbal -- and I will hold up a sign for a
4 warning at three minutes and one minute
5 left in your presentations so that we can
6 keep things running smoothly.

7 Public attendees are encouraged to
8 provide comment at the end of the
9 hearing. If you plan to address the
10 Council, please sign on the list near the
11 door through which you came in. Each
12 person will be allowed a maximum of three
13 minutes to speak. You may also
14 provide -- public attendees are
15 encouraged to participate.

16 If you plan to address the Council,
17 sign in on the list near the door through
18 which you entered this morning. Each
19 person will be allotted three minutes to
20 speak.

21 You may also provide written
22 comments to the Council after the hearing
23 via email until April 30th. Instructions
24 for providing comments may be found on
25 DEP.NJ.gov/CleanAirCouncil/2024CAChearing

PROCEEDINGS

1
2 We have reserved this room, this
3 hearing room until 4:30. If a large
4 number of persons want to testify orally
5 and if any, in person, have not testified
6 by 4:15 p.m., those who can't be fit in
7 prior to 4 p.m. please submit written
8 comments to the Council. We will review
9 them.

10 After the end of the invited
11 speaker presentations, we will advise on
12 the number and order of those who have
13 additionally indicated an interest in
14 providing oral comment.

15 We will adjourn one hour for lunch.
16 Public guests may use this opportunity to
17 get food from the cafeteria or from the
18 nearby food establishments.

19 A transcript of this hearing will
20 be made available on the Clean Air
21 Council website at
22 State.NJ.US/DEP/CleanAir several weeks
23 after the hearing. The hearing report
24 with recommendations made to the DEP
25 Commissioner will be available on the

1 PROCEEDINGS

2 Clean Air Council website later this
3 summer.

4 Thank you all and I look forward to
5 a really productive hearing.

6 CO-CHAIR CONNOLLY: Let's get
7 started then. Our first speaker to kick
8 off our meeting is Paul Baldauf. He
9 serves as our Assistant Commissioner for
10 Air, Energy and Materials Sustainability
11 under Commissioner LaTourette.

12 Paul is responsible for the
13 management and oversight of five
14 divisions: Air Quality and Radiation
15 Protection, Air Enforcement, Climate
16 Change Mitigation and Monitoring,
17 Sustainable Waste Management and Waste
18 and Underground Storage Tank Compliance
19 and Enforcement. He also serves as the
20 New Jersey State liaison officers at the
21 Nuclear Regulatory Commission and is the
22 state's Commissioner to the Atlantic
23 Compact Commission for Low-Level
24 Radioactive Waste.

25 Paul has served as Assistant

PROCEEDINGS

1
2 Commissioner of the Air, Energy and
3 Materials Sustainability since 2016.
4 Previously he was Director of the
5 Division of Energy Security and
6 Sustainability, responsible for the
7 oversight and operations of nuclear
8 engineering, environmental radiation and
9 X-ray compliance. He also oversaw the
10 Bureau of Energy Sustainability, which
11 coordinates with the Board of Public
12 Utilities on environmental aspects of the
13 State's energy portfolio and led the
14 Department's sustainability initiatives.

15 A career DEP employee, Paul joined
16 the department in 1987 as an engineer in
17 the Water Quality Program. He moved to
18 Radiation Protection and Release
19 Prevention in 2003 and rose to the post
20 of Director of Environmental Safety and
21 Health in 2010.

22 Paul holds a Bachelor's Degree in
23 Mechanical Engineering from Penn State
24 University as well as Master's Degrees in
25 Civil and Environmental Engineering from

PROCEEDINGS

1
2 Rutgers University and in Homeland
3 Security from the U.S. Naval Postgraduate
4 School. He is a licensed professional
5 engineer in New Jersey, Pennsylvania and
6 New York.

7 Thanks, Paul. Come on up.

8 MR. BALDAUF: Good morning,
9 everyone. Thank you for having me here
10 today. The Commissioner sends his
11 apologies. He is actually taking a
12 vacation, which is certainly well
13 deserved. I will do my best to kick off
14 this year's hearing.

15 As Maria went along with the
16 structure and groups I have under me, the
17 most recent reorganization, which I think
18 we are working on two years now, the
19 Commissioner's focus for it was really
20 historically, I am sure everybody knows
21 this, we have always fought the siloing
22 problem we have in the department. We
23 have so many people and so many different
24 groups doing very similar things and
25 maybe not speaking to each other.

PROCEEDINGS

1
2 This was an opportunity to bring in
3 sustainable waste with our other
4 sustainability groups, with our climate
5 change, and get everyone on the same
6 page. The Commissioner was very excited
7 when we brought this topic up to him how
8 many months ago. I think we gave him
9 three and this is the one he clearly
10 wanted to pursue.

11 Looking forward throughout the day
12 to see what great ideas are brought up,
13 to me, I am fairly new to this from the
14 sustainable waste piece of it. There is
15 a lot of moving parts here, there's a lot
16 of things that need to be done. I think
17 Mr. Sondermeyer told me before this
18 morning that this is great, but a lot of
19 things need to change. There is a lot of
20 work that needs to be done here. I think
21 we are all looking forward to today's
22 interaction and the report coming
23 forward.

24 So the Clean Air Council is a
25 shining example of how we can effectively

PROCEEDINGS

1
2 work across multiple levels of
3 government, industry, academia, business
4 to further posit change. Over the years,
5 the Clean Air Council addressed a wide
6 range of important and emerging air
7 quality issues, including power plant
8 pollution, interstate transport, air
9 toxins, mobile sources, cumulative
10 impacts, climate change, fugitive dust
11 emissions and the impact of the COVID-19
12 pandemic on air quality and air toxicity
13 that we did last year.

14 This year the Council is tasked
15 with advising the Department on how to
16 reduce food waste and control emissions
17 resulting from food disposal. As many of
18 you are aware, food waste is estimated to
19 account for about one-third of the food
20 intended for human consumption in the
21 United States.

22 When food is discarded, all
23 resources used in producing, processing,
24 transporting, preparing and storing are
25 also wasted. Landfilling food waste

PROCEEDINGS

1
2 exacerbates the climate change crisis due
3 to significant methane, other greenhouse
4 gases and air toxic emissions.

5 Food waste contributes more methane
6 emissions than other landfill material
7 because of its rapid degradation. From
8 1990 to 2020 methane emissions from
9 landfill food waste increased steadily by
10 295 percent. In 2020, landfill food
11 waste was responsible for emitting
12 approximately 55 million tons CO2
13 equivalent methane emissions based on a
14 hundred-year global warming potential.

15 Some of those numbers don't always
16 hit home but the next one is fairly
17 significant when you hear it. This is
18 equivalent to annual greenhouse gas
19 emissions from 15 coal-fired power
20 plants. We did a lot of work in this
21 state to remove coal from our portfolio.
22 We never had 15 coal power plants, at
23 least since I have been around.

24 An estimated 61 percent of methane
25 generated by landfill food becomes

PROCEEDINGS

1 fugitive emissions. More needs to be
2 done to eliminate food waste and
3 significantly reduce or recapture gases
4 emanating from landfills.

5
6 The presenters who will follow me
7 today will present specific
8 recommendations that reduce food waste
9 and its associated emissions, including
10 policies, best practices, control
11 technologies and funding opportunities.

12 We have done some regulatory work
13 in the space. The department is
14 developing regulations to implement the
15 food waste recycling and Food
16 Waste-to-Energy Production Act which
17 requires large food waste generators, to
18 generate a projected average of 52 or
19 more tons per year and are located within
20 25 road miles of an authorized food waste
21 recycling facility to source separate and
22 recycle food waste.

23 The law also establishes a food
24 waste recycling market development
25 council. New to the streets, we do have

PROCEEDINGS

1
2 a proposal for recycling rules now, which
3 has exemptions to encourage small scale
4 food waste recycling activities, which
5 would include small scale in-vessel,
6 indoor and outdoor food waste composting,
7 anaerobic digestion and food waste
8 transfer activities and feeding wasted
9 food to feed stock.

10 Some other efforts we have done to
11 encourage food waste reduction includes
12 publishing a food waste toolkit, funding
13 food waste programs through the REA grant
14 funding for higher education, working
15 with other organizations to implement
16 steps to reduce food waste and applying
17 EPA grant funding to support food waste
18 reduction initiatives.

19 We have also drafted and proposed
20 for consideration an executive order to
21 encourage state agencies to reduce food
22 waste and manage unavoidable food waste
23 sustainably.

24 Lastly, assessing food waste
25 reduction strategies here at DEP

PROCEEDINGS

1
2 headquarters. We do our best to try to
3 lead by example. That is one step we
4 just started, and it starts with our
5 cafeteria.

6 In closing, we are early on in our
7 efforts in New Jersey to reduce the air
8 emissions from food waste and we look
9 forward to the hearing today and hearing
10 from our speakers today who will share
11 that New Jersey is making significant
12 progress in reducing air and cloud
13 pollutants from food waste and its
14 impacts but more remains to be done to
15 ensure all New Jerseyans benefit from
16 breathing cleaner air.

17 The Commissioner and I are looking
18 forward to the Council's recommendations
19 to the Department on future program
20 strategies to assess and reduce pollution
21 from food waste in New Jersey.

22 In closing, I would like to thank
23 the Council for their service, including
24 Chair Maria Connolly, Vice Chair Rick
25 Opiekun, Hearing Chair Maria Connolly and

1 PROCEEDINGS

2 Hearing Vice Chair Milgrom. Thanks to
3 everybody. Have a good morning and
4 afternoon.

5 CO-CHAIR CONNOLLY: Our next
6 speaker will be introduced by Mike
7 Egenton, our longest serving Clean Air
8 Council member and Executive Vice
9 President of Government Relations at the
10 New Jersey Chamber of Commerce.

11 MR. EGENTON: Thank you, Maria.
12 So, the Honorable Assembly Speaker Craig
13 Coughlin has served in the General
14 Assembly since 2010, representing the
15 19th Legislative District. He is the
16 longest serving speaker in the State of
17 New Jersey's history, now in his fourth
18 term.

19 Highlights of the Speaker's
20 legislative tenure include raising the
21 state's minimum wage, delivering property
22 tax relief, investing in child care and
23 mental health programs, increasing public
24 school funding, ending surprise medical
25 bills and improving the state's

PROCEEDINGS

1
2 environmental remediation programs to
3 provide a cleaner, safer future. These
4 initiatives were made possible by the
5 responsible state budgeting and fiscal
6 stewardship during his time as speaker.

7 But the issue that is closest to
8 Speaker Coughlin's heart is the fight
9 against hunger. His policy agenda has
10 prioritized food security for New Jersey
11 families and ending childhood hunger. He
12 has worked to expand free school lunches
13 and sponsored four expansive anti-hunger
14 bill packages, including increasing aid
15 to food banks by 500 percent and creating
16 a first in the nation Office of Food
17 Security Advocate. His ultimate goal, in
18 concert with the coalition of community
19 leaders on this issue, is the elimination
20 of hunger in New Jersey by 2030.

21 Speaker Coughlin stresses the
22 importance of local engagement on food
23 security to highlight the needs in every
24 community, including his annual bowling
25 fund raiser to benefit local food

PROCEEDINGS

1
2 pantries in his district, raising
3 hundreds of thousands of dollars and
4 recruiting volunteers.

5 Because of his passion and
6 dedication in addressing food security
7 and food deserts, we are honored to have
8 Speaker Craig Coughlin with us to provide
9 us with his insight on the topic of food
10 waste. Thank you, Speaker, for joining
11 us this morning.

12 ASSEMBLYMAN COUGHLIN: Thank you,
13 Michael. Thank you for that kind
14 introduction.

15 Good morning, everyone. It is a
16 pleasure to be with you. Thank you for
17 the work that you do and have done for
18 quite a while. I appreciate those
19 efforts. I think we are all better off
20 because of your work.

21 I want to thank you for dedicating
22 this hearing to the mitigation efforts
23 and the reduction of food waste. We have
24 been able to take some steps and to make
25 progress in the legislature but there is

PROCEEDINGS

1
2 obviously more work to be done. So I
3 look forward to learning about some of
4 the options that you are going to discuss
5 today. I look forward to things that we
6 can do collectively to make things better
7 and help eliminate food waste.

8 As Mike was kind enough to point
9 out, the fight against food insecurity
10 has been at the cornerstone of my
11 speakership. I spend a lot of time on it
12 because the fight against food insecurity
13 and hunger means so much to the people of
14 New Jersey. I view it -- and any of you
15 who have talked to me about it before
16 probably got tired, but the truth of the
17 matter is I think it makes a difference.
18 I see it more not as a governmental
19 function but closer to a moral
20 obligation. The fight against food waste
21 will be able to help.

22 I have discussed the issue with
23 advocates, frontline workers. One of the
24 most frustrating and ironic issues that
25 we deal with is food waste. I'd like to

PROCEEDINGS

1
2 remind everybody that we can beat hunger
3 and we will because we don't have a food
4 scarcity problem. We have a getting food
5 to hungry people challenge. And it can
6 be maddening just on a human level.

7 I think we all have that sense.
8 That is why there is so many boxes that
9 leave restaurants, because we don't want
10 to just throw away unused good food when
11 there are hungry people in need often in
12 the same community. So figuring out a
13 way to get that food from restaurants and
14 other places, catering halls, for
15 example, to hungry people is one of the
16 things that we have tried to do some work
17 on, being able to do that work on a
18 donate upcycle section of the EPA's
19 Wasted Food Scale.

20 I am particularly proud of the
21 state's grants to food banks to scale up
22 recovery and transportation for donated
23 surplus food from restaurants, groceries,
24 grocery stores, farms and catering
25 halls. It makes a real difference. One

PROCEEDINGS

1
2 of our new emphasis has been on providing
3 transportation for these things.

4 That is taking a lot of -- if we do
5 that, when we accomplish that, we take a
6 lot of potential waste out of landfills
7 and get them into pantries and ultimately
8 on the tables of our neighbors who need
9 is. Every year I sponsor a gleaning
10 event, and you're all welcome to come, to
11 salvage excess crops so that our terrific
12 local produce doesn't go to waste. I can
13 tell you this, it is great fun. It's
14 usually a nice fall day. You get out
15 into the field and pick up apples or
16 potatoes or whatever it is.

17 If you are not familiar with
18 gleaning, I urge everyone to check it
19 out. You will feel good about yourself
20 and you will get some fresh air and get
21 some of your steps in, too. Certainly we
22 want to prevent it from causing more harm
23 to our environment so it helps in that
24 regard as well.

25 I am interested in hearing of the

PROCEEDINGS

1
2 work that you are going to do and the
3 work that is being done on large scale
4 composting and what role the state can
5 play in being of support and assistance
6 in that effort. Extracting energy from
7 food waste is certainly better than just
8 burying it or burning it as I see it. Of
9 course, the ultimate goal will be working
10 with producers and transporters on
11 efficiently rightsizing.

12 Stakeholders today will be offering
13 ideas and sharing potential solutions.
14 To all of you who are going to do that,
15 thank you. And to the Clean Air Council,
16 thank you again for your work. We are
17 lucky in New Jersey to have business,
18 labor, healthcare, environmental experts
19 and advocates all coming together to find
20 solutions. It is what makes government
21 work best and makes all of us better.

22 Thanks again for letting me be with
23 you this morning. Thank you for the work
24 that you are about to do and for all the
25 work you have done in the past and will

PROCEEDINGS

1
2 do in the future. You are making a
3 difference and that is something I think
4 we all hope to do when we get involved in
5 public service. Thanks everybody and
6 have a great day. And thank you,
7 Michael.

8 MR. EGENTON: Especially knowing
9 your very busy schedule -- you and I were
10 down at Rowan University last night to
11 the wee hours as you were speaking to a
12 lot of the students there. We really
13 appreciate your insight, your leadership.
14 Serving as long as I have on the Clean
15 Air Council, we look forward to whatever
16 recommendations come from our body here
17 today. If we have to make legislative
18 changes, I know the right person to go to
19 to discuss those matters.

20 Thank you, Mr. Speaker.

21 ASSEMBLYMAN COUGHLIN: Thank you,
22 Michael. I know you were in Rowan last
23 night with me. Thank you again for
24 coming down. And George, I look forward
25 to working with you. Take copious notes.

PROCEEDINGS

1
2 MR. EGENTON: Thank you again,
3 Mr. Speaker.

4 CO-CHAIR CONNOLLY: Our next
5 speaker is Dr. Serpil Guran, a dedicated
6 clean energy and environmental champion
7 in New Jersey with more than 25 years of
8 public service. She currently serves as
9 the Director of Rutgers EcoComplex Clean
10 Energy Innovation Center.

11 She teaches sustainability-focused
12 classes at Rutgers University with
13 emphasis on Environmental and Economic
14 Sustainability, along with Social
15 Justice. Her research promotes Circular
16 Carbon Economy and Zero Waste with the
17 focus of mitigating climate change.
18 Currently, she is working on reducing
19 food waste generation and efficient
20 reutilization for clean energy generation
21 and soil amendment production.

22 Dr. Guran is a chemical engineer
23 with further Ph.D. in Fuel and Energy
24 Engineering. Prior to her current
25 position at the Rutgers EcoComplex, she

PROCEEDINGS

1
2 serves as senior research scientist at
3 the DEP and she also served as Researcher
4 and Mechanical and Aerospace Engineering
5 Department of Princeton University and
6 also National Renewable Energy Laboratory
7 in Golden, Colorado. She has numerous
8 publications including peer reviewed
9 journal articles, book chapters and
10 conference presentations.

11 Thank you, Dr. Guran.

12 DR. GURAN: Thank you so much.

13 Good morning, everyone. Thanks for this
14 generous -- I am trying to upload my
15 presentation. Give me a second, please.
16 I am joining from far away. I think you
17 can see my slides. Perfect.

18 Today it is very important that we
19 are discussing and thanks for the
20 opportunity that I will be sharing
21 Rutgers EcoComplex food waste
22 reutilization thoughts and thank you for
23 considering our suggestions also.

24 Food waste is very important in the
25 first place, as the Speaker mentioned.

PROCEEDINGS

1
2 We should reduce the food waste
3 generations. Yes, New Jersey is doing
4 great but still we have a lot to do.
5 According to press in New Jersey, New
6 Jersey residents, businesses and
7 institutions discard approximately 3
8 billion pounds of food into trash each
9 year. This discarded food costs about
10 \$10 billion per year, so about \$1,000 per
11 person.

12 As everybody knows, we are getting
13 crowded. When the population increases
14 in coming years, need for resources will
15 increase, especially demand for food is
16 expected to increase 60 to 70 percent.
17 New Jersey will also experience similar
18 trends in the future, and there will be
19 more demand for food.

20 Urban sprawl and development from
21 both Philadelphia and New York City is a
22 significant threat for New Jersey
23 farming, water quality and habitat in New
24 Jersey. We have to understand the
25 importance, as previous Speaker Coughlin

PROCEEDINGS

1
2 mentioned. We need to also always
3 mention about the food justice before
4 even we go into food waste. Food justice
5 is important, and food systems should
6 consider that food should be healthy,
7 nutritious, affordable, available,
8 accessible and also culturally
9 acceptable. Our food systems should
10 consider these important matters before
11 wasting food. It is so dangerous for our
12 economy and for our environment.

13 As everybody knows -- I may be
14 preaching to the choir -- urbanization
15 and waste generation is a fast pace.
16 Especially as urbanization increases,
17 solid waste generation is accelerating.
18 Currently food waste is an important
19 component in MSW. So between 18 to
20 22 percent is food waste in the MSW.

21 A city resident generates twice as
22 much waste as rural counterpart, so to
23 account for the fact urban citizens are
24 usually richer they generate four times
25 as much. Research says that. When we

PROCEEDINGS

1
2 are trying to talk about food and food
3 waste, we should always think about the
4 economic and environmental implications.

5 Currently what is happening with
6 food waste disposal? Majority mostly is
7 ending up in the landfills since we do
8 not yet a well-established infrastructure
9 of food waste collection and recycling
10 facilities throughout the state yet.
11 When food waste ends up in landfills,
12 only landfill gas is recovered.

13 Everybody knows landfill gas recovery
14 efficiency is dependent on the landfill's
15 age and type. Everybody knows again but
16 it is important to underline nutrients
17 are not recovered and they are buried
18 forever from food waste.

19 Before we have to deal with food
20 waste, we have to also understand what is
21 food waste. There are so many
22 definitions. Food loss, food waste, food
23 wastage. Food loss refers to a decrease
24 in mass or nutritional value of food that
25 was originally intended for human

1 PROCEEDINGS

2 consumption. Food waste refers to --

3 CO-CHAIR CONNOLLY: I am sorry,
4 Serpil. Are you advancing your slides
5 because we cannot see it.

6 (Brief interruption.)

7 DR. GURAN: Food loss refers to
8 food appropriate for human consumption,
9 as I mentioned, being discarded whether
10 or not it is kept beyond expired date or
11 left to spoil. Food wastage refers to
12 any food loss by deterioration or waste.
13 This term "wastage" encompasses food loss
14 and food waste.

15 Also, there is an option, avoidable
16 food waste. Food and drink thrown away
17 that was at some point prior to disposal
18 edible, like a slice of bread, apples,
19 meat, possibly avoidable food waste is
20 food and drink that some people eat and
21 some others do not wish to eat, like
22 bread crusts, or can be eaten as food
23 preferred one way or another. Like some
24 people prefer to eat potato skins.

25 Unavoidable food waste, however,

PROCEEDINGS

1
2 waste arising from food or drink
3 preparation that is not and has not been
4 edible under normal circumstances like
5 meat bones, eggshells, pineapple skin,
6 tea bags.

7 So basically what happens to food
8 waste currently, if we define it as
9 fractional food and inedible parts of
10 food removed from food supply chain to be
11 recovered or disposed. Food waste
12 includes crops plowed in and not
13 harvested, composted, converted to energy
14 and digested by anaerobic digestion, used
15 for bioenergy production and
16 cogeneration, incinerated, disposed to
17 sewer, landfill, and discarded to sea in
18 some cases.

19 Current food waste management.
20 What it is basically, as I mentioned,
21 food waste is ending up in landfills and
22 landfill gas leaks into the atmosphere in
23 methane form. Best landfill recovery
24 efficiency is around 80 to 85 percent and
25 not all the landfills have this

PROCEEDINGS

1
2 efficiency based on their technology type
3 and age. Methane has global warming
4 potential between 30 to 80 times more
5 than CO2.

6 Certain landfills are not even
7 generating power in New Jersey from the
8 recovered landfill gas since cleaning
9 landfill gas by mostly recovering the
10 siloxanes and other impurities is costly.
11 Natural gas is abundant and cheap so
12 landfill gas to energy cannot compete
13 with fossil-based natural gas to power.
14 These are the important things that when
15 we consider how to reutilize food waste.

16 Because also food has an
17 environment footprint, that is why it
18 should not be wasted. I don't want to
19 read the whole slide. But last 30 years,
20 crop lands increased only 12 percent but
21 nitrogen, phosphorous and pesticide usage
22 increased immense amount.

23 If we continue wasting the food we
24 will be impacting many things, including
25 environment and the whole economy

PROCEEDINGS

1
2 basically.

3 Why am I talking about this? Food
4 is expensive, food has high carbon
5 footprint. In addition, food has high
6 water footprint. Food is no longer only
7 a local resource. Greenhouse gas impacts
8 from food transport are far less than
9 impacts associated with the production
10 phase.

11 Food imports and transport are
12 usually associated with increased use of
13 packaging, increase the rate of food
14 waste from spoilage and damage during
15 transport, and from rejection of
16 consumer-ready products imported from
17 countries with lower safety standards.

18 So you can see that water and
19 carbon footprint of several food sources.
20 I am sure you have seen similar
21 information many times. I am sharing,
22 just to provide information for estimated
23 food loss across the U.S., which is
24 pretty similar to New Jersey consumption
25 and wastage rates.

PROCEEDINGS

1
2 So EPA also provides information on
3 that, how each step in the food systems
4 is generating how much pollution and
5 cost. Total cost and also emissions.

6 I always use this simple example.
7 In the food system, every step generates
8 food waste and every step from farm to
9 consumption, every step -- fossil fuel
10 and fossil power used and organic waste
11 is generated.

12 Then what happens currently? Food
13 waste ends up in the landfills or
14 incinerated, but also as I mentioned,
15 landfill gas generated or incineration,
16 but how efficient they are. They prove
17 that there is leakage so economic impacts
18 are not supporting New Jersey's climate
19 change mitigation goals.

20 This chart also provides the
21 environmental footprint of U.S. food
22 supply chain, and New Jersey food supply
23 chain is very similar to this, EPA's
24 reporting.

25 I would like to introduce -- I am

PROCEEDINGS

1
2 sure everybody knows about the concept of
3 circularity and how food waste can be
4 treated as resource. Circular economy is
5 an economic system that replaces the
6 traditional end of life concept with
7 reducing, alternatively reusing,
8 recycling, recovering materials in
9 production, distribution and consumption
10 processes. Circular economy can be an
11 effective pathway for lower carbon
12 economy, therefore promoting combined
13 understanding of circularity and lower
14 carbon economy as circular carbon economy
15 and emphasizing the transformation of
16 linear disposal and creating circularity
17 is very important.

18 Obviously, it is not easy,
19 circularity, so there are economic
20 problems, maybe challenges, I should say.
21 Assessing financial benefits of circular
22 economy is important, but -- financial
23 profitability is important, but
24 structurally, you have to achieve things.
25 Achieving exchange of information,

PROCEEDINGS

1
2 defining responsibility and distribution.
3 Operational, redefining the
4 infrastructure. We need an efficient
5 infrastructure in New Jersey and we need
6 strong supply channel.

7 Knowledge. We have to understand
8 the perception of sustainability. What
9 are we understanding from sustainability.
10 Behavioral change is very important. And
11 we need technological improvements and
12 also infrastructure related to that. New
13 product designs in the food systems to
14 absorb waste resources and integration
15 into processing. Also, current correct
16 carbon counting is very essential.

17 I mentioned that for sustainable
18 bioenergy circular carbon economy, there
19 are so many organic wastes, but we are
20 concentrating today especially food
21 waste. And the main technologies appear,
22 that they are commercialized, anaerobic
23 digestion and composting. There are
24 other technologies that I listed but
25 given the time I won't be mentioning

PROCEEDINGS

1
2 that.

3 Food waste, pre and post -- I
4 mentioned pre- and post-consumer waste.
5 State should consider for future
6 decision-making also not only
7 pre-consumer food waste but also
8 post-consumer food waste should be
9 considered to achieve better results in
10 states dealing with food waste and also
11 achieving better economic results and
12 environmental results, especially climate
13 change mitigation.

14 Finally, EPA also is considering
15 this. If you look into this, EPA
16 mentions the preferable approach is
17 composting and anaerobic digestion using
18 digest aids, also utilizing not only
19 energy generation but utilizing clean
20 food waste anaerobic digestion digested
21 utilization. This is very important
22 because EPA's word also underlines the
23 importance.

24 Composting is an important
25 technology, so composting has to be

PROCEEDINGS

1 supported in New Jersey and in many ways.

2 So, helping them in permitting is very

3 important. Also, anaerobic digestion

4 should be encouraged where applicable.

5 One size does not fit, so large scale

6 digesters are more efficient. Small

7 scale digesters can be used only for

8 demonstration or education reasons maybe

9 in the higher education institutions.

10 The digesters should be centralized

11 like, as I mentioned, where the food

12 waste is available and where the

13 permitting is feasible.

14 Energy generation component should

15 be supported. How to integrate energy

16 into the grid and providing certain

17 incentives are very important.

18 Obviously, environmental implications

19 should be considered such as truck

20 trafficking and sound and other problems.

21 Standalone digesters are one

22 solution, but also large farm

23 applications can be considered if

24 applicable. Also, co-locating digesters

PROCEEDINGS

1
2 at the landfills can help to transform
3 landfills also for the 21st century needs
4 because, in this case, landfills can
5 receive source-separated food waste and
6 then digest, anaerobically digest them.
7 And they already have installed assets
8 for power generation.

9 In this case, the biogas is not
10 going to be similar to landfill gas
11 because it is going to be without
12 siloxanes, so gas cleaning will be much
13 cleaner and, so, cheaper, I should say,
14 easier. So, it will be an option. It
15 should be maybe considered in the state.
16 Obviously, wastewater treatment
17 facilities are great examples for
18 anaerobic digestion locations.

19 There are so many technologies that
20 I am offering here, but especially I'd
21 like to underline the anaerobic digestion
22 and composting. Obviously, not every
23 food waste is applicable for digestion or
24 composting right away efficiently. But
25 also, there are certain emerging other

PROCEEDINGS

1
2 technologies and trials may be also
3 considered, like whether or not they are
4 delivering good results.

5 For food waste and circular carbon
6 economy into New Jersey's efforts, we
7 need integration planning. This hearing,
8 public hearing is one of them. So
9 short-term planning is already being
10 done. Engaging decision and policymakers
11 is very important. Avoiding
12 contamination in waste streams is very,
13 very important for composting and also
14 for anaerobic digestion, so food waste
15 should be source separated as much as
16 possible.

17 Yes, currently we are considering
18 pre-consumer food waste but maybe
19 post-consumer food waste in the future
20 should be considered as source separated
21 and recycled that way.

22 Obviously, improved collection and
23 sorting, as I mentioned, improved
24 labeling and traceability is important
25 for food waste. Enabling secondary

PROCEEDINGS

1
2 markets is very, very important for the
3 products.

4 Facilitating collaboration across
5 value chains. It may sound a little
6 vague, but it is very, very important for
7 food waste, from each step I mentioned,
8 from farms and orchards to production
9 facilities, processing facilities, to
10 everywhere collaboration is needed.

11 In the state, we need innovative
12 thinking. Again, I have to apologize for
13 mistyping. Leakage of food waste to
14 other states. Our food waste is a
15 resource and should not be ending up in
16 other states, but also leakage should be
17 somehow controlled in some ways and
18 encouraged, avoiding the leakage.

19 Mid and long-term planning. Again,
20 innovative thinking in after
21 use/consumption. Investment in better
22 packaging is important for New Jersey
23 food processors.

24 Policies and intervention for
25 decoupling fossil feed stocks for

PROCEEDINGS

1
2 material production and fossil energy and
3 fertilizer from food production and ag is
4 very important.

5 So I would like to conclude that
6 sustainable farming should consider
7 utilizing food waste compost and organic
8 fertilizer from organic food waste, clean
9 food waste anaerobic digestion to obtain
10 better environmental and economic
11 results. Displacing fossil fertilizer by
12 organic fertilizers from composting and
13 organic waste will not only reduce carbon
14 footprint from fossil fertilizer
15 production but also enhance water
16 conservation and energy savings.

17 It is very important because when
18 we look into food we also have to
19 understand the energy and water
20 implications under the food energy water
21 nexus framework. Sustainable food
22 products should be labeled for not only
23 health benefits but also positive
24 environmental impacts.

25 With this, I would like to thank

1 PROCEEDINGS

2 you. If there is any questions, I would
3 like to answer. Thank you.

4 CO-CHAIR CONNOLLY: Thank you,
5 Serpil. Any questions from our Council
6 Members, please?

7 MR. OPIEKUN: Serpil, thank you for
8 a great presentation. You mentioned
9 several times circular resource
10 management challenges as well as the need
11 to enable secondary markets. When it
12 comes to the stakeholder involvement,
13 partnership development, how do we
14 identify the partners, the communities,
15 especially those that would benefit from
16 an upscaling program to minimize waste?
17 Do you have any thoughts on that?

18 DR. GURAN: As I mentioned, we are
19 doing in state great efforts, and
20 education outreach is very, very
21 important. But case-specific solutions
22 can be offered. So, yes, we are doing
23 pre-consumer food waste collection and if
24 any facility is generating more than
25 52 tons food waste they have to send it

1 PROCEEDINGS

2 to recycling facilities. But even
3 smaller facilities can be encouraged.
4 Food processing facilities smaller
5 than -- small restaurants, small
6 kitchens. Somehow we should be able to
7 aggregate that food waste. When we
8 create compost also we have to create,
9 digestate and compost, we have to provide
10 support so they can be easily marketable.

11 We need to spread the word
12 throughout the state, and we are doing
13 this, but we need more. From schools --
14 I know great speakers we have, but we
15 have to also -- higher education should
16 understand this also. Rutgers
17 University, we are doing composting. We
18 have to spread this to all higher
19 education campuses. Demonstrations are
20 so important.

21 So, a lot to do really for
22 secondary markets and also education and
23 outreach. I hope I answered your
24 question.

25 CO-CHAIR CONNOLLY: Thank you so

1 PROCEEDINGS

2 much. Other questions from Council
3 Members?

4 Thank you, Dr. Guran.

5 DR. GURAN: Thank you.

6 CO-CHAIR CONNOLLY: Next, Gary
7 Sondermeyer, VP of Operations for
8 Bayshore Recycling of Woodbridge, New
9 Jersey. Bayshore is one of New Jersey's
10 largest recyclers, managing nine separate
11 recycling operations on its 58-acre
12 campus.

13 Gary also serves as Chair of the
14 Board of Trustees of the Sustainable
15 Jersey Program, Vice Chair of the
16 Governor appointed State Plastics
17 Advisory Council and Co-Chair of the
18 Legislative Committee of the Association
19 of New Jersey Recyclers.

20 Gary joined Bayshore following
21 30 years of service at New Jersey
22 Department of Environment Protection. He
23 served as the agency's Chief of Staff for
24 10 years under six New Jersey governors.
25 Gary has undergraduate and Masters'

1 PROCEEDINGS

2 Degrees in Environmental Planning from
3 Rutgers University.

4 Gary, come on up.

5 MR. SONDERMEYER: What a pleasure
6 to be back in the DEP public hearing room
7 live and in person. Absolutely amazing.

8 I want to thank the Clear Air
9 Council for the opportunity and our
10 Co-Chairs Connolly and Milgrom and Allen
11 Weston, who was kind enough as a Council
12 Member to invite me to participate today.
13 My forever colleagues and friends,
14 Michael Egenton, John Valeri, Toby Hanna,
15 Kim Scarborough, all the colleagues and
16 teammates from DEP. Paul, who spoke
17 earlier. Frank and Peg who is here and
18 all the folks that Maria mentioned
19 earlier that I work with on a regular
20 basis. I even wore my DEP pledge pin
21 today to get a little extra credit for
22 that.

23 Today I have the honor of
24 representing two organizations, the
25 Association of New Jersey Recyclers, or

PROCEEDINGS

1
2 ANJR, and the New Jersey Climate Change
3 Alliance. I would like to tell you
4 quickly the story of the work we have
5 been engaged with over the past 11 years
6 to candidly support the Department. That
7 is what it has all been about.

8 Over the past four years, what
9 we've sought to do is take this
10 tremendous template, the Global Warming
11 Response Act 80x50 Report and draft the
12 implementation plan for Chapter 5,
13 dedicated to waste and agriculture. You
14 asked a great question of Serpil about
15 sort of the village it takes to do this
16 work. That is what we have tried to do,
17 bring together the village.

18 I would like to highlight one
19 particular project. It is really amazing
20 today. Every single speaker has been
21 part of this discussion, so we are all
22 working together, which is what we should
23 do to address a common issue that we need
24 to improve in our work. Finally, I have
25 a couple of recommendations from our

PROCEEDINGS

1
2 organizations that are very important and
3 that I will lay out at the end.

4 George will help me here. So, we
5 know in waste world that about 22 to
6 25 percent of what is left in the garbage
7 can after 37 years of mandatory recycling
8 is food. It's candidly where we have
9 failed. We haven't had historically a
10 successful focus on food waste recycling.
11 ANJR put together a food waste facility
12 in recognition of this in 2013. What we
13 basically did is we wrote a piece of
14 legislation. We have a tremendous
15 relationship with Senator Smith, who was
16 kind enough to sponsor it. We pushed the
17 button to the Office of Legislative
18 Services in 2014, and that became that
19 really long name that Maria mentioned
20 before, Food Waste Recycling and Waste to
21 Energy Production Law. I call it the
22 disposal ban legislation. It was passed
23 in 2020.

24 Really the theme of what we said to
25 the legislators is kind of "Field of

PROCEEDINGS

1
2 Dreams" here. If you pass it, they will
3 build it. The hardest thing in building
4 major projects, siting is very
5 challenging, and it should be. It is
6 really important, particularly in a state
7 with such an important focus on
8 environmental justice. The regulatory
9 process is very challenging as well. But
10 the hardest thing is financing.

11 So, under this law -- and Paul
12 actually went through the parameters --
13 large quantity generators, 52 tons a
14 year, 25-mile radius, you have a
15 guaranteed flow of material. Banks
16 really like that so you can get
17 financing.

18 I am happy to report that it took a
19 while but we do have two significant new
20 facilities that have been incorporated
21 into county plans, one in Linden,
22 1,475 tons per day South Jersey
23 Industries. A second one -- Michael, you
24 were down there yesterday with Speaker
25 Coughlin and Rowan -- a 475-ton per-day

PROCEEDINGS

1 facility by Bioenergy Devco.

2 A long way to go through the
3 regulatory process but very positive.

4 The food problem statement.
5 Probably everybody knows this but it
6 bears repeating. It has to be repeated
7 again and again and again. Roughly 35 to
8 40 percent of all food that is produced
9 goes to waste. We sit in one of the most
10 affluent places on the planet. We are
11 the third most affluent state in the
12 United States with three counties in the
13 top 15 in the most affluent
14 industrialized nation on earth. Yet,
15 despite the affluence, 11 percent of our
16 population and 15 percent of kids 18 and
17 under are food insecure.

18 Insult to injury, as Paul mentioned
19 in his remarks, 15 percent of the methane
20 comes from where the food goes. It goes
21 to landfills. It goes to landfills.
22 This is a disgrace. We have to correct
23 this issue.

24 Maria mentioned the 217, Food Waste
25

PROCEEDINGS

1
2 Reduction Act. That was a really
3 interesting thing for the legislature to
4 do. A simple one-pager law, created an
5 aspirational goal, 50 percent reduction
6 of food waste by 2030. It also tasked
7 the DEP with developing the state's first
8 food waste reduction plan.

9 What is fascinating about that is
10 DEP has never had anything to do with
11 food recovery. It is an area that is
12 really interesting, somehow it has
13 escaped regulatory oversight forever,
14 other than very important elements for
15 food safety from the Department of
16 Health, how you package and deal with
17 food. But there has never been any
18 statewide planning for food recovery.

19 What we did in 2020 is we pulled
20 together through the Climate Change
21 Alliance, an organics workgroup. What we
22 sought to do was, for the first time,
23 introduce the food recovery and food
24 waste communities to each other. I am
25 not exaggerating, they don't even know

PROCEEDINGS

1
2 each other. We have made some progress
3 but it is just a beginning. Our goal was
4 to bring this group together, taking a
5 village to do a statewide gap analysis of
6 what do we need to do to become
7 sustainable in materials management
8 through voluntary collaboration.

9 We formed a Steering Committee of
10 this organics workgroup. Bayshore led
11 that effort. It was under the Climate
12 Change Alliance out of Rutgers. Our
13 partners were ANJR, Composting Council.
14 Matt is going to represent the Composting
15 Council later today. Veronique is going
16 to talk from Sustainable Jersey. The
17 Center for Eco-Technology, an amazing
18 non-profit organization out of New
19 England. And DEP. We had Helaine Barr.
20 You mentioned Helaine earlier. She was
21 part of our Steering Committee.

22 We looked at five chapters of the
23 Book of Organics and conducted an 80
24 organization stakeholder process to
25 identify, what are the gaps? What do we

PROCEEDINGS

1
2 need to do?

3 We looked at food waste donation,
4 food waste management in schools, small
5 scale composting, large scale composting
6 like Serpil talked about, and sustainable
7 animal manure management.

8 Came up with 17 recommendations. I
9 don't have time to go through them. I
10 put a link to the plan here. Please, I
11 encourage members to take a look at it.
12 The 17 recommendations are 12 pages. And
13 the first recommendation is what has been
14 talked about earlier, food equity. To
15 look at social determinants of health --
16 do the same kind of thing we've done with
17 environmental justice to food.

18 Related baseline work. I am a
19 planner. That was my background. Plans
20 are great. They're really important.
21 But plans mean nothing if you don't do
22 anything with them. So we've worked hard
23 on implementation.

24 When I say related work, this is
25 not directly out of this organics

PROCEEDINGS

1
2 workgroup, I don't mean to say that, but
3 we all work together so it is all
4 related. We're all going in the same
5 direction. We have \$800,000 in grants,
6 most of it from DEP. A phenomenal
7 partner DEP has been in financing this
8 work.

9 Dr. Sara Elnakib is going to talk
10 about the New Jersey Leaves Nobody
11 Behind. My colleague Bernie * is here
12 from Sustainable Jersey. He's going to
13 talk about the SJ Project.

14 I want to tell you a little bit
15 about the *Food Asset Recovery JAS
16 Mapping Project. It is a critically
17 important baseline work.

18 So here is the food system. This
19 is the part that DEP has never really had
20 anything to do with. There is even some
21 questions about the definitions. I think
22 Serpil said that, about what is food
23 waste and so forth. We basically have
24 six food banks. The banks are the big
25 warehouses, the big distribution centers.

1 PROCEEDINGS

2 Largest by far is the Community
3 Food Bank of New Jersey. There is a Food
4 Bank of South Jersey, Fulfill Monmouth &
5 Ocean, Mercer Street Friends, Northwest
6 Community Action in the northwestern
7 portion of the state and Replenish for
8 all of Middlesex County.

9 The work that we have done in this
10 mapping project through Rutgers and
11 Stockton is the first time any of this
12 type of work has been done. We have
13 identified and are mapping 843 food
14 pantries across the state and 150 soup
15 kitchens.

16 This is what we are mapping, all
17 the generators of food. We had a
18 threshold question. Should we just look
19 at that disposal ban legislation and map
20 generators above 52 tons per year? We
21 said absolutely not. Everybody should be
22 donating food. So we mapped everybody.
23 Mapping all the supermarkets, grocery
24 stores, hotels, casinos, schools,
25 correctional facilities, farms. All the

1 PROCEEDINGS

2 distributors of food, the banks, pantries
3 and kitchens, all the composting world.

4 The micro haulers that pick up food waste
5 in 55-gallon buckets and bring it to
6 compost facility, the larger scale
7 facilities and smaller facilities.

8 So, who generates the food? I
9 think this is a familiar refrain to the
10 Clean Air Council. With mobile sources
11 and the villain often is us. 43 percent
12 of food waste comes from residential,
13 26 percent restaurants, 14 percent
14 supermarkets, 9 percent institutions,
15 8 percent food manufacturers and
16 processors.

17 These numbers, again, are the first
18 time this kind of thing has ever been
19 cataloged in a database and inventoried
20 in the state's history.

21 Look at some of these numbers. I
22 will keep it in round numbers. About
23 6,000 supermarkets in the state, 18,000
24 restaurants. In total, about 3,200
25 schools, public and private. 164

1 PROCEEDINGS

2 colleges and universities. The hotels,
3 called the hospitality sector, 1,600
4 hotels, all of which generate a lot of
5 excess food that we need to work with.

6 Legislation. We have worked on six
7 or seven different bills. I mentioned we
8 got the big one through, the disposal ban
9 legislation. The others that we have
10 done, I put them in painful detail for
11 the Council so you can see what the bill
12 numbers are, who the sponsors are and a
13 link to each of those bills. I will only
14 talk about one of them. Again, this is
15 very important. We haven't had
16 institutionalized statewide planning for
17 food recovery.

18 There is a bill that we strongly
19 advocated for going through the
20 legislature. I call it the County Food
21 Recovery Planning Act. It would charge
22 the 21 counties with doing a next chapter
23 of countywide planning.

24 Back in the eighties, every county
25 was required to do a solid waste plan, a

PROCEEDINGS

1
2 garbage plan, which resulted in the 12
3 double composite line landfills, five
4 mass burn incinerators we built in the
5 state. Mandatory recycling comes in in
6 1987. The second chapter. Every county
7 does a statewide recycling plan.

8 This would be chapter three, for
9 the counties to develop food recovery
10 plans. I want to be as painfully clear
11 as I can possibly be. It has to be
12 planning, not regulation. If it is
13 regulation, shut the store because that
14 is not what the food recovery world
15 needs. They need advocacy and we need
16 planning to connect the dots.

17 I wanted to show you the food asset
18 recovery project that we did. We did
19 that to give the counties, to be able to
20 hand them a template of all the baseline
21 information they need to connect the
22 dots, because often in food recovery the
23 problem is transportation. It is getting
24 rid of misconceptions that you can't
25 donate because you can; that is very

PROCEEDINGS

1
2 clear. The next issue really is
3 transportation.

4 That bill we got through the senate
5 environment, assembly environment. Got
6 hung up in the last session in senate
7 appropriations but hopefully it will pass
8 this year and we will bring about really
9 important institutionalized planning.

10 Development of a statewide food
11 reduction plan. That plan was adopted in
12 October last year. The state, and Paul
13 had mentioned this, applied for a SWIFR
14 Grant. It is about \$500,000 to develop a
15 toolkit for municipalities and improve
16 our estimation of metrics for estimating
17 food waste generation.

18 DEP has also worked with Climate
19 Pollution Reduction Grant, a significant
20 focus on food, which could bring
21 substantial dollars to the state for that
22 work.

23 Finally -- and I hope everybody
24 knows this -- Recycle Coach. The state
25 bought Recycle Coach for every town and

PROCEEDINGS

1
2 every county in the state. It is
3 absolutely amazing. Who does that? And
4 what that tells you is everything and
5 anything you need to know about waste
6 management and recycling in your town.
7 It has a clean communities part of it
8 added. So, it is tremendous.

9 The bad? I believe DEP blew this.
10 I am a biggest fan of the Department.
11 The compost regulations are suffocating.
12 They have to be reformed or we are not
13 going to be able to achieve our goals. I
14 don't have time to go into detail.

15 The ugly? We started with this
16 village to focus on small scale stuff
17 because composting needs to be of the
18 people, by the people, for the people as
19 close to the generation point as
20 possible. Backyard composting, community
21 gardens, recycling in schools, smaller
22 scale systems. The big projects are
23 great if you can develop them, but we
24 really need it to be holistic.

25 We started a stakeholder process

PROCEEDINGS

1
2 with the Department based on rule making
3 for a community garden. Next month it
4 will be the sixth anniversary of that
5 discussion, and we don't have anything
6 yet. Now, Paul was here today and
7 mentioned regulations are coming. We
8 have been waiting. And this is good.
9 Maybe this is the progress we need to
10 address this because I am telling you, as
11 Chair of the Board of Sustainable Jersey,
12 we have 466 towns, 1,182 schools actively
13 involved who all want to compost, and we
14 got nowhere to bring it. We are all
15 dressed up and we got nowhere to go.

16 The final slide. What we need
17 fundamentally is a tiered regulatory
18 system for compost facilities. The first
19 part of that needs to let go of some
20 things we should let go of. Backyard
21 composting, regional schools management
22 of food and community gardens. We need
23 streamlined planning provisions. It is
24 already in the law. It is called an
25 administrative action under Section

PROCEEDINGS

1
2 *7266.10. We need to apply that for any
3 of this food-related work and the use of
4 registrations, general permits, permits
5 by rule where that's possible.

6 Second, we have a phenomenal
7 project, a poster project in the state,
8 waste management. Took an old garbage
9 transfer station in Elizabeth and they
10 brought in a blender. It has a fancy
11 name, it's called a macerator. It takes
12 source-separated food, put it in a
13 blender, make a slurry, drive it up the
14 road to the Rahway Valley Sewerage
15 Authority and make renewable natural gas
16 in a controlled environment.

17 The recommendation is for the
18 Department to take a very aggressive role
19 as part of their role in public policy
20 development to bring together the
21 wastewater treatment plants to say we can
22 do this elsewhere. It makes all the
23 sense in the world. We are talking about
24 using existing capitalized environmental
25 infrastructure and maximizing the tank to

PROCEEDINGS

1
2 put food in it to create more gas. We
3 avoid siting and all those issues.

4 Recycle Coach expansion. I
5 mentioned Recycle Coach, how important it
6 is. Imagine a world where every single
7 restaurant, at the end of the day, has X
8 number of meals that go right in the
9 garbage. And we have an app that
10 connects those restaurants to the food
11 pantries. All you need are volunteers
12 materials, and there are the folks that
13 run these pantries, to drive over, pick
14 up the food stick it in the refrigerator
15 and deliver it. With 18,000 restaurants
16 in the state, we need to make this work.

17 Recycle Coach, I have a proposal
18 from them. It is doable and hopefully we
19 can make it happen.

20 Finally, to look at this whole
21 issue of waste reduction holistically.
22 As Vice Chair of the Plastics Advisory
23 Council, we will come out with our
24 second-year report in May or June. We
25 really focused attention on waste

PROCEEDINGS

1
2 reduction of single-use plastics this
3 year, but there is a direct linkage to
4 food. What we are laying out is a
5 platform for disposal-free dining. It
6 all is holistically coming together and
7 hopefully we can focus on it.

8 Thank you for the opportunity. I
9 really appreciate what the Council has
10 done.

11 CO-CHAIR CONNOLLY: Questions,
12 please, but also make sure you say your
13 name when you're asking the question.

14 MR. EGENTON: Michael Egenton,
15 State Chamber.

16 You obviously have great strategic
17 vision in this category. One of the
18 things we discussed in the Council early
19 on was, have you ever looked with your
20 team of experts at some of the, I'll call
21 it, antiquated municipal ordinances,
22 county provisions that -- you know, you
23 come to my open house every year in June
24 at the museum. We want to donate the
25 food but you can't because there's all

PROCEEDINGS

1
2 these stipulations about once a piece is
3 taken out you can't bring it. Is it hot
4 or is it cold?

5 Have you ever looked at those, at
6 the beginning of the process, so we can
7 give that food to people that are in
8 need?

9 MR. SONDERMEYER: It is a
10 fascinating thing. There has been a Good
11 Samaritan Act that even takes away
12 prospective environmental liability for
13 food donation that's been on the books
14 for 40 years. It's unbelievable. Nobody
15 remembers it. Good question, Michael.
16 It is education on you can donate. This
17 is very clear specifications for
18 packaging, labeling and refrigeration of
19 food you can donate. We will hear more
20 about it, I am sure, later today.

21 I think one of the grants DEP got,
22 SWIFR Grant for \$500,000, part of that is
23 to put together, right to your point, a
24 municipal toolkit to explain all of this
25 very clearly to our 564 municipalities.

1 PROCEEDINGS

2 That is really important that it comes
3 from the state, because it brings the
4 imprimatur of the state. I think we'll
5 get there.

6 MR. VALERI: John Valeri, Public
7 Member.

8 Gary, have you thought about going
9 to the municipalities, some of the groups
10 -- I remember the Environmental
11 Commission and I know at least my
12 commission has been very interested in
13 food waste and composting. But
14 certainly, as you say, it's clear what
15 the regulations are in donating.

16 That was going to be my question.
17 I was always told, being a volunteer, you
18 can't do certain things. Has there been
19 any push from your organization to
20 educate them so they can educate us?

21 MR. SONDERMEYER: That is what we
22 tried to do, John, with the organic
23 workgroup in the village. One of the
24 subcommittees we formed was an Education
25 Committee. I wanted to recognize Emily

PROCEEDINGS

1
2 DeMaio from the Department who took the
3 lead with that committee. We put
4 together a food waste toolkit to address
5 those exact type of questions. It is up
6 and available on the Department's website
7 now. Jack has been a partner, been part
8 of our village.

9 Really, what we need to do to
10 connect all these dots really, we have to
11 reform composting. We have the food
12 recovery thing moving, but we have to
13 have a place to bring the food waste. So
14 we drive it away from landfills for the
15 Clean Air Council and the methane gasses
16 that it produces.

17 Anything else?

18 MR. HANNA: Part of our prep for
19 this hearing was several presentations,
20 including some by DEP staff. One thing
21 that struck me and I think others was
22 that the baseline information, some of
23 which you shared, which was fresh and
24 good to see, is lacking, particularly --
25 you had the waste generators by count,

PROCEEDINGS

1
2 but their waste streams and the
3 measurements of those, for a policy to be
4 effective and to be well targeted, we
5 need to know -- don't we need to know
6 more information? Is that coming? Is
7 that another level of your GIS mapping
8 exercise, to know where can we get the
9 bang for the buck? Where are the big
10 streams, where are the ones that are
11 closest to infrastructure?

12 MR. SONDERMEYER: Thank you for the
13 question. I didn't mention it. It is
14 part of the GIS mapping project. An
15 additional component of it was 100
16 interviews of different food generation
17 sectors like supermarkets, restaurants,
18 institutions, to get better estimation
19 factors for calculating excess food.

20 It is exactly what you said.
21 Again, going back to the 217 Law, the
22 legislature handed DEP something to do
23 that they had absolutely zero
24 institutional knowledge. We had to start
25 from ground zero. That is why I think

PROCEEDINGS

1
2 this GIS mapping project is so important,
3 to help inform the baseline, as you said,
4 of what the universe is and how much
5 excess food is actually being generated.
6 With that kind of planning then you can
7 look at solutions and trying to drive
8 public policy to address the problem.

9 MR. HANNA: You are pretty
10 confident that that is coming and in the
11 works? Is there a recommendation to be
12 formed by the Council to make sure that
13 that happens?

14 MR. SONDERMEYER: I think it is
15 well underway. I should have mentioned
16 the, GIS mapping project should be made
17 available by August. We are almost
18 there. That same SWIFR grant that DEP
19 got is a second chapter, Toby, of looking
20 at how we can improve the estimation
21 metrics for excess food. So I do think
22 that is well underway and doesn't really
23 require recommendation from the Council.

24 MS. BROWN: Sharon Brown, Public
25 Member.

PROCEEDINGS

1
2 I wanted to ask a quick question
3 about the Elizabeth facility with the
4 macerator blender. What happens when the
5 slurry goes to the POTW? Just briefly, I
6 am curious.

7 MR. SONDERMEYER: It is in a tanker
8 truck. They literally hook up a hose and
9 pump the material into the existing
10 digester that is processing biosolids.
11 What they are doing is they're adding
12 more organic material into the process.
13 In a way, they are kind of maximizing the
14 use of that tank to produce more
15 renewable natural gas in a very
16 controlled environment. So it is not
17 like a landfill.

18 Landfills, we have the best
19 technologies you can have in the state
20 for methane gas recovery. They still
21 leak like sieves. I'm sorry, they just
22 do because they're too big. But in a
23 tank like that you can control it. It is
24 such a great direction for us to pursue
25 to make use of something that is already

PROCEEDINGS

1
2 there instead of siting new facilities
3 and multi tens of millions of dollars to
4 build them. Hopefully we can replicate
5 the example of Rahway Valley elsewhere in
6 of the state.

7 MS. BROWN: There is a second part.
8 Are corporate entities that are diverting
9 their food waste to that facility -- I
10 don't know if there are, but if they are,
11 with the new SEC rules regarding
12 disclosure on sustainability metrics, I
13 am wondering if this could actually help
14 promote this on Scope 3 emissions from
15 facilities, on their supply chain.

16 You have a big cafeteria for your
17 employees and you are feeding them and
18 you're capturing and you're taking your
19 food scraps to the Elizabeth facility,
20 theoretically I see a benefit to that
21 Scope 3 number for large businesses that
22 have mandates for reporting greenhouse
23 gas emissions because they are diverting
24 some of their third-party supply chain
25 stuff.

PROCEEDINGS

1
2 MR. SONDERMEYER: Yes. Your
3 question is outstanding and spot-on. The
4 corporate world has really changed from
5 my early days at DEP. They are really
6 pushing the envelope on sustainability.
7 Those kind of metrics are very important
8 to them.

9 Brian Blair is going to talk, from
10 Trenton Renewables, later. They probably
11 calculate those kind of numbers. I
12 believe waste management does as well.
13 You are absolutely right and it is really
14 important to bring everybody into this as
15 a collective effort. Great point.

16 DR. BIELORY: I'm a little
17 disturbed, because I'm a physician, on
18 the Good Samaritan law. I want to
19 understand. Where is the disconnect from
20 the point of view that you can or cannot
21 use these foods that have been prepared?

22 I get the impression -- I keep
23 getting the words "You can't do that." I
24 am a president of a synagogue and want to
25 give away all the foods that not being

PROCEEDINGS

1 used, or XY and Z, and they claim zero.

2 But you are making a statement that that

3 is not true. I am totally befuddled.

4 How do we breach this disconnect?

5 MR. SONDERMEYER: It's a great
6 point. What was just represented is a
7 common misconception, that you can't
8 donate when you absolutely, unequivocally
9 can. What we need to do is a better job
10 in laying it out.

11 Some of the folks I know that are
12 here today will speak to that issue in
13 the public comment section. There will
14 be more to come. But you absolutely can
15 donate food. We have a piece of
16 legislation -- the slide that didn't come
17 up, is one on date labels. There is
18 tremendous miscommunication on date
19 labels as well. For the most part, they
20 are advertising. They don't mean
21 anything. They have nothing to do with
22 food safety. We have to dispel these
23 misconceptions.

24 This one, thank you for raising the
25

PROCEEDINGS

1
2 question. We have to do a better job of
3 education to lay out and dispel the
4 misconceptions. There are very clear
5 standards on how you package food at the
6 end of the day, how you label it and how
7 you refrigerate it. If we can develop
8 that, you wouldn't have to refrigerate it
9 because we will connect the dots and we
10 will deliver it to a restaurant and
11 deliver it to people the next day.

12 DR. BIELORY: I would like to have
13 the Council contact you after the meeting
14 as well because I have still have more
15 questions to refine our proposal. Thank
16 you.

17 MR. SONDERMEYER: I think that
18 would be a wonderful thing for the
19 Council to look at in terms of having a
20 statement about you can donate food.

21 Thank you again.

22 CO-CHAIR CONNOLLY: Our next
23 speaker is Veronique Lambert. She
24 manages the sustainability certification
25 program for public the public pre-K

PROCEEDINGS

1
2 through 12 schools throughout New Jersey,
3 interfacing with school personnel,
4 professional associations, government
5 agencies, non-profit organizations and
6 businesses that operate in the education
7 arena to both develop the program and
8 facilitate participation in it. She
9 conducts extensive outreach and training
10 to schools about the program. She also
11 works on initiatives to bring additional
12 content and resources to the program,
13 such as the school food waste pilot
14 project. From the program's 2014 start,
15 over 1,000 schools participate today.

16 A member of her town's
17 Environmental Commission and Green Team,
18 Veronique has previously worked in
19 sustainability education and community
20 outreach in New York City, London,
21 Providence and Ithaca. She also
22 performed cropping systems research in
23 Hawaii and Guyana. She received a
24 Bachelor of Science and Master of Science
25 in Agronomy from Cornell University and

PROCEEDINGS

1
2 University of Hawaii, respectively, and a
3 Master of Science in Geography from
4 Brunel University, London.

5 MS. LAMBERT: Good morning. Thank
6 you. I didn't realize the bio would be
7 read out. That is kind of embarrassing.

8 Gary and actually the previous
9 speaker as well touched on a lot of
10 subjects that I will talk about as well,
11 but really focus looking at the pre-K to
12 12 environment. As the introduction
13 suggested, that is kind of like my
14 playground that I splash around in.

15 We will narrow in on what set up
16 the stage for Sustainable Jersey trying
17 to address food waste in New Jersey
18 schools and some work we undertook about
19 changing current practice. Actually,
20 what we are currently doing to drive the
21 implementation of those practices but
22 also recognizing that there is additional
23 work that needs to be done. I will hit
24 on that briefly.

25 In the next couple of slides, just

PROCEEDINGS

1
2 reiterating this point that has been made
3 repeatedly about the volume of waste,
4 especially in schools. I don't know if
5 any of you have been to a school
6 cafeteria recently. It is really kind of
7 mind blowing just seeing the huge trash
8 cans that are overflowing with all
9 manners of both food, organic waste, but
10 also a lot of the packaging and trays
11 that are used, the single-use items to
12 take the food to the students. Then I
13 guess the fact that this is -- a lot of
14 it is accumulating in landfills.

15 This has been previously mentioned,
16 that there is a lot of food waste. Just
17 coming from schools alone in the U.S., it
18 is estimated over a billion pounds. I
19 will touch a little more on the study
20 that we did, it's a study we did in
21 collaboration with Rutgers cooperative
22 extension. You will be hearing from Sara
23 Elnakib later this afternoon. In that
24 study, we looked at food waste at three
25 schools, two middle schools and one K to

PROCEEDINGS

1
2 5 school.

3 Doing the waste audits, we
4 estimated -- based on our measurements,
5 we calculated they were wasting almost
6 21,000 pounds in a school year.

7 This really struck me, from ReFED.
8 They are a non-profit that does a lot of
9 data analysis trying to promote or
10 encourage, do advocacy to address food
11 waste nationally.

12 It does have profound environmental
13 consequences. That was laid out very
14 well by both Gary and the earlier speaker
15 from Rutgers, Dr. Serpil Guran. Really
16 looking at those environmental costs.

17 We are focused on energy here and
18 climate change but there are also costs
19 thinking about all the water. She also
20 was talking about fertilizer. It is a
21 lot of expense and resources into
22 producing the food so it is really kind
23 of a crime that we waste it.

24 Looking in terms of focusing on the
25 climate gas emissions that we are focused

PROCEEDINGS

1
2 on here today, the top two bullets there
3 are talking about 6.1 percent of U.S.
4 greenhouse gas emissions, and that is
5 equivalent to 86 million passenger
6 vehicles. These are data coming from
7 ReFED. The EPA has a data point that
8 nearly 60 percent of all landfill
9 emissions of methane, and methane is a
10 really potent greenhouse gas, as you guy
11 all know, is from food waste.

12 That is to justify why we are
13 addressing food waste when we are talking
14 about climate change. Gary also touched
15 on the social impacts, which are really
16 significant as well, especially when
17 working in a school environment. And to
18 think about that, there is families in
19 need. We have kids that are food
20 insecure. So it is a crime really to be
21 wasting food when we have families in
22 need of food.

23 Also very important to schools are
24 school budgets. So, that they are paying
25 to dispose of their waste and that the

PROCEEDINGS

1
2 food waste comprises a significant
3 portion of that is also something to
4 consider.

5 For those of you not familiar with
6 Sustainable Jersey, our role in this, we
7 are basically generally trying to drive
8 sustainable action in public schools. We
9 have a sister program that does it for
10 municipalities. Naturally, the food
11 waste actions are part of a larger
12 portfolio of actions that we are trying
13 to encourage, but we have been doing a
14 the lot of work in this arena the past
15 couple years.

16 The way we do that is through
17 incentivizing. We provide tools,
18 resources and guidance. We basically are
19 trying to -- kind of like a roadmap. You
20 want to address food waste in your school
21 and here is how you would do it, here are
22 the steps and resources. We try to
23 promote free resources that are available
24 to you that are relevant for schools in
25 New Jersey.

PROCEEDINGS

1
2 We also have our own grants program
3 where we fund raise. We have corporate
4 sponsors who provide funding, and we have
5 a grants program where we can award grant
6 money. It is smaller amounts, like
7 \$2,000 or \$10,000, to schools toward
8 implementing sustainability projects,
9 such as buying composters or recycle bins
10 or even doing education projects in the
11 schools.

12 We have a recognition program so we
13 recognize schools that are able to do
14 some of these actions through
15 certification.

16 It is through incentivizing and
17 trying to enable through building
18 capacity, through knowledge and also
19 through funding.

20 To kind of set the stage how we
21 became more focused on food waste, in
22 truth when our program first rolled out
23 in 2015 we didn't really have that many
24 actions that were specifically targeted
25 on food waste. We had one that was a

PROCEEDINGS

1
2 waste audit. Yes, it mentioned cafeteria
3 waste. But what we found -- I am not
4 going to go into the specifics of the
5 regulatory environment because Gary
6 covered that quite extensively.

7 Actually, we are in an environment where
8 the laws are changing but also what we
9 noticed in schools was that there was an
10 interest in the schools to address this
11 topic. Despite the fact that we didn't
12 really have a space for them to showcase
13 their work, we were -- we have like an
14 innovative action where they can show us
15 something they are doing that doesn't
16 fall into the realm of other actions. We
17 were seeing that they were talking about
18 trying to grapple with the amount of
19 waste in their cafeteria.

20 We were also getting grant
21 applications seeking funding to address
22 waste in the cafeteria. We said okay, we
23 need to meet them where they are. And
24 DEP gave us funding. We were able to get
25 funding through the REA Grant. We

1 PROCEEDINGS

2 partnered -- this is the project where we
3 partnered with Rutgers University to do a
4 pilot study to go into schools and study
5 this and see what are effective ways to
6 address this.

7 This is the highlights. As I said,
8 there were three schools. Initially, we
9 wanted to do just middle schools because
10 we have shown that 5th grade is a
11 critical grade to try and introduce new
12 practices to get behavior change. It is
13 when students start to develop a sense of
14 autonomy and self. One of the schools,
15 however, was K through 5 school.
16 Combined enrollment was about the size of
17 a regional high school, about 1,700
18 students.

19 We did the preaudit and measured
20 how much waste there was before we
21 implemented any of the measures. Over
22 62,000 pounds of food waste. This is
23 just from lunch. We didn't do breakfast
24 in the academic year.

25 Then we implemented a -- well, we

PROCEEDINGS

1
2 didn't implement. We kind of did
3 training with the food service staff,
4 with the teachers. We guided the
5 teachers who were doing education with
6 the students and we implemented -- we
7 coached them to implement interventions.
8 Just with those interventions, it was
9 supposed to be a year later but there
10 were a lot of complications of post COVID
11 environment in schools so we ended going
12 back a little later. We saw a 45 percent
13 reduction in food waste just through the
14 measures, which I will go into in the
15 subsequent slides.

16 On top of that, part of the grant
17 was they got funding to buy composting
18 machines. I am using that term lightly.
19 They weren't all composters. I think
20 there were a couple dehydrators. I am
21 not sure what the third one technically
22 was. I use composting to mean recycling
23 of organic food waste to a usable end
24 product.

25 So when we add the composting in,

PROCEEDINGS

1
2 we basically almost eliminated all the
3 food waste because it was 92 percent.
4 Then they were able to recover some of
5 the food that was unopen, that was
6 untouched. Through share tables and
7 through all of that, we estimated that we
8 took off the equivalent of 21 cars off
9 the road for one full year, over
10 200,000 pounds of carbon dioxide avoided.

11 These were the practices that we
12 were kind of promoting. Educating
13 students about the value of food and the
14 impacts of food waste. This sounds --
15 this doesn't sound like really that
16 great, but this is really critical. This
17 is how you got to that -- you got to that
18 45 percent reduction without even doing
19 any kind of composting or food waste
20 recycling. Once the kids and the staff,
21 the adults, first of all, saw how much
22 waste they were generating, then you
23 teach them about those economic costs and
24 environmental costs, then they have a
25 very different view of their food. And

PROCEEDINGS

1
2 that is a key component to how they treat
3 it. They are less likely to take food if
4 they are not going to eat and less likely
5 to waste it.

6 Also training the food service
7 staff was important. This also connects
8 to the question that was raised earlier
9 about why aren't there more share tables.
10 People keep telling us they can't do
11 that. We also encountered that. We
12 encountered food service directors and
13 business administrators saying they told
14 us -- who is they -- they told us we
15 can't have share tables.

16 It is important to train the staff
17 on what are the best practices for
18 reducing waste, what you can do and how
19 should we do it and what yields better
20 results.

21 Then, of course, recovering uneaten
22 food for share tables. Of course, once
23 you do all of that, you will always
24 invariably end up with some food that
25 will have to be tossed out. Rather than

PROCEEDINGS

1
2 tossing it into the rubbish, we separate
3 the food waste and try to divert it away
4 from the waste stream.

5 These particular schools were able
6 to compost on site because they were
7 given money for composters. We do have
8 some schools in the program that collect
9 it and then have it sent off site to be
10 recycled elsewhere.

11 The next slide is some visuals.
12 These were photos from the three pilot
13 schools, some of the different activities
14 they did. We had the Catrambone School
15 in Long Branch doing the food waste.
16 They did their own waste audit version in
17 the classroom and used that activity to
18 do math lessons. Doing activities where
19 they were regrowing food from like ends
20 of carrots to understand how food is
21 grown and to appreciate it. And also
22 using the compost as the end product. A
23 lot of schools are interested in school
24 gardens and there is a lot of great
25 education around what goes into growing

PROCEEDINGS

1
2 food and also what is healthy, what is
3 nutritious food. It encourages kids to
4 eat, actually try the salad or the
5 vegetables.

6 That photo with the kids in front
7 of the van is from Newton. They are very
8 lucky because they are in a rural county
9 and have easy access to farms. As part
10 of their enrichment programs they will
11 actually visit farms. They do gleaning.
12 They will try recipes. I think -- I
13 don't know if this is the eggplant
14 picture, but one visit they did get a
15 bunch of eggplant.

16 That kind of gives students a
17 better sense of where their food is
18 coming from and to develop an
19 appreciation for it, which is a very
20 critical component in changing behaviors,
21 to avoid waste.

22 The next slide. The food waste
23 audit is like a big deal. Some schools
24 are a little bit nervous about doing it
25 on their own. Rutgers was great about,

PROCEEDINGS

1
2 they took care of it for these schools.

3 We do have some schools that are able to
4 follow the guidance and do it on their
5 own. It is important for getting a
6 picture of what are we wasting? Let's
7 see, how can we -- what can we do to
8 reduce it.

9 Some schools were shocked how much
10 milk -- we don't have a picture of the
11 milk but it would be buckets of milk that
12 would just be poured down the drain. If
13 you were tossing the milk individually in
14 the little cartons you may not be aware
15 of how much milk is being thrown out.
16 This picture is from Catrambone. It was
17 when there was a lot of issues with
18 supply chain, post pandemic. So they
19 were trying out a new rule and it didn't
20 go over well so there was a lot of bread.

21 The audit, yes, it is essential to
22 get a handle on your waste stream and to
23 kind of identify what are the different
24 components being wasted. What we found,
25 it has a huge value, it makes a huge

PROCEEDINGS

1
2 visual impact of how much waste. If it
3 can be done with the students so
4 everybody can see, we find this is really
5 a great trigger for having people saying
6 oh, my gosh, this is serious and real.
7 Let's do something about it.

8 Training of the food service staff.
9 I don't want to minimize how challenging
10 this can be. Schools are actually facing
11 some very challenging circumstances. I
12 don't know if or when it is ever going to
13 go back. It is everything from shortages
14 of bus drivers to they can't get
15 teachers. We have curriculum supervisors
16 that are now teaching because they can't
17 get enough teachers. Food service staff
18 is very high turnover in some districts.
19 Some of them can't even find a food
20 service director.

21 Sometimes when you go to them and
22 say we want to do this, there can
23 initially be some resistance. But if you
24 are able to train them about what you are
25 trying to do and the reasons behind it,

PROCEEDINGS

1
2 very often they are receptive and then
3 they will come along. The other thing we
4 found is, it is important to do training
5 at least once a year. One, you are going
6 to have turnover. Two, even if you have
7 the same staff coming back year to year
8 it is important to reinforce and refresh
9 that information, that knowledge.

10 This is just a few -- this one is
11 huge, offer versus serve. We found that
12 if you are serving meals, especially for
13 free and reduced lunch, it is required
14 that there are certain components that
15 make up the meal that have to be served
16 if the school is going to be reimbursed
17 for it. There is a lot of misconception,
18 similar to "Oh, we can't do them a share
19 table," it's like of like "We have to
20 give them milk" and it ends up in the
21 trash.

22 There is flexibility because many
23 years ago there was recognition that a
24 lot of food was being wasted. So there
25 were new guidelines. They are saying you

PROCEEDINGS

1
2 don't have to give them all the
3 components. As long as they have three
4 or four of the components, we just have
5 to make sure that the food service staff
6 is aware of that and acting on it.

7 The next slide? Some of the other
8 interventions, there are a lot of things
9 that can happen in the cafeterias that
10 boost food consumption, make the
11 environment more appealing, like your
12 menus and posters. But also, things like
13 using a milk dispenser instead of
14 offering cartons. That is a little
15 difficult because actually there is a
16 program that promotes that but I was
17 looking at it and I don't know that it is
18 available yet in New Jersey or at least
19 in all parts of Jersey. Things like
20 offering precut -- instead of giving,
21 especially younger kids, a whole fruit,
22 cutting it up into wedges. A lot of kids
23 would take one bite of an apple and then
24 toss the rest away. If there is a bite
25 taken out, you cannot put that on the

PROCEEDINGS

1
2 share table and then the whole apple goes
3 into the waste.

4 On the next slide, these are hard,
5 the policy interventions, especially the
6 time. Time in a school day is very
7 precious and it is very difficult to get
8 administrators to agree to increase
9 lunchtime. There have been studies that
10 show if you even increase the time by
11 five minutes you can boost consumption.

12 We surveyed -- some of the schools
13 surveyed kids, after asking why did they
14 not eat all their lunch and there were
15 quite a few who said they didn't have
16 enough time to eat all their food.

17 We did have some schools trying to
18 have more kids have their recess before
19 lunch. That is so they would be hungry
20 and eat more of their lunch.

21 The next slide touches on food
22 recovery. All the schools did try this.
23 That is a poster at Newton School about
24 making sure the kids understood which
25 foods they could share and which foods

PROCEEDINGS

1
2 they couldn't. Then the fridge at the
3 end there is from Catrambone School in
4 Long Branch. Their school board put
5 money in the budget -- I think these
6 fridges were a thousand bucks. They
7 bought one of these fridges for each
8 school. Even though we did the pilot
9 study only in the one school, they
10 decided to buy fridges for all the
11 schools in Long Branch, I think there are
12 like 11 schools in Long Branch and they
13 implemented the share tables across the
14 district.

15 The next slide shows the school
16 buses at Long Branch. What we do is
17 encourage the schools that did the share
18 tables to share within the school first
19 before going out, rather than sending it
20 out to donation. This is the way Long
21 Branch did it. They collected the food,
22 they had it in their fridge. When the
23 kids were lining up, getting ready for
24 the bus, they brought the carts out and
25 told the kids they could take the food

PROCEEDINGS

1
2 home. They knew they couldn't eat it on
3 the bus but they could take it home.

4 The next slide is diverting the
5 food to go into the compost. That is the
6 example at Delran.

7 Then the next slide, and then the
8 next, this is showing some of the
9 different composter systems. The one on
10 the top is, the one was in the lunch
11 room. Delran had their composter
12 outside. That is to show the choice,
13 that some school districts actually do
14 not compost on site but send it to
15 another facility.

16 The next slide is composting
17 gardens.

18 The next slide, Catrambone have
19 fantastic gardens. In addition to having
20 activities with students where the
21 students will harvest and cook and try
22 out recipes like salads, they also do a
23 lot with donating to their community.

24 Sustainable Jersey has integrated
25 these into our actions. We are driving

1 PROCEEDINGS

2 implementations of this through our
3 actions and our toolkit which is on our
4 website.

5 The next slide I have the different
6 actions in the program that schools can
7 complete towards getting certified. They
8 need 150 points. That is kind of giving
9 you an idea of how many of these -- how
10 much this would contribute toward
11 certification.

12 This is how we have been sharing
13 this, through our road show. We go to
14 webinars, conferences. We do ongoing
15 support to schools. If schools call us
16 for help, we will help them figure out
17 how to implement the stuff.

18 The last slide is our
19 recommendations. This kind of echos what
20 was said previously. Schools still think
21 they can't do this. It is just really to
22 clarify the guidance on implementing
23 share tables and really to push it to
24 schools.

25 Also to facilitate -- Gary talked

1 PROCEEDINGS

2 about the small scale composting and to
3 facilitate schools handling their own
4 food waste within the district so they
5 don't have to get permitting if they want
6 to do that. And also to increase options
7 for sending food waste to external
8 recycling facilities if they are not able
9 to recycle on site.

10 I don't know if I have times for
11 questions. I went over time. Thank you
12 for that.

13 CO-CHAIR CONNOLLY: Maybe just one
14 question?

15 (Audio interruption.)

16 CO-CHAIR CONNOLLY: She asked which
17 school in Long Branch was it.

18 MS. LAMBERT: George L. Catrambone.
19 They are a great school to visit.

20 Thank you.

21 CO-CHAIR CONNOLLY: Our next
22 speaker before lunch is Brian Blair. He
23 is General Manager of Trenton Renewable
24 Power LLC and President of Biogas
25 Operations LLC, which commenced

PROCEEDINGS

1
2 commercial operations of Trenton Biogas,
3 New Jersey's first food waste anaerobic
4 digestible facility of 2019.

5 His notable achievements include
6 the introduction of anaerobic digestion
7 of food waste to New Jersey in 2007,
8 development of the Salem County
9 Sustainable Energy Training Center in
10 2009, development of a 39-acre
11 sustainable energy park and the
12 development of a distributed energy
13 resource micro grid in Salem County.

14 With 25 years of industry process
15 experience in total waste management,
16 waste recycling, waste gasification, bio
17 fuel production and sustainable energy
18 process design Mr. Blair is focused on
19 decarbonization solutions to reduce
20 dependance on fossil fuels and the
21 concerns of climate change.

22 MR. BLAIR: As you hear from my bio
23 on what anaerobic digestion can do to
24 food waste -- given the task of speaking
25 to an audience about reducing the impact

1 PROCEEDINGS

2 of food waste on air quality, I thought
3 it was pretty important to bring forward
4 my most recent work about carbon
5 reduction and anaerobic digestion. I
6 will talk a little about our company and
7 what we do to reduce carbon in the
8 atmosphere by processing food waste.

9 Before I jump into it, I want you
10 to know that I started this lifecycle
11 analysis process working with Rutgers
12 going back to October, maybe November of
13 last year, looking at what the full
14 carbon footprint is of an anaerobic
15 digestion facility that produces
16 electricity. It was a long process.
17 What I found is that some of the really
18 good experts are in California and they
19 are not really sure what to say about New
20 Jersey. Some of the experts in New
21 Jersey are not really sure about
22 anaerobic digestion as you put electrons
23 into the grid.

24 So we set off on a task to bring
25 all the talent to the table, ask a lot of

PROCEEDINGS

1
2 questions and perform a lifecycle
3 analysis.

4 Near the end of that process, the
5 federal EPA produced a document entitled
6 "Quantifying Methane Emissions From
7 Landfill Food Waste." That document was
8 written in October 2023, published in
9 December. So, really at the last minute
10 and at the end of our process. It was
11 fascinating to read. That document kind
12 of captures the evolution of an
13 understanding of emissions from landfills
14 over time as we see them and as we can
15 measure them.

16 The bullet points here, and I think
17 everybody knows, Gary has talked about it
18 and we are all familiar with it, the
19 bullet points are that when you put food
20 waste into a landfill it begins to
21 decompose in the first eight hours.
22 Within 16 hours you are emitting CO2 and
23 methane, and daily cover doesn't really
24 capture that and there is leakage through
25 the daily cover, even though our

PROCEEDINGS

1
2 landfills are so well managed compared to
3 landfills of the past.

4 We really can't avoid, unless we
5 put a permanent cap on that food daily,
6 we can't avoid that leakage or those
7 emissions.

8 When we look at some of the data
9 from landfills, what we realize is this
10 leakage number is the big number that we
11 haven't been able to manage yet.

12 We know that after two or
13 three years, what we have learned from
14 this and from reading this document from
15 the EPA is how important it is to take
16 the food out of the landfill. Not only
17 is it reducing the methane emissions but
18 you are also solving some hydrogen
19 sulfide issues that occur long term in
20 landfills. We know that when that food
21 and other organics will continue to go
22 into landfills and within a couple years
23 they will continue to make methane and we
24 will continue to pull vacuums on those
25 landfills and extract that gas.

PROCEEDINGS

1
2 The idea is to really focus on
3 getting it to a better use. I am a big
4 advocate of composting, just so you all
5 know, because I am a big advocate of
6 carbon reduction. If you think about the
7 second largest carbon emitter that we
8 have in the United States, it is
9 vehicles. If you are packing all of your
10 organics into the truck and shipping it
11 for miles down the road you are actually
12 producing carbon, a pretty significant
13 carbon footprint.

14 If you have a dense, small
15 population of food, you should compost
16 it. Keep it local, keep it out of the
17 landfill, aerobically finish it and put
18 the nutrients back in the earth. Reality
19 of the industry is a little different,
20 though, when you get into big commercial
21 generators.

22 Now I will jump into my slides. A
23 lot of people probably have seen them
24 before. I will talk about our facilities
25 specifically. Our nameplate capacity is

PROCEEDINGS

1
2 450 tons per day of food. If you think
3 about that, to put it in perspective,
4 Veronique's study found there were
5 34,000 pounds a year from a population of
6 1,700 students, which would be a regional
7 high school. That works out to one and a
8 half tons per week.

9 I think that is about how that
10 works out, or 1.5 cubic yards a week.
11 You can think of a two-yard container
12 outside the school that all of their food
13 would fit into. That makes sense. If
14 you have to move that food a long
15 distance, it starts to not make sense. I
16 want to talk about what we are trying to
17 do to help that along.

18 If you can't compost it, and you
19 don't have a spot to do it, we worked out
20 a couple of solutions that makes sense if
21 everybody is on board. How we do it, we
22 say by combining advance material
23 handling. We basically focus on packaged
24 food. There is a significant amount of
25 packaged food that goes to landfills. It

PROCEEDINGS

1
2 is not easily fed to animals. If it goes
3 to a farm, it is producing a solid waste
4 problem at the farm by the time you get
5 packaging removed.

6 Our equipment removes that
7 packaging and puts the organic product
8 into anaerobic digesters.

9 We think about the food hierarchy.
10 We try to get food diverted to farms to
11 feed animals when we can, certainly
12 people when we can. Again, advocates of
13 composting. We are obviously fully
14 married to the deal of anaerobic
15 digestion and I will talk a little about
16 that.

17 This is the front end of our
18 facility. We actually recycled this
19 building. This building was a sludge
20 management facility built in the '80s or
21 late '70s and never operated. It was
22 designed to drive biosolids from sewage
23 treatment plants. It sat mothballed for
24 a number of years, I think 15 years, and
25 we retrofitted this building for

PROCEEDINGS

1
2 anaerobic digestion of food waste. We
3 have three receiving bays.

4 What is important here is the
5 complexity of the food. This is a
6 walking floor trailer coming from a
7 produce market. You can see there's very
8 complicated packaging in this truck.

9 There is wax cardboard boxes, nets of
10 onions, plastic packaged food. So we
11 rely on our front-end equipment to
12 separate all of that into recyclable,
13 what we can recycle out of the packaging
14 portion and organic engineered bio
15 slurry, which then goes to anaerobic
16 digesters. Very similar to waste
17 management's core facility, they do the
18 same thing. They depack it, get the
19 organics out to the anaerobic digesters.

20 Next slide. At the end of
21 anaerobic digestion, we produce a solid
22 nutrient material. It is like a compost
23 product. It has kind of a light flurry
24 feel to it. It's a pathogen free,
25 nutrient rich soil amendment. Pathogen

PROCEEDINGS

1
2 free because we are operating at
3 52 degrees Celsius. That is,
4 thermophilic temperature destroys
5 pathogen seeds and things like that that
6 would make their way back to the end
7 product.

8 One of the people asked a question
9 what happens in digestion, what happens
10 when they send their stuff to a
11 wastewater treatment plant. Basically,
12 that food is moved and carried with
13 water. When you put it into a vessel, a
14 closed vessel, you keep it at a certain
15 temperature, you have just created the
16 same type of environment that exists in
17 your stomach. It is an oxygen-free
18 environment, it's just the right
19 temperature. The bacteria that is
20 readily available in that food go to work
21 to break the food down and convert it
22 into gas.

23 It is a process of hydrolysis, so
24 it goes through fermentation, a CO
25 genesis, methanogenesis. And those

1 PROCEEDINGS

2 methanogens, those bacteria are
3 basically reducing -- after the food has
4 been reduced in size, producing a biogas.
5 Biogas is a CO₂, methane and a little bit
6 of hydrogen sulfide.

7 What we do is collect that biogas
8 into a storage membrane and we feed
9 combined heat and power engines to
10 produce electricity and we put that
11 electricity onto the grid. That's a
12 tough business in New Jersey, to produce
13 electricity and put it on to the grid. I
14 think that most of you in this room are
15 sensitive to what is going on with the
16 electric grid, sensitive to the electric
17 vehicles coming online, the charging
18 infrastructure. Most of you probably
19 know that New Jersey imports a
20 significant amount of its power.

21 So, I will pause there. That is
22 what we do today. We are doing an
23 expansion, working on an expansion plan
24 that will bring another potentially
25 600 tons of material, organic material,

PROCEEDINGS

1
2 which includes biosolids in the expansion
3 and food waste, co-digesting, using a
4 wastewater treatment facility to put
5 renewable natural gas into the pipeline,
6 we also think it is important.

7 We think the State of New Jersey
8 needs electricity, needs sources of
9 electricity from a distribution network
10 much like what we have in wastewater
11 treatment plants throughout the state.
12 So we are about to be launching a
13 co-digestion facility to prove that
14 concept and hopefully roll that out with
15 the larger footprint in the state.

16 We do have a customer that has an
17 electric tractor trailer. They are in
18 South Jersey and they are working on
19 getting that electric tractor trailer to
20 our facility so we can charge them while
21 they are unloading their food product at
22 our facility. That is as good as it
23 gets, when you can charge an electric
24 vehicle with a carbon negative fuel.

25 The next slide are bullet points on

1 PROCEEDINGS

2 the facility. The top picture, you see
3 the different types of material that are
4 being dumped. You see the plastic
5 residuals, compost residuals. It works
6 out to 110,000 tons a year.

7 This number, 480,000 tons of CO2
8 emissions eliminated from landfill. That
9 number drove me crazy when we got into
10 the lifecycle analysis because that
11 number is driven by EPA's Greek model,
12 AVERT model -- there is three models that
13 we use. They all settle to this number
14 of CO2 emissions eliminated.

15 When we went through the lifecycle
16 analysis and thought what are we really
17 eliminating? We have fork trucks outside
18 removing material, we have a machine that
19 mixes material, trucks going in and out,
20 we have gas engines that have an
21 emission. How does this work out?

22 End of the day, our lifecycle
23 analysis results in about half of that
24 because we have emissions. So, for every
25 one ton of food that we are bringing in,

PROCEEDINGS

1
2 we are removing or sequestering 2.2 tons
3 of CO2e. It is a big deal. It is a big
4 deal when you can get a full net
5 reduction in emissions from the process.
6 If you think about the stuff we love and
7 celebrate -- solar, wind, nuclear --
8 these are fantastic technologies that is
9 carbon neutral. This is a carbon
10 negative technology.

11 How important is that? We can take
12 the food out of the landfill, run it
13 through this process and actually reduce
14 carbon in the environment. It is pretty
15 important.

16 The next slide. This is an example
17 of how we put together the lifecycle
18 analysis. We worked again with Rutgers
19 on this, really looking at putting
20 bookends on our process. You can go a
21 little crazy if you start to go outside
22 of your process flow and try to figure
23 out things that you can't control. But
24 this is what we can control.

25 This is everything coming in and

PROCEEDINGS

1
2 everything going out. Sometimes we are
3 reducing emissions just because we are
4 producing a liquid fertilizer product
5 that is produced without using coal-fired
6 electricity or gas-fired electricity. So
7 you get some points for that. That is
8 basically the methodology that we use to
9 do the Scope analysis.

10 Next slide. So I am sure everybody
11 in this room is familiar with GWRA 80x50
12 report. The focus on priorities here,
13 the priorities being climate, priorities
14 being with Executive Order 89, the focus
15 is climate. Carbon reduction.

16 The New Jersey report on climate
17 change. It is actually disturbing to
18 read that and look at how significant our
19 environment is impacted.

20 The Scientific Advisory Board
21 Report also focuses on methods that we
22 can deploy to reduce carbon emissions
23 particularly using food waste. Those are
24 all very, very important documents. They
25 make our focus on reducing carbon

1 PROCEEDINGS

2 emissions by finding a better thing to do
3 with the food. Anaerobic digestion is
4 carbon negative.

5 Next slide. I am going to leave
6 this slide. I guess it will be available
7 for others to talk about because I will
8 be running out of time. But one of the
9 big problems here is that the economics
10 of anaerobic digestion of food waste
11 making electricity are not wildly strong.
12 In fact, you are competing with the cost
13 of waste disposal and to draw the food
14 into your facility.

15 While climate and sustainability is
16 our priority, the grocery store's
17 priority is to stay in business and
18 reduce costs. It is very important that
19 they are not running up their bills to
20 pay more to get food into your anaerobic
21 digester So what they do is generally
22 send it out for less.

23 Our tip fees in our facility are
24 about half of the tip fees in Mercer
25 County Waste Flow Control District. And

PROCEEDINGS

1
2 it is still hard to draw the food in
3 because it is economics. You are not
4 going to raise the tip fee to make these
5 type of facilities sustainable. And you
6 are not going to cut your staff or cut
7 corners because you have to do everything
8 right. The only thing that remains it
9 getting that energy value, the correct
10 energy value, getting value for carbon
11 negative energy, not carbon neutral but
12 for carbon negative.

13 I have a list of questions of what
14 things we need to change. I believe the
15 number one thing is to put more value on
16 the carbon negative energy from AD so
17 more of these sites pop up at the
18 wastewater treatment facilities and we
19 get a little more incentive to build more
20 of these.

21 No similar programs exist for
22 biomass facilities even though they are
23 the most carbon negative of all class
24 renewable technologies recognized under
25 New Jersey law. It's a strong statement.

1 PROCEEDINGS

2 I have some ideas about the food
3 waste law. It could be modified and it
4 could be modified to the betterment of
5 some of the facilities that have huge
6 amounts of waste but are just outside of
7 the existing regions right now.

8 We have some ideas about
9 enforcement that relate to the
10 generators, that relate to the haulers.
11 These are all ideas that would be healthy
12 for really all of the participants.

13 Current bill that Gary talked
14 about, very important. There is a couple
15 things that we would like to weigh in on
16 as far as accelerating that bill. But
17 working on the rate so that you can get
18 an energy rate to make that more
19 effective.

20 I am happy to take questions.

21 CO-CHAIR CONNOLLY: Thank you.

22 Questions from Council, please?

23 MR. NEUMAN: Adam Neuman --

24 (Inaudible.)

25 MR. BLAIR: The last question was

PROCEEDINGS

1
2 about how many jobs does the technology
3 like this produce, because that is
4 important as well. We talked about our
5 facility generating 21 full-time jobs and
6 100 ancillary jobs and certainly creating
7 jobs, creating an economy and bettering
8 the region.

9 MR. LAUMBACH: Rob Laumbach,
10 Rutgers University. I had a question
11 about the small amount of hydrogen
12 sulfide in the gas and how that is
13 managed. When it burns, does it produce
14 sulfates, for example?

15 MR. BLAIR: You want to take it
16 out. Your wet biogas leaves an anaerobic
17 digester with that hydrogen sulfite
18 component. So at the end of digestion,
19 your sulphur-generating bacteria
20 inevitably will produce a percent or
21 2 percent of your total volume as
22 hydrogen sulfide.

23 You have to take that out. So you
24 run your gas through a gas cleaning
25 system that precipitates that H₂S as

PROCEEDINGS

1
2 sulphur, elemental sulphur, and then also
3 drops the moisture out of it so you end
4 up with a dry biogas that is being
5 combusted.

6 It doesn't make engines happy, it
7 doesn't make gas grids happy and it
8 doesn't make neighbors happy if it's
9 lofting into the environment. You
10 capture it and bring it to its elemental
11 form.

12 CO-CHAIR CONNOLLY: Thank you so
13 much, Brian.

14 MR. BLAIR: My pleasure. Thank you
15 all.

16 CO-CHAIR CONNOLLY: A great morning
17 so far. We are going to take a lunch
18 break and be back at 1 o'clock.

19 (Recess.)

20 CO-CHAIR CONNOLLY: Thank you.
21 Hello and good afternoon. We wanted to
22 put on the record that we donated all our
23 leftover lunch to other DEP employees.
24 None of it was wasted.

25 We are back again and have a few

1 PROCEEDINGS

2 more speakers to go. Our next speaker is
3 Dr. Sara Elnakib, is an Educator,
4 Associate Professor and Chair of the
5 Department of Family & Community Health
6 Sciences at Rutgers Cooperative
7 Extension.

8 Her research focuses on the use of
9 policy, systems and environmental
10 approaches to promote child health equity
11 and environmental stewardship, primarily
12 in school and community settings. Sara
13 has received research funding from USDA,
14 EPA NJDEP and Horizon Foundation to
15 research the intersection of nutrition
16 literacy, environmental education and
17 healthy eating.

18 Her dissertation focused on food
19 waste in the school setting and how
20 behavioral economics can be leveraged to
21 reduce food waste. She completed her
22 doctoral degree in Social and Behavioral
23 Health Science at Rutgers School of
24 Public Health.

25 Sara is also a Registered Dietitian

PROCEEDINGS

1
2 Nutritionist, has a Master of Public
3 Health degree in Health Education and
4 Behavioral Sciences from the University
5 of Medicine and Dentistry of New Jersey,
6 and completed her undergraduate degree in
7 Nutritional Sciences at Rutgers
8 University.

9 Dr. Elnakib?

10 DR. ELNAKIB: Thank you all so
11 much. And thank you for this honor. I
12 really appreciate the opportunity to
13 share a little bit about what we are
14 doing at Rutgers Cooperative Extension to
15 support some of the local work within
16 communities.

17 Just a little background on
18 Cooperative Extension. Rutgers
19 Cooperative Extension is the outreach arm
20 of Rutgers University, located in all 21
21 counties across the state. There are
22 three main departments within Cooperative
23 Extension. Agriculture and natural
24 resources, and that's a department that
25 does a lot of horticulture and

1 PROCEEDINGS

2 agriculture education.

3 4H youth development. A lot of
4 people know about 4H. They don't
5 recognize it as part of Cooperative
6 Extension, but it is.

7 And then my department is the
8 Family & Community Health Sciences
9 Department.

10 Our department focuses on health
11 and nutrition across the state. The blue
12 New Jersey map is our faculty and staff
13 that are federally and state funded and
14 locally funded. Then the red map is our
15 grant funded map. We cover the whole
16 state and we work across different areas
17 of our work to improve health and
18 wellness overall for New Jersey
19 residents.

20 These are the five key areas our
21 department primarily works in. Community
22 food systems, chronic disease management
23 prevention, food literacy, which includes
24 food preservation, nutrition policy and
25 school nutrition, which focuses on not

1 PROCEEDINGS

2 just teaching kids in K through 12
3 schools but also looking at nutrition
4 policies in schools, which we'll touch on
5 a little bit today. And wellness, which
6 encompasses a large area of physical
7 literacy, mental health and a lot more.
8 The focus of the work we are doing today
9 is really on that, community food systems
10 sections.

11 Our food waste team is comprised of
12 four people of which I am one. We are
13 across collaborative team with different
14 departments from Cooperative Extension.
15 We started in 2017 based out of Patterson
16 Public Schools and now are in 11 of the
17 21 counties supporting food waste work
18 across all those counties.

19 We can reiterate this again and
20 again and again but it is really
21 important to recognize food waste is a
22 major issue here in the United States and
23 accounts for about 80 billion pounds of
24 food waste produced every year.

25 That is enough to cover the Empire

PROCEEDINGS

1
2 State Building about a thousand times.
3 The scale is really, really high. The
4 FAO did an analysis of food waste across
5 the food system to see where food waste
6 is generated the most. As we know,
7 perishable foods are wasted a lot in the
8 beginning of the food supply chain. So,
9 production, things like produce, fish and
10 meat. Things like that are wasted at the
11 top. During manufacturing processing we
12 droned down on reducing food waste a lot.
13 When it comes to consumer level, we waste
14 indiscriminately. We waste everything
15 and we waste a lot of it. So this is
16 where the focus of our work has been, in
17 that consumer level waste.

18 We know that food waste matters
19 because it has a lot of impacts. It has
20 environmental, economic and social
21 impacts. Globally, if food waste was a
22 country it would be third largest emitter
23 of greenhouse gasses after China and the
24 United States.

25 We know that food waste produces

PROCEEDINGS

1
2 methane, but collectively all that
3 methane actually is a lot more than
4 places like India, which is one of the
5 highest economies.

6 Economically, we not only waste the
7 30 to 40 percent of food and all the
8 resources that go into that food but also
9 the landfills and all the things we have
10 heard of transporting and moving some of
11 that food.

12 Socially, obviously we can't have
13 this food waste issue alongside the
14 social inequalities and food insecurity
15 that currently exists in our country, in
16 our state, one of the largest states, as
17 Gary mentioned. So it is really a
18 critical issue that can tackle a lot of
19 different problems and support a really
20 collective solution.

21 The EPA had a beautiful pyramid
22 first and now they have this "U" which I
23 don't know how I feel about yet. But it
24 goes from left to right and focuses on
25 the most preferable, to least preferable

PROCEEDINGS

1
2 way of reducing food waste. In the
3 beginning, they want to prevent food
4 waste at the source and donate or upscale
5 food; all the way toward the end it is
6 composting and anaerobic digestion.
7 We've heard of a lot of solutions. Our
8 work really focuses on the left side of
9 this, trying to reduce it at the source
10 or donate and upscale it as much as
11 possible.

12 We know that both United States and
13 in New Jersey we have had a real push to
14 support the UN's sustainable development
15 goals of reducing food waste by half by
16 2030. In United States, it was 2015 when
17 this was established, in New Jersey it
18 was about 2017. We really want to try to
19 reduce food waste by half by 2030, which
20 is very few years away. We really need
21 to get on top of that.

22 We know that both at the national
23 scale as well as at the local scale
24 schools have been a focus because they
25 are in every single community across the

PROCEEDINGS

1
2 state and across the country and can
3 produce a large amount of food waste. So
4 the USDA developed kind of criteria and
5 supports to help reduce food waste in
6 schools, which I will get into a little
7 bit. Then the state, through the law to
8 reduce food waste and establish this
9 goal, required DEP, as well as other
10 departments to work together to develop
11 these guidelines for schools and higher
12 education in reducing food waste.

13 So we know that from the research
14 there are five key areas that help reduce
15 food waste. First is cafeteria changes.
16 Things like actually measuring the food
17 that you are wasting. Or like Veronique
18 said, cutting up or offering milk
19 dispensers. Things like that can
20 actually reduce the amount of food
21 children waste. Additionally, things
22 like altering mealtime. Mealtime
23 scheduling changes can actually improve
24 food waste reduction. So things like
25 adding five to ten minutes to the meal or

PROCEEDINGS

1
2 having recess before lunch. Improving
3 food redistribution, so training staff
4 and faculty on share tables or donating
5 excess foods or redistributing that food
6 within the school.

7 Educational programs. New Jersey
8 is the first state to require K through
9 12 climate change education. We can
10 leverage that to reduce food waste
11 through teaching about climate through
12 food systems, something that students
13 have an easy grasp on.

14 Finally, connecting the food waste
15 sector. Schools don't live in a vacuum.
16 They are part of cities and they are part
17 of counties so they have to be inspected
18 by health inspectors who can support or
19 deter people from reducing food waste and
20 increasing donation. So that is one of
21 the places that maybe we see an
22 opportunity for this Council to make some
23 recommendations.

24 I am going to go through a few case
25 studies quickly to give you the breadth

PROCEEDINGS

1
2 of the resources that are out there that
3 we have tested. Not only in the
4 literature somewhere out there but here
5 in New Jersey to ensure that this works
6 here in New Jersey and some of the
7 results we found. I also share these
8 slides and they all have references in
9 there so you can pull up the papers if
10 you are interested in some late night
11 reading. They will be here for you.

12 We started our work in 2017 with
13 Patterson Public Schools. We were trying
14 to figure out how we can reduce food
15 waste through training food service staff
16 on some of the cafeteria changes that can
17 be made to reduce food waste. We did
18 things like change the cafeteria
19 environment, we changed some of the menu
20 options, we audited the food waste that
21 was being produced. We found that we
22 saved about 14 percent of the food just
23 from doing education program for the food
24 service workers who were helping put
25 together the food for the students.

PROCEEDINGS

1
2 Then we moved on to New Brunswick
3 Public Schools where we tried to start
4 share tables. We worked with New
5 Brunswick Public Schools that were across
6 or near Elijah's Promise, which is a food
7 pantry and soup kitchen, and we basically
8 tried to get the students and the school
9 instructors to just learn about why share
10 tables are important, how to make sure
11 they do it safely, and then trying to
12 donate the excess food, either
13 redistribute in the school or share it
14 out to Elijah's Promise, who made cheese
15 from milk and lots of different
16 interesting things through their culinary
17 programs. We found this is one of the
18 hardest things to do in schools because
19 people were really reluctant because of
20 the liability associated with it.

21 We decided to do a deep dive to see
22 what is it the other states do. We are
23 not the only state grappling with the
24 issue. We did an assessment of share
25 table guidelines, whether they are

1 PROCEEDINGS

2 regulations, guidelines or supports, to
3 see what are the standard operating
4 procedures.

5 A lot of schools were just worried
6 that they would get audited either
7 through their health departments or
8 through the New Jersey Department of Ag
9 because of the funding associated with
10 school meals, that they wouldn't be able
11 to get reimbursed. All of that is not
12 true. It is safe to donate food. I will
13 talk a little bit about that as well as
14 the USDA and NJDEP understand the
15 importance of share tables and actually
16 recommend it.

17 It is really important for states
18 to say that because when other people say
19 that, we don't have as much authority as
20 the state. So it is really important for
21 states to come out and say that.

22 You can see in this map we want to
23 be more like the orange and green states
24 that have regulations and standard
25 operating procedures that are set out by

PROCEEDINGS

1
2 the states as well as guidelines or
3 guidance, because those are the states
4 that are really strongly saying this is
5 what is allowed and this is what is not
6 allowed. This is a paper that we wrote
7 about the standard operating procedures
8 and how important they are to ensuring
9 people actually do distribute food and
10 donate food properly.

11 This led us to work a little bit
12 with the Harvard Food Law and Policy
13 Clinic to develop actual legal fact
14 sheets around what are the legal
15 parameters that are associated with food
16 donation, tax incentives, liability
17 protections. Things like that.

18 They did a deep dive. That is to
19 review a lot of this work and they
20 actually found that New Jersey has one of
21 the oldest and strongest liability
22 protections for food donation. In
23 addition to the federal Good Samaritan
24 Act at the U.S. level, New Jersey has its
25 own Good Samaritan Act that actually

1 PROCEEDINGS

2 protects people even more.

3 This is really important to
4 recognize. We use some of this
5 information to co-develop, with the
6 Department of Health and Department of
7 Environmental Protection, health
8 inspector training to help health
9 inspectors understand the importance of
10 food waste reduction and how donations
11 are safe and able to be conducted.

12 We piloted for a few years and now
13 we are hoping to redistribute that. All
14 of this is available online as a resource
15 to folks.

16 You heard about the program that we
17 did with Sustainable Jersey where we not
18 only included some of the cafeteria
19 changes but we also supported the share
20 tables. We were taking these two
21 different programs, putting them
22 together, these two interventions and see
23 what results we found.

24 We found that alone, just the
25 program with the changes to the cafeteria

PROCEEDINGS

1
2 and share tables, we reduced food waste
3 by about 45 percent. When we have added
4 a composter to the school, we reduced
5 food waste by 92 percent. That is a lot.
6 Only 8 percent was going out. On top of
7 that, we had about 21,000 pounds being
8 distributed within schools to hungry
9 children or hungry families.

10 This is what the food is intended
11 to do and it's actually going to where it
12 is supposed to go. This was a really
13 great case study for that.

14 Finally, we received generous
15 funding from the DEP to do a curriculum
16 intervention. As I mentioned, New Jersey
17 is the first state to require climate
18 change education for K through 12
19 schools. Our team thought why don't we
20 teach climate change through the lens of
21 food. Every child understands food.
22 Sometimes air quality, transportation,
23 all these things are outside of their
24 realm of control but food is in their
25 realm of control. We thought why don't

1 PROCEEDINGS

2 we work with students and teachers to
3 develop this curriculum around climate
4 change education and food waste reduction
5 and see how they feel that they can
6 impact climate change.

7 We saw there was a 58 percent
8 reduction in food waste, reported food
9 waste after the intervention, which was
10 very exciting. We saved in one school
11 about 1,135 pounds of food from the share
12 tables. This was only for 5th grade
13 alone. This paper was actually just
14 published two weeks ago so we are really
15 excited to share it. Also, we are hoping
16 to publish the actual food waste paper in
17 the next coming months. We are hoping to
18 share that soon. I thought it would be
19 really interesting for you to hear
20 directly from the people that were part
21 of the program.

22 The next slide has a short video,
23 which is within my 20 minutes, to show
24 you what they thought.

25 The next slide, please?

1 PROCEEDINGS

2 (Technical difficulty.)

3 DR. ELNAKIB: Oh, well. We'll
4 forward it to you. We will send that to
5 you and hopefully it will work on email.

6 Now that we have seen that
7 different parts of this intervention
8 work, we want to put them all together.
9 Through an AmeriCorps Grant, we are
10 working with AmeriCorps service members
11 to develop the New Jersey School Climate
12 Corps Program, which will incorporate
13 education with climate change education
14 with school cafeteria education and share
15 table education, connecting the food
16 service sector to the food security
17 sector to support a holistic
18 intervention.

19 This is taking place right now in
20 11 counties across the state. We are
21 really hoping that this will show us that
22 a comprehensive intervention actually
23 reduces food waste even more.

24 Additionally, we got funding from
25 New Jersey Health Foundation to work with

PROCEEDINGS

1
2 the psychology program. Climate anxiety
3 is a real thing among our youth. We want
4 to make sure we are teaching climate
5 change in a responsible way that they
6 feel empowered and not scared. We are
7 integrating more education specifically
8 on evidence-based behavioral activism and
9 how they can support to feel empowered.

10 What are our recommendations?

11 These are also our goals. Our
12 recommendations and goals are to install
13 share tables in every single school
14 district across the state. That is
15 500-plus school districts. We believe if
16 we do that, then Dr. B.'s comment about
17 his synagogue wanting to donate the extra
18 food will not happen because the school
19 is already using that donation properly.
20 Schools are a great way to ensure that we
21 create the infrastructure in this state
22 for more donations.

23 The other is to strengthen the New
24 Jersey guidelines. As I mentioned, New
25 Jersey has guidelines right now but we'd

PROCEEDINGS

1
2 love some kind of teeth behind them to
3 help people understand this is something
4 New Jersey finds important, to support
5 safe food donation.

6 Also, support policy improvements
7 to the composting program. Right now
8 districts, if they want to compost, they
9 have to have a composter on every single
10 school site. You can't have a composter
11 and have food delivered from two blocks
12 away. You have to have a composter on
13 every site. It is expensive and doesn't
14 make a lot of sense for school districts
15 who are tight on budgets. So it is
16 really important to improve those
17 policies.

18 Also, establishing partnerships
19 between municipal health inspectors and
20 the food donation sites. Really, being
21 that convener and connector. Because New
22 Jersey is a home rule state it gets
23 complicated but we can do it. We can
24 figure it out. We are trying to
25 emphasize empowering local communities to

1 PROCEEDINGS

2 be the voice in supporting that.

3 Expanding climate change education
4 to focus on food waste. We saw this
5 worked with the New Jersey Leaves No
6 Waste Behind. Let's get that curriculum
7 and program expanded into every
8 department and county.

9 Finally, the last thing is to
10 really expand to colleges and
11 universities and other institutions that
12 can support some of the food waste
13 donation.

14 I have some more resources for you
15 to take a look at. These are all Rutgers
16 and State of New Jersey resources that we
17 developed together.

18 I am happy to answer questions.

19 CO-CHAIR CONNOLLY: Thank you so
20 much. I will ask a question.

21 Where do you see schools --
22 probably it's a good question for
23 Veronique, too. Where do you see schools
24 on the food waste generator list? Would
25 they be one of these top businesses in

PROCEEDINGS

1
2 New Jersey that are generating so much
3 waste? Where would they be on that list?

4 DR. ELNAKIB: ReFED has a lot of
5 good data on food waste generators. They
6 put schools in the institutions category,
7 but we feel schools are a good lever to
8 start the conversation about food waste
9 for multiple reasons. First is not
10 necessarily because they produce waste
11 but because they produce waste at scale.

12 Every school is open 180 days plus
13 or minus a few days. Plus, every school
14 district has multiple schools in them and
15 we have 500-plus school meal authorities.
16 Just the scale alone can really, if you
17 are counting schools as a sector, scale
18 alone can make an impact.

19 In addition to that, they are the
20 next generation. We are retraining --
21 think about recycle and reuse. All of
22 the education started at K to 12. That
23 is how we got to where we are now. I
24 think it is kind of meeting this issue
25 from multiple angles, both educating

PROCEEDINGS

1
2 youth and empowering them to make
3 decisions around their food environment
4 but also reducing waste that we have
5 currently existing in our food system.

6 We know from the research that
7 youth today, specifically adolescents,
8 are more passionate about climate and
9 social justice than other generations in
10 the past. And so this idea, we should
11 leverage that, use that to our advantage
12 to help us reduce the waste.

13 CO-CHAIR CONNOLLY: So they are the
14 problem but also the solution.

15 Next question?

16 MR. HANNA: The case studies that
17 you and Veronique showed were really, I
18 am sure for other Council Members, too,
19 very inspiring. It is so great to see
20 real examples. We hear a lot of policy
21 talk and data and things but it's great
22 to see students working on things and
23 making a difference.

24 Two questions: If you can't answer
25 them, maybe you can point to where we

PROCEEDINGS

1
2 might find the information or if it is
3 just not available yet.

4 If we were able to scale up your
5 collective New Jersey school experience
6 from a Clean Air Council standpoint, we'd
7 love to know what kind of emission rate
8 impact do we have. What would be the
9 reduction -- you show good reduction in
10 waste. What would that translate to
11 statewide in terms of greenhouse gas
12 emission reductions? Has anybody scaled
13 that yet?

14 DR. ELNAKIB: Yes. ReFED actually
15 has kind of a remission rate calculator
16 by sector. But that is for the whole
17 U.S. We can work with them to figure out
18 what it would be for New Jersey based on
19 their algorithm, basically figuring out
20 how many schools and school size and
21 things like that to figure that out. But
22 it is definitely something that is out
23 there, that exists, and that we'd have to
24 make it work for New Jersey to figure out
25 the numbers.

PROCEEDINGS

1
2 MR. HANNA: In terms of developing
3 policy or making recommendations, it
4 always helps us to understand the cost
5 benefit and the reward that's out there.
6 It sounds like it is material and it's
7 big.

8 The other part of my question was,
9 in terms of scaleability, I saw enough to
10 see that you are both believers that it
11 is something we can do statewide. What
12 kind of timeline would that be? We also
13 think about things that are short term
14 versus long term. Where would we put
15 this in our recommendations in terms of
16 expectation? Is it a 2030 thing? Will
17 it help with that 50 percent significant
18 reduction?

19 DR. ELNAKIB: Certain things are
20 definitely scaleable with policy. Things
21 like share tables and food waste
22 education, we can do that with policy.
23 Once you put in the policy, now every
24 school in New Jersey is teaching climate
25 change education. That didn't happen

PROCEEDINGS

1
2 five years ago. Certain things are
3 scaleable, easily scaleable with policy.

4 The climate change education
5 curriculum that we developed for 5th
6 grade was an NJDEP Grant that we received
7 for two years. We developed it and now
8 it is available for all New Jersey
9 schools. Every single one. And it's
10 tied to science standards and the climate
11 change standards. So, they are easily
12 things that happen. Certain things are
13 easy with policy, share tables and
14 curriculum being two of those things.

15 Other things are a little bit
16 harder. I think trying to connect the
17 food security sector and trying to get
18 health inspectors to support food
19 donation if they don't already do that,
20 things like that, that takes a little
21 more time and I think will need a little
22 bit more effort; that is not policy
23 oriented. You can't just put a policy on
24 those things. They need to be collective
25 work we do together.

1 PROCEEDINGS

2 MR. HANNA: You can establish
3 policy. If it is something you can
4 demand, you have to put a timeline on it,
5 too. That is part of what we are
6 thinking through as well. Okay. That is
7 a good answer for now. Thank you.

8 DR. ELNAKIB: You are welcome.

9 CO-CHAIR CONNOLLY: Rick?

10 DR. OPIEKUN: Rick Opiekun, New
11 Jersey Department of Health.

12 Great presentation, great results.
13 Just curious, though. Are there any
14 additional hurdles that you have seen
15 when it comes to EJ communities,
16 specifically areas that are noted for
17 being food swamps and food deserts, how
18 these type of programs are received
19 and/or implemented? Any differences or
20 any problems with that?

21 DR. ELNAKIB: Such a good question.
22 Thank you so much for that.

23 I love Sustainable Jersey. I think
24 it is an amazing program. But it is a
25 self-opt program. You have to opt-in to

PROCEEDINGS

1
2 do it. A lot of EJ communities, like
3 schools, don't have that capacity.
4 Teachers are teaching too many things.
5 They don't have the volunteer base.
6 Parents work multiple jobs. They just
7 don't have the capacity to do this work.

8 That is where groups like
9 Cooperative Extension or other kind of
10 municipal groups that can support some of
11 this work can come in to support them.
12 They need the hand holding. They are
13 willing to do the work but they need the
14 hand-holding and support because they
15 don't have current capacity to do it.

16 DR. OPIEKUN: So it's a people
17 problem, not necessarily a funding
18 problem.

19 DR. ELNAKIB: I think the funding
20 comes from funding the people to do the
21 work. That's where the funding would
22 come in. If you are targeting EJ
23 communities, you can't expect volunteers.
24 It's very, very hard to do. People are
25 strapped for time. They don't have the

1 PROCEEDINGS

2 time to volunteer. So I think if you are
3 targeting communities like that, things
4 like AmeriCorps or FoodCorps or
5 Cooperative Extension, all those groups
6 currently exist that come into schools to
7 build that capacity that doesn't
8 currently exist.

9 DR. OPIEKUN: Excellent. Thank
10 you.

11 CO-CHAIR CONNOLLY: Thank you,
12 Sara.

13 DR. ELNAKIB: Thank you so much.

14 CO-CHAIR CONNOLLY: Our next
15 speaker is Len Gipson. He is the
16 Director of Operations and Maintenance
17 for the Camden County Municipal Utilities
18 Authority. He has over 30 years of
19 experience in wastewater collection,
20 treatment and plant operations,
21 specializing in process optimization and
22 effective resource recovery and energy
23 management between the Municipality
24 Utility Authority and Philadelphia Water
25 Department.

1 PROCEEDINGS

2 Len has also assisted in the
3 development and management of several
4 large Public Private Partnership in both
5 Biosolids Management and Combined Heat
6 and Power Implementation and has played a
7 major role in developing and implementing
8 Long Term Control Plans in EPA Regions II
9 and III.

10 MR. GIPSON: Thank you for having
11 me. It is a great presentation I am
12 following up on so the pressure is on.

13 I will tell you about who we are a
14 little. CCMUA operates the county's
15 wastewater treatment plant for Camden
16 County. Our design flow is 80 MGD.
17 Average flow, 58 MGD. Recently, with
18 climate change, we were seeing
19 unprecedented flows into the facility.

20 We're a secondary pure oxygen waste
21 activated sludge plant. We have solar
22 panels, as you see in the picture, to
23 cover our primary final sedimentation
24 tanks and a 1.9-megawatt combined heat
25 and power facility which we'll talk a

PROCEEDINGS

1
2 little about on the next slide.

3 So, 65 percent of the plant's
4 electric demand can be provided by these
5 two. On warm days, low flow days in the
6 summer, we can produce up to 100 percent
7 of the plant's demand.

8 What makes this happen? It is the
9 four anaerobic digesters which the CCMUA
10 built through a process of procurement
11 and different contracts in 2021. Part of
12 that digesters was to then use the gas
13 that's generated for the digestion of the
14 municipal sludge. We also built the
15 co-gen facility which I described earlier
16 with the 1,900 KW, 1.9 megawatt
17 generators which use that gas and produce
18 electricity for the facility.

19 Another important aspect is the
20 heat that is generated from the engines
21 is recycled and reused to heat the
22 digesters. That is one of the major
23 components of the process, to heat the
24 sludge to 98 degrees. We don't use any
25 external fuel for heating that and

PROCEEDINGS

1
2 getting that process going.

3 I am probably going a little fast
4 for some of you folks that aren't into
5 wastewater treatment. This is about
6 80 percent completed of what are the
7 digesters outlined in green. We have a
8 gas holder that is basically a wide spot
9 in the line to store the gas produced and
10 then used in the CHP facility.

11 The benefit of the digesters is it
12 basically works like your body. We apply
13 the sludge there equally through each of
14 the tanks and it reduces the solids by
15 about 50 percent overall, which is
16 exceptional, and it sort of exceeded our
17 estimate, which would typically be about
18 45 percent.

19 We have 45 to 50 percent of the
20 solids reduced at the plant. That is
21 significant for a number of reasons,
22 because the amount of trucks we bring
23 through an EJ community and how we
24 interact with the community, which is
25 right outside our fence line. This

PROCEEDINGS

1
2 reduced that significantly. We had ten
3 to eleven trucks a day; this reduced it
4 to five. Because we installed dryers, it
5 is down to about one truck a day, which
6 is very significant for the community.

7 The biogas fuel operation started
8 in May 2021. Throughout the construction
9 of all that, we had to get the digesters
10 to begin producing the gas. That gas, we
11 started to use in May and it was used
12 again to produce on-site electricity for
13 the facility.

14 If you look at the graph quickly,
15 the electricity produced, a small amount,
16 the natural gas consumed and the biogas
17 consumed. When we started in 2021 we
18 were producing 80 thousand million cubic
19 feet a year and now we are closer to
20 120,000 biogas.

21 We basically consume everything we
22 produce. We flare very little. Only in
23 events of an engine failure or something.
24 We have two engines so we can only always
25 run on biogas. We produce enough biogas

PROCEEDINGS

1
2 with the digesters to run one engine at
3 about 80 to 90 percent capacity. We
4 produce more electricity than natural gas
5 to offset and reduce our carbon footprint
6 in generating on site and for economic
7 reasons as well.

8 That number, when I say 110
9 thousand million cubic feet, is about 300
10 to 350 thousand cubic feet a day that we
11 generate from the digesters.

12 Next slide, please. What are the
13 environment and financial benefits? The
14 greenhouse gas avoidance, sludge
15 reduction from digestion is quite
16 significant. This is the calculation
17 based on some EPA data that says on
18 average approximately 1.67 metric tons of
19 carbon dioxide equivalents are avoided
20 for every ton of municipal solid waste.
21 That calculates to about 12,191 tons of
22 CO₂e per year for CCMUA's 20 tons of
23 sludge reduction every day.

24 Avoided energy losses and costs
25 resulting from offsite production of

1 PROCEEDINGS

2 electricity typically reduce electric
3 cost by 30 to 60 percent. We are
4 producing on average about two thirds of
5 our overall power usage any day given
6 what was prior to digestion and onsite
7 generation to now.

8 What is interesting here is the
9 cost of natural gas and use of biogas.
10 We started up the CHP on natural gas
11 originally until the digesters were
12 prepared. With the cost of natural gas
13 we were -- generation cost on site, not
14 shown here, was about 5 to 6¢ --
15 actually, it is 5 to 6¢ a kilowatt. We
16 were paying PSEG equivalent to 10 to 11¢
17 a kilowatt. It reduced it by half or two
18 thirds of the power that we run on
19 natural gas.

20 In 2021 we have introduced natural
21 gas with the reduction of solvents in the
22 digesters. That total all-in cost for
23 our generation dropped to about 2¢ a
24 kilowatt hour with the biogas and blend
25 of natural gas. So, very significant

PROCEEDINGS

1
2 when you are cutting your cost by
3 80 percent for that bill each month.

4 Here, food waste. What is
5 interesting in the previous presentation,
6 we are always looking for food waste.
7 But we are not looking for corncobs and
8 orange peels. We are looking for a
9 slurry that is mostly digestible. We are
10 being a little specific about this
11 because the impacts of food waste on a
12 plant can be significant.

13 So, we entered into a short-term
14 pilot project with a waste producer that
15 takes food waste from various
16 institutions and creates a slurry that is
17 about 90 percent volatile and digestible.
18 We are looking at taking food waste that
19 is highly digestible. What I mean by
20 that is we will put it in our digesters
21 and resulting solids will be nominal.

22 With this pilot project, the slurry
23 we brought in, produced from various
24 institutions' food waste collected, is
25 processed at a remote facility from ours.

PROCEEDINGS

1
2 What they bring us is a highly volatile
3 kind of greasy -- I won't call it a milk
4 shake because that will ruin milkshakes
5 for everyone -- delivered to the plant.
6 We started with 5,000 gallons a day and
7 then went up to about 10,000 gallons, two
8 tank trucks into the facility.

9 When you look at the chart that is
10 significant, our digester operation and
11 gas production was basically the blue
12 line. That would represent a typical
13 week of normal operation of the plant.
14 With the pilot study, on the days we
15 would bring two loads into the plant, one
16 in the morning and one later in the
17 afternoon, and feed that to the digesters
18 you can see how significant the increase
19 is, 42 percent increase in gas.

20 With what we had prior to this food
21 waste addition, we could run almost one
22 engine fully on digester gas, our
23 original design target. With the
24 addition of this food waste, engineered
25 somewhat, we could then produce more than

PROCEEDINGS

1
2 one engine and then run two engines
3 partially -- one fully, one partially on
4 the food waste. This was an immediate
5 and direct impact. It wasn't like we had
6 to study it a long time or check the
7 introduction. We saw this immediately.
8 We produced almost 100,000 cubic feet
9 additionally a day.

10 There are a lot of issues with
11 logistics. We can't dump this in all at
12 once. We are off-loading tankers. The
13 future of this would be to have holding
14 tanks, mixing tanks, bleed it in
15 throughout the day and get the production
16 consistent. Anything we do here we do
17 very consistently over a long period of
18 time.

19 What are the environmental and
20 financial benefits? Greenhouse gas
21 emissions from decomposition of organic
22 waste in landfills. Both of these wastes
23 previously in some form would have gone
24 to landfills. Prior to digesting, our
25 sludge was dried and became a Class A

PROCEEDINGS

1
2 product, acceptable in many uses and much
3 more stable than the sludge cake. It is
4 94 percent dry. So by drying, digesting
5 and drying, we have taken out half of the
6 load that would have gone to landfills.
7 Food waste would have ended up in
8 landfills.

9 We see the great things they are
10 doing with composting in schools. The
11 landfills have limited capacity. Two of
12 our drivers now are down for major
13 maintenance. We put out a bid to take
14 our sludge, which isn't technically Class
15 B although we digest it. We just never
16 entered that program. We are getting
17 major interest from two large producers
18 in the area. Our intention is only to
19 use this until the second dryer is
20 available and then we can put 90 percent
21 of our sludge through the dryers.

22 If we could divert some of this
23 food waste that ends up in landfills --
24 they do recover gas from landfills but
25 not as efficiently. We are looking at

PROCEEDINGS

1
2 directly from waste to gas.

3 Adding food waste as shown on the
4 chart, the benefit is immediate and
5 measurable. Biofuel directly offsets the
6 expense of natural gas. So the more we
7 produce with this food waste, we just
8 offset the cost. Better for the
9 rate-payers. Less transmission and
10 generation from a far off source that
11 would bring it to the plant. Tipping
12 fees may be provided to treatment plants
13 for accepting food waste at lower rate
14 than landfill tipping fees, a win-win.

15 One thing I want to stress, this is
16 not to just take a bag of food waste from
17 a local restaurant. This is to have
18 separated food waste. You don't want to
19 end up with plastic spoons and forks.
20 That will wreak havoc. We don't want to
21 prepare it here at the plant. We are in
22 a very sensitive area. We have neighbors
23 at the fence line. We can't have odors.
24 Everything in the plant is under odor
25 control. This is kind of a win-win for

PROCEEDINGS

1
2 people taking, collecting waste and
3 disposing it and finding a cheaper
4 alternative that actually has
5 environmental benefits over and above
6 what previously had been thought.

7 What we do is, it gives ability to
8 leverage the existing infrastructure at
9 the wastewater plant. Where we built
10 this digesting facility for our benefit,
11 a very substantial investment of 47
12 million, and the CHP was \$27 million.
13 Now for a small fee they can bring us a
14 waste that benefits both us and them, the
15 producer, and the greenhouse gas
16 reduction as well.

17 The environmental benefits, of
18 course. Diverting food from trash stream
19 to landfills and/or incinerators. We
20 have a large *trash to steam facility
21 less than a half mile from our front
22 door.

23 Societal benefits. Regulations.
24 Again, to get less waste in the
25 landfills. We already have the

PROCEEDINGS

1
2 digesters. There is also a beneficial
3 use for the solids produced and the gas
4 produced, so it's a win there.

5 And the financial benefits: Lower
6 cost options for waste disposal. We can
7 summarily stabilize our cost at the
8 facility, and a gain for our ratepayers.

9 What are future energy needs?
10 There's lot going on in the Delaware
11 estuary. This could increase our
12 electrical demand by up to 50 percent.
13 PFAS, as you are aware, in water and
14 wastewater is the next challenge. Most
15 of the technologies right now to remove
16 PFAS from bio solids is around
17 gasification, incineration, those type of
18 technologies. Some are scaled up pretty
19 well, but this is something we know is on
20 our horizon and may go nicely after our
21 dryers. Again, there is a lot of
22 considerations with Title V permitting,
23 being in an EJ community, and a lot of
24 requirements on the facility. It has to
25 work for us, for the environment, for our

PROCEEDINGS

1
2 neighbors.

3 The storm water increased flows
4 related to climate change. As I said
5 earlier in the presentation, two weeks
6 ago, beginning of April, we had basically
7 *two of the all time highest flows
8 ever -- came -- to the facility and a
9 week of sustained flows at almost twice
10 our design capacity. The county had to
11 drain the CSO cities had to drain and
12 prevent flooding. There is a lot going
13 on at the wastewater plant. There's a
14 lot of pumping, a lot of electrical cost.
15 Again, using this gas to generate and
16 offset power cost is very beneficial.

17 So what are some of the recommended
18 actions? Require food waste streams to
19 be preprocessed to remove trash and
20 non-volatile solids before introducing to
21 wastewater plants. When I saw the
22 compost buckets in the earlier
23 presentation, the way people are talking
24 about it, one of the conversations we
25 have is often about the institutions of

PROCEEDINGS

1
2 the state: Prisons, schools -- I didn't
3 mean to say it in that order.

4 Absolutely, these are big institutions
5 that provide a lot of food and
6 significant waste. How do we reduce
7 cost, reduce waste, reduce greenhouse gas
8 emissions and have a place for it to go?

9 This is one of the options where
10 how do we tap into this? It's a lot of
11 thinking and a lot of great people here
12 today I am sure are looking at these ways
13 and this is one option where they can go.

14 The other thing is we are looking
15 for waste streams that are liquid and
16 digest very easily. Provide funding for
17 incremental cost of capital investment.
18 As you see this works and we expand our
19 CHP for these wastes and generate
20 electricity, maybe microgrid capacity,
21 and accelerate permitting processes. A
22 lot of this is new and different and
23 doesn't mesh well with existing
24 regulations.

25 Support export of excess capacity.

1 PROCEEDINGS

2 Food waste recycling, landfill
3 waste and associated methane generated
4 greenhouse gas produced, we are going to
5 capture that now here. There will be
6 less there.

7 Wastewater plants are uniquely
8 positioned. There is one in every major
9 city, area and county. We are positioned
10 in a unique way to make use of these
11 wastes.

12 Again this is talking about
13 regulations requiring food waste
14 recycling and waste management. We know
15 waste is a significant source of GHG
16 emissions. How do we bring it in?

17 That was the conclusion. Sorry to
18 rush through them. Again, this is a
19 great option for food waste. Bring it to
20 the plant. We have the infrastructure.
21 We can do the treatment and it works for
22 everybody from our position.

23 Thank you.

24 CO-CHAIR CONNOLLY: Thank you so
25 much, Len. Any questions from the

PROCEEDINGS

1
2 Council?

3 I do have a question. The
4 technology to do this obviously exists,
5 but I guess how much would the
6 infrastructure cost be to bring this to
7 other wastewater treatment facilities?

8 MR. GIPSON: This is where you need
9 to partner with waste producers. To
10 bring this to a facility is very low cost
11 addition if you already have digesters.
12 And most facilities do have anaerobic
13 digesters. What you need is a segregated
14 or prepared waste that is not full of
15 paper plates and, like I said, the parts
16 that are non-organic coming to the plant.

17 So, it is good to partner -- we are
18 partnered with one waste producer now but
19 you can look at companies like Coca-Cola
20 or Pepsi that have liquid waste that are
21 very digestible and could be brought to
22 our facility and digested readily.

23 If you have digesters, it is an
24 incremental cost. But it is the food and
25 waste producers, how do we regulate it in

1 PROCEEDINGS

2 a way that brings it to us in a form that
3 is acceptable so we can introduce it in
4 the form it comes.

5 CO-CHAIR CONNOLLY: Thank you so
6 much.

7 Other questions? No? Thank you so
8 much, Len.

9 MR. GIPSON: You are welcome.
10 Thank you for having me.

11 CO-CHAIR CONNOLLY: Our next
12 speaker is Jessica Padilla Gonzalez. She
13 is CEO of Center For United Methodist Aid
14 to the Community. Jessica is a forward-
15 thinking CEO who always wants to make a
16 difference in the world and be a voice
17 for those around her.

18 She enjoys looking for ways to
19 improve services and systems and building
20 her team. She is a passionate public
21 speaker who also enjoys learning and
22 sharing.

23 The Center for United Methodist Aid
24 to the Community's mission is to fight
25 hunger and its root causes through a

PROCEEDINGS

1
2 holistic and trauma-informed approach to
3 help families and individuals in need.
4 Jessica is a collaborative person seeking
5 ways to enhance the experiences of
6 business partners and the community she
7 serves. She is an excellent communicator
8 and is also fluent in Spanish and
9 English.

10 Prior to becoming the CEO Jessica
11 was the executive director for over a
12 decade at Housing Partnership New Jersey
13 after starting her career as a housing
14 coordinator seven years before being
15 promoted to executive director. In this
16 role Jessica did a tremendous job
17 developing her team, enhancing and
18 growing programs and serving as the chief
19 spokesperson, meeting with many
20 municipal, county and state-appointed
21 elected officials and other agencies
22 involved in increasing affordable home
23 ownership opportunities.

24 Jessica is online.

25 MS. GONZALEZ: Thank you so much

1 PROCEEDINGS

2 for this opportunity to address such an
3 important issue facing our community,
4 which is food insecurity, and discuss how
5 we can utilize food rescue as a strategy
6 to support this issue and also as a means
7 to alleviate climate change.

8 My name is Jessica Padilla
9 Gonzalez, CEO of CUMAC, one of the
10 largest food justice antihunger
11 organizations serving Passaic County for
12 over 39 years.

13 Just to give you some background,
14 what is food insecurity? I have been at
15 my position about a year so I have been
16 doing a lot of research and getting to
17 the core of what food insecurity is. I
18 wanted to make sure we had a clear
19 definition.

20 Food insecurity is much more than
21 just hunger. It is the inability to have
22 physical, economic access to sufficient
23 safe and nutritious foods that meets a
24 household's dietary needs and food
25 preferences for an active and healthy

PROCEEDINGS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

life.

Another way to understand food insecurity is when a household has to worry about where and how they will afford the next meal or if they will have enough money to cover groceries at the end of the week or month.

When we consider food insecurity in this light, the worry or stress of not knowing if you will have enough food for your family, we come to realize food insecurity is a public health issue that affects and can affect almost every New Jersey household regardless of their economic status.

Something really important to address when talking about food insecurity is that it is not a poor people problem anymore. It is a public health issue affecting all of our communities and, unfortunately, is on the rise.

Who is currently affected?

According to Feeding America, more than

PROCEEDINGS

1
2 44 million people in the United States
3 face hunger, including 1 in 5 children.
4 Latest data from FRAC, Food Research and
5 Action Center, states that in 2023 the
6 average rate of food insecure households
7 in New Jersey was roughly 10 percent,
8 which is a vast increase from prior
9 years.

10 I think somebody prior to me just
11 noted it was almost 10.5 percent. This
12 translates to over 725,000 New Jersey
13 residents and more than 175,000 of them
14 are children who are unsure where their
15 next meal will come from. This is an
16 unimaginable statistic as New Jersey is
17 one of the nation's richest states and
18 have the fifth lowest poverty rate
19 according to recent statistics.

20 So accros the state with my pantry
21 partners we are seeing food insecurity on
22 an increase and are also all trying to
23 determine how we will meet this growing
24 need. The consequences of food
25 insecurity ripple throughout our society.

PROCEEDINGS

1
2 It not only affects those individuals
3 directly impacted. It impacts their
4 physical, mental and financial
5 situations. It also strains our
6 healthcare systems and perpetuates cycles
7 of poverty. It is a complex issue that
8 demands our attention and action and we
9 need to make sure we are talking about
10 it.

11 At CUMAC we are taking action every
12 day to address this public health issue.
13 As I mentioned in my introduction, we are
14 one of the largest food distribution
15 agencies in Passaic County, providing our
16 community with direct access to healthy
17 and nutritious food. We operate a choice
18 pantry with our guests can select the
19 foods that fit their life styles and
20 cultural preferences.

21 If you see these pictures, we don't
22 operate a regular pantry. Our guests get
23 to make appointments, come to us one time
24 a month and leave with approximately five
25 to seven days worth of groceries. They

PROCEEDINGS

1
2 shop. They get a cart and they can pick
3 and choose the foods they want and need.
4 We also offer home delivery and operate
5 as an off site pantry for seniors at a
6 low to moderate housing complex.

7 The reason we provide the choice is
8 to help reduce food waste and ensure our
9 guests are receiving the food they want
10 and need versus handing them groceries of
11 products that they don't want, don't
12 need, doesn't meet their food
13 preferences.

14 Another component to the work we do
15 and is vital is the wrap-around services.
16 We are able to ensure that our guests are
17 applying for assistance such as SNAP. We
18 have a saying on our wall that says
19 "Ending hunger has nothing to do with
20 giving people food" because we understand
21 that in order to alleviate that
22 situation, have the person become
23 self-sufficient, we provide wrap-around
24 services which include case management,
25 education and, most importantly, trying

PROCEEDINGS

1
2 to reduce the stigma of being food
3 insecure.

4 We also work with the college
5 across the street and are trying to
6 address college hunger and reduce that
7 stigma.

8 The statistics indicated above, we
9 are also seeing record numbers of guests.
10 Last year we served over 53,000
11 individuals, and the numbers are
12 climbing. This year we are seeing a
13 25-percent increase each month and are
14 proactively working on how to address
15 this growing number. To date, as of
16 March, we served over 15,000 individuals,
17 which is an unfortunate record to break.

18 To meet our mission we are ensuring
19 we are producing the foods our guests
20 want and need and are taking a proactive
21 mind set to the way that we deliver food.

22 About 5 years ago our organization
23 decided to go from an emergency food
24 provider to a proactive mindset where we
25 actually purchase foods to ensure that

PROCEEDINGS

1
2 every guest that walks through our doors
3 leaves with a complete meal.

4 So, our organization invested over
5 \$360,000 in buying the foods that our
6 community said that they needed and they
7 wanted. We purchased eggs, dairy,
8 proteins, canned goods that they have
9 advised us they are interested in, pastas
10 and rice. Things that are culturally
11 accepting across diverse audiences is
12 really important.

13 Last year we did about 360,000 was
14 our number. This year so far we spent
15 approximately 160,000 to meet that
16 growing need. It is very challenging for
17 us.

18 As an organization, in 2023 we did
19 move approximately 2.9 million pounds of
20 food. That is important to note, the
21 volume of foods that are going through
22 our doors. Of the 2.9 million pounds,
23 approximately 53 percent of the food was
24 rescued, 11 percent is purchased,
25 25 percent came from community food bank

PROCEEDINGS

1
2 partner and the other came from
3 individual donations.

4 This year we have moved
5 approximately 1 million pounds of food,
6 of which 44 percent is rescued. To be
7 honest, if we weren't rescuing the food,
8 I don't know how we'd be able to fill the
9 gap.

10 So, what does food rescue look like
11 on the ground? This brings me to the
12 heart of this matter. Food rescue is
13 definitely a solution to food insecurity
14 and also has a positive impact on the
15 environment. By diverting the food from
16 the landfills, which we saw a lot of
17 previous presenters had statistics that
18 approximately 30 to 40 percent ends in
19 landfills, we are not only alleviating
20 hunger but eliminating environment impact
21 of food waste which contributes
22 significantly to climate change. Every
23 pound of food rescued is a pound less
24 contributing to greenhouse emissions.

25 In order for us to do this work on

1 PROCEEDINGS

2 the ground, it requires us to establish
3 partnerships with local big-box stores
4 and retailers. I believe we are
5 currently doing 16 sites, and that is
6 about 10 companies. We are averaging
7 about 2.5 visits a store. This is a
8 full-time operation for us at CUMAC.

9 The majority of the food we are
10 rescuing, again, is food that either has
11 reached its end of shelf life, food that
12 is not completely spoiled, that the
13 labels may have been put upside down.
14 But our team goes out on a daily basis
15 and rescues it from these sites. Then we
16 have a full warehouse team that goes and
17 weighs the food in. We know who the
18 donation came from.

19 Then we are also sorting through
20 everything that we receive in order to
21 ensure that it is edible and that it is
22 something that we would eat and that we
23 ourselves would take home to our families
24 because we want to make sure our
25 marketplace is a place of dignity and

PROCEEDINGS

1
2 respect. Any guest that comes through,
3 we want to be sure they are getting the
4 treatment of anybody else going through a
5 ShopRite or any other shopping
6 experience.

7 Another component to the work we do
8 and how we are able to measure this is,
9 approximately 7 percent of the food we
10 receive actually ended up in the trash.
11 I think that speaks to us receiving more
12 quality food. But then the sad
13 counterpart of that statistic is that if
14 we didn't rescue it, we would literally
15 have edible foods ending up in landfills.

16 While food rescue is a great means
17 for us to do our work and reduce the
18 environmental impact, there is a huge
19 cost associated to this work. As an
20 organization we were able to break down
21 our budget and note that approximately
22 62 percent of our overall budget does
23 support the entire food rescue, from
24 picking it up, the overhead expense, to
25 having the team and volunteers sort

1 PROCEEDINGS

2 through it, plus the storage and then the
3 movement from storage into the front end
4 of our operations.

5 This is kind of the suggestions
6 piece. I did a lot of research on what
7 policies currently exist. To further
8 support food rescue efforts we must enact
9 policies that ensure retailers to donate
10 surplus food and provide initiatives for
11 those direct donations to nonprofits like
12 CUMAC. By doing so we not only address
13 food insecurity but also create a more
14 just food system.

15 It is also vital to note that
16 agencies such as CUMAC, we rely heavily
17 on grant funding. You would be surprised
18 by how many grant funds do not directly
19 support food, the purchase of food, the
20 rescue of food. So, any policy and
21 legislation that supports this purchase
22 of food and/or rescue are vital for us,
23 especially as our numbers are increasing.

24 Some of these I have noted here are
25 specific policies. The first is really

PROCEEDINGS

1
2 directly diverting funds to organizations
3 such as ours so that we are not
4 consistently writing grants and trying to
5 reinvent the wheel on how to address food
6 insecurity.

7 The next two, 5643 and 5644 are
8 really for the food retailers, to
9 incentivize them to donate to us and also
10 giving them tax credits. Like I
11 mentioned, we have a full system of how
12 we receive the food, how we measure the
13 food. We are able to tell all our
14 partners how much we received from them
15 on an annual basis, which they can then
16 turn around and can use for tax credits
17 for themselves.

18 The final legislation I have listed
19 here is 5645, which is the waste
20 reduction goal for the State of New
21 Jersey. When I read this, it is a
22 beautiful goal but I also ask that when
23 bills like this go into consideration,
24 that we also look at the unintended
25 consequences. If we are reducing food

PROCEEDINGS

1
2 waste and our big-box stores have less
3 food to donate to organizations like us,
4 we have to think about how we are also
5 going to be addressing food insecurity.

6 I like to kind of compare it to the
7 plastic bag bans, where we are doing a
8 social good reducing plastic in the
9 environment, but then us, as non-profits,
10 are now having to scramble to find bags
11 so our guests can bag the goods they
12 leave with, or we are purchasing bags for
13 them to be able to take the food home
14 with them. Just the unintended
15 consequence that fall out of bills like
16 that are important to consider when
17 reviewing them.

18 In conclusion, by addressing both
19 food insecurity and environmental issues
20 we can create a healthier, more equitable
21 future for all. I think it is important
22 for us to support policies that support
23 both initiatives, ensuring no one in the
24 community goes hungry and that we leave
25 behind a cleaner, healthier planet for

PROCEEDINGS

1
2 future generations.

3 If we have any questions or
4 concerns? Again, I noted the EPA model.
5 We would be doing the donate and
6 up-cycle. Food rescue does allow us to
7 have a positive impact on both issues.
8 As I mentioned, food insecurity
9 unfortunately is on the rise across our
10 states. We are seeing unprecedented
11 numbers at our pantry and every day are
12 trying to figure out how to meet the
13 growing need.

14 It is vital that we are talking
15 about it and I appreciate that you guys
16 have given us the opportunity to provide
17 this information. Thank you.

18 CO-CHAIR CONNOLLY: Thank you so
19 much, Jessica. Questions from Council
20 members?

21 I do have a question, Jessica. The
22 types of foods that you rescue, they are
23 mostly packed products. Do you do fruits
24 and vegetables as well?

25 MS. GONZALEZ: Actually, you would

PROCEEDINGS

1
2 be surprised how many fruits and
3 vegetables and produce we are rescuing.
4 It is a huge component to the rescue
5 work. If I had a breakdown of how much
6 was produce, I can probably get you that
7 from one of our data inventory
8 specialists.

9 CO-CHAIR CONNOLLY: I would ask
10 about schools. Would it be a possibility
11 to take milk? I know lots of schools
12 have lots of apples and bananas at the
13 end of the day. My mother-in-law works
14 at a school and brings home bags of
15 apples that the kids don't eat. Could
16 that be a collaboration between your
17 organization and schools in your area to
18 take at least packaged goods and fresh
19 fruits and vegetables?

20 MS. GONZALEZ: One hundred percent.
21 We are open for collaboration. We know
22 this work can't be done on its own. But
23 that might be a model we can explore and
24 find out what the schools are doing with
25 their excess foods.

1 PROCEEDINGS

2 CO-CHAIR CONNOLLY: Thanks,
3 Jessica. Another question?

4 MR. HANNA: Hi, Jessica. I'm Toby
5 Hanna. Something you said had me
6 scribbling down and thinking. I want to
7 be sure I understood it right or if there
8 is a nuance I am missing.

9 You mentioned one of your concerns
10 with the 50-percent reduction in food
11 waste by 2030 would be that that could
12 reduce the amount of food coming to you
13 to redistribute. Everything I heard
14 earlier today was, waste reduction
15 doesn't mean you eliminate it; it means
16 you reroute it and get it to other users.
17 Could it be, if things go right, I guess,
18 you get a windfall as opposed to a
19 shortfall?

20 Or is there something I am missing
21 there? Is it just that we have to watch
22 the issue carefully? Is that your
23 thought?

24 MS. GONZALEZ: You summarized it
25 exactly. We need to make sure we are

1 PROCEEDINGS

2 rediverting it to agencies such as CUMAC
3 that are doing this work on the ground
4 and not just eliminating it so we are
5 addressing two social determinants of
6 health at once.

7 It would be extremely helpful to
8 look through it with that lens, that this
9 social issue does exist and if there is a
10 way to alleviate it and address reduction
11 of food waste that would be amazing.
12 Sometimes we miss those nuances when
13 looking at these policies.

14 MR. HANNA: Yes, make sure it goes
15 in the right direction. Thank you.

16 CO-CHAIR CONNOLLY: Thank you
17 Jessica.

18 MS. GONZALEZ: You are welcome.

19 CO-CHAIR CONNOLLY: Last but not
20 least is Matt Wasserman. Matt is an
21 innovation and sustainability executive
22 with 30 years of corporate, non-profit
23 and entrepreneurial experience. He is
24 currently vice president of New Jersey
25 Composting Council and sits on Governor

1 PROCEEDINGS

2 Murphy's Food Waste Recovery Market
3 Development Council.

4 Matt co-founded Sustainable
5 Princeton and co-chaired the steering
6 team for one of New Jersey's first
7 climate action plans. Matt is a
8 certified climate change professional and
9 most recently founded Community Food
10 Cycle LLC, a composting company working
11 to provide mobile food waste solutions
12 for municipalities, corporate campuses
13 and small good waste generators.

14 Matt is currently working toward
15 his Master's in Public Administration
16 from the Maxwell School at Syracuse.

17 MR. WASSERMAN: Thank you very much
18 and thank you for all who stuck around.
19 I do appreciate it. I know we have all
20 been last on an agenda before.

21 Thank you to the Clean Air Council
22 for having me here today, having the New
23 Jersey Composting Council here today.

24 The NJCC is a 501C(6) non-profit,
25 an industry association. Essentially,

1 PROCEEDINGS

2 our members are in the organic waste
3 management recycling business. They
4 might be professionals, might be in the
5 academic world, haulers, composters,
6 municipalities. Basically anybody
7 interested in keeping organics out of the
8 landfill, we want you to be part of our
9 organization.

10 Our mission: To advance compost
11 manufacturing and utilization of organics
12 /food waste recycling programs to benefit
13 our members, society and the environment
14 through advocacy, education and research.

15 The next couple of slides I will
16 not belabor. You heard them now ten
17 times. I just want to make sure they all
18 are reinforced. To let you know, I have
19 been part of some of these food waste
20 audits. I have gotten my hands dirty and
21 have spread food waste out over floors
22 this large to figure out what is in it
23 all, and I had numbers pretty close to
24 22 percent.

25 Here is a table from the DEP with

PROCEEDINGS

1
2 regards to where is this food waste
3 coming from. You can see kind of the
4 largest part of the pie there is the
5 residential piece of that, followed by
6 restaurants and caterers, et cetera. We
7 have talked a lot about the 50-percent
8 Reduction by 2030 and have talked about
9 the laws that are now on the books.
10 Unfortunately, that law doesn't address
11 the majority of that pie. I think that
12 is one of the key pieces I want to make
13 sure people take away.

14 It is good that we passed that law,
15 it is great that large providers of food
16 waste can have a place for food waste to
17 go. But all the small generators, it
18 adds up and it adds up big time.

19 This is interesting. This is kind
20 of the number of full scale facilities in
21 the U.S. that take food waste. I thought
22 this was interesting because I know here
23 in New Jersey we like to think of
24 ourselves as being very progressive when
25 it comes to the environment and various

PROCEEDINGS

1
2 other social and environmental issues.

3 But you notice where New Jersey
4 sits in terms of the total number of
5 facilities. It is that really small bar
6 there in the middle. If you look around
7 it, states that you wouldn't expect to be
8 better than us, like Florida and North
9 and South Carolina and states like that
10 actually have more than we do. It is one
11 of those kind of moments where you're
12 like, oh, man, maybe we are not as good
13 as we think we are. What do we need to
14 do?

15 You heard about all four of these
16 already today so I will not belabor this
17 either. These are the four. They are
18 for large generators, food waste
19 generators.

20 This is your slide. It is a
21 phenomenal slide. It speaks volumes
22 about what the problem is, about kind of
23 what the results are from a GHE
24 perspective. And what really kind of
25 speaks to me is what is in the box with

PROCEEDINGS

1
2 regard to a 300-percent increase in
3 methane-based emissions over the last
4 30 years or so.

5 So, the problem is pretty darn big
6 and the problem is now and the problem is
7 us. I can't point fingers because it is
8 all of us. We are all part of the
9 problem. Fortunately, we can all be part
10 of the solution.

11 You asked to look at it four
12 different ways. The next part of the
13 presentation will be about how we think,
14 from a council perspective, some of these
15 things can be addressed.

16 From a technology perspective, you
17 guys have it. You know what they are.
18 They are here. There is really no major
19 new technology that we need to go off and
20 kind of fund. We need to fund what we
21 already know exists, what we know already
22 works. I think that is great news, at
23 least from a speed perspective.

24 We are, the New Jersey Compost
25 Council, we do love composting. It is in

PROCEEDINGS

1
2 our name. We are agnostic, though, to
3 all the other things on the semicircle.
4 Here is a lot of good reasons why
5 composting is awesome: It eliminates
6 toxic emissions, improves soil structure,
7 increases infiltration and permeability
8 within the soils themselves, which
9 prevents runoff.

10 It improves water holding capacity,
11 reducing water loss and leaching in sandy
12 soils.

13 It supplies and rehabilitates a
14 variety of micro and macro nutrients to
15 the soil, which is really important to
16 get nutrient dense food, which is really
17 important.

18 I will given guys ten seconds to
19 look at this. This is some additional
20 great benefits that composting brings to
21 the table.

22 From a policy perspective, you have
23 heard about some of these today. Again,
24 the good news is that for the most part
25 they exist. You have bills already that

PROCEEDINGS

1
2 have been either drafted or already
3 running through the Assembly or the
4 Senate.

5 You have got the community garden
6 bill, which is something -- from the
7 perspective of a really small, let's make
8 sure this can work and it is not going to
9 hurt anybody, it just feels that is kind
10 of a no brainer. It's the low hanging
11 fruit.

12 Mr. Sondermeyer earlier talked
13 about tiered permitting. New Jersey
14 Compost Council, along with Rutgers
15 University, the last year or two actually
16 drafted some initial legislation, some
17 wording for this particular piece. That
18 is something we can bring to bear if
19 folks are willing to put that one on the
20 table.

21 A big piece of that one that we
22 didn't hear much about today is for
23 farms. Farms need the ability to bring
24 in food waste from outside, be able to
25 turn it into compost and be able to share

PROCEEDINGS

1 the same compost with other farms.

2 Today, because there is too many crossing
3 of things, that can't happen. That is
4 something that needs to happen. I know
5 our friends at Northeast Organic Farmers
6 Association are a big proponent of making
7 sure something like that happens.

8
9 County planning, which you heard
10 about from Mr. Sondermeyer and others,
11 and extended producer responsibility. It
12 shouldn't only be on the backs of the
13 people who are trying to deal with the
14 food waste in the end who have to
15 shoulder the burden. A lot of this
16 should go on the folks producing things
17 that are causing issues in the first
18 place.

19 From a best practices education
20 perspective, here are some thoughts.
21 Food waste impacts on climate change.
22 Maybe that should be part of the core
23 training to our elected officials and
24 folks in the DEP. This is fantastic that
25 we are doing this today, but

PROCEEDINGS

1
2 onboarding -- if this is such a critical
3 issue and if we really want to make sure
4 something like this gets tackled, maybe
5 something like that should be part of the
6 initial training for anyone in government
7 and our public administration.

8 Having the DEP feeling like it is
9 an organization that sees itself as a
10 catalyst -- this comes from somewhat
11 personal experience. As was mentioned, I
12 started a small company a few years back,
13 Community Food Cycle, kind of going down
14 the path of the RD & D permit and was
15 told, "Hey, go this way. You are only
16 going to be managing two to three tons a
17 week, it's really fast process."

18 Eighteen months later I finally got
19 a permit through that process. But all
20 the while, the process was always bogged
21 down. In fact, there was a quote I keep
22 in my head all the time. I don't
23 remember who said it anymore but at one
24 point I was told, "Hey, we are not here
25 to help you. We are just here to make

PROCEEDINGS

1
2 sure you fill out the forms right."

3 I know that was 5 years ago.

4 Things seem to be very different now,
5 which is fantastic. It is a testament
6 just to see this day today. But I think
7 walking into an organization that feels
8 that, hey, we are here to help and we
9 want this to all work would be fantastic.

10 Simplifying the permitting process.

11 I heard earlier today that it is already
12 happening. Keep moving on that one.

13 There seems to be a lot of overlap
14 between the various SWAC's and the DEP.
15 I fill out a lot of the same forms and
16 answer a lot of the same questions. It
17 slows everything down. If there is
18 something we feel like we are needing to
19 fix immediately, it doesn't help if you
20 feel like you have to do everything two
21 or three times.

22 Being scientific in your policies,
23 leveraging successes across the
24 composting world. A bad take from
25 20 years ago isn't necessarily what is

PROCEEDINGS

1
2 going on today. The technologies are
3 different.

4 Education; this is kind of the
5 NJCC's sweet spot. We do a lot of
6 educational work, grass roots, community,
7 with businesses, industry, trying to work
8 with legislators and regulators. We
9 heard a lot about education today, which
10 is fantastic. Any way we can help and be
11 part of that or can be leveraged, we'd
12 love to do that.

13 Finally, the last slide kind of on
14 funding. Let me start by saying I think
15 that most of us in the room are public
16 administrators. We kind of have two
17 jobs. One is the one that is on our
18 business card. You might be working with
19 permits, you might be head of a
20 non-profit. Whatever it is. But the
21 other one, as a public administrator, our
22 role is to maximize social welfare. So
23 what does that mean and how do we do
24 that?

25 You have heard today from Brian

PROCEEDINGS

1
2 Blair about the difficulty in the
3 economics. A big part of that, I
4 believe, is because what you have had up
5 to now is essentially a natural monopoly
6 as relates to where does food waste go.
7 It goes to a landfill. All the economics
8 point to that. If you want to break up a
9 natural monopoly, you have to incentivize
10 and put things in place to allow these
11 other technologies you heard about today
12 and are hearing about now to be born and
13 to be successful. That is really
14 important.

15 These are some of the things that
16 we would suggest. Most of the things you
17 heard about today were big, large
18 anaerobic digesting projects. But the
19 community composting stuff is big. There
20 are small organizations all around the
21 state trying to make things work. And
22 from an economics perspective, it is
23 really hard and getting money to them is
24 really important.

25 Continuing with the higher

PROCEEDINGS

1
2 education grants. You have heard about
3 some of those today. We are clearly
4 making huge headway from an education
5 perspective and getting the word out.

6 Next, one of the things that is
7 really important, it is great to have
8 legislation but the legislation needs to
9 really make sure the right organizations
10 like the DEP have money as well to
11 enforce them and help them along and
12 making sure that is all part of it.

13 The last part I think is a bit
14 redundant. But again, just making money
15 available for all these types of projects
16 not just kind of the large ones.

17 I think that covers the four areas.
18 With that, I thank you for your time. If
19 you have any questions, I am happy to
20 take them. Knowing I have been in this
21 job three weeks, I will do my best to
22 answer any questions you have. If not, I
23 can always get back to you.

24 CO-CHAIR CONNOLLY: Thank you so
25 much. Questions from the Council?

PROCEEDINGS

1
2 I have a question. We didn't
3 really hear much today -- I am not saying
4 I am promoting this, but mandatory
5 composting for households. New York
6 City, California, Washington State. What
7 does the Composting Council -- how do
8 they feel about that?

9 MR. WASSERMAN: Excellent question.
10 At 40,000 feet we love the idea of
11 mandatory composting. Food waste has to
12 be able to go somewhere. What you heard
13 today from especially the larger
14 organizations, a lot of the larger
15 facilities, they can't take most of the
16 food waste that comes out of residents.
17 It has too much in it they can't deal
18 with, which leads you down the path of
19 okay, that is great; we have community
20 composters that want to deal with that
21 kind of stuff.

22 But go back to they are not
23 permitted because the process takes too
24 long, because it costs too much. They
25 don't have the money to pay enough people

PROCEEDINGS

1
2 to pick up the food waste or bring it to
3 where it would need to go.

4 We 100 percent would love to see
5 that in the solution set and be part of
6 the ultimate solution. But the money
7 needs to go -- as always the case, it
8 needs to go to be able to support those
9 kind of technologies that can deal with
10 that kind of food waste.

11 CO-CHAIR CONNOLLY: Thank you so
12 much.

13 MR. WASSERMAN: Thank you.

14 CO-CHAIR CONNOLLY: That is all
15 from our speakers today. We have some
16 public commentators, too, some are
17 virtual and some in person. Let's get
18 started on those.

19 Each of you have three minutes for
20 public comment. Of course, you are also
21 encouraged to submit written document
22 comments. Also the information is on the
23 Clean Air Council's website about how to
24 submit comments in writing as well.

25 First is Robert Rashkes.

PROCEEDINGS

1
2 MR. RASHKES: At prior years'
3 public hearings I have spoken about the
4 increase in recreational wood burning in
5 residential neighborhoods and the adverse
6 environmental and health effects it
7 causes, which is highlighted in this
8 poster. The challenge the State faces is
9 how do we address the increasing carbon
10 emissions from wood smoke from
11 recreational wood burning from fire pits
12 and fireplaces.

13 I suggest regulating residential
14 users of wood burning fireplaces and fire
15 pits to help measure carbon emissions
16 into the environment. Users could pay a
17 permit fee to receive education on how to
18 use fireplaces and fire pits and agree to
19 be considerate of neighbors who are
20 negatively impacted by the smoke.

21 I also suggest incentivizing
22 conversions of wood-burning fireplaces
23 and fire pits to natural gas or electric
24 in the form of rebates or Sustainable
25 Jersey points.

PROCEEDINGS

1
2 Another concern that I have is the
3 lack of a requirement of tree service
4 companies to recycle the wood they remove
5 from trees. Many tree service companies
6 provide wood to users who wish to burn
7 it, which pollutes our environment.

8 I appreciate that the New Jersey
9 Attorney General is suing the
10 Environmental Protection Agency along
11 with ten other states over standards for
12 wood-burning stoves. I also appreciate
13 that Governor Murphy vetoed a bill that
14 would have allowed for public burning of
15 Christmas trees by municipalities. I
16 also appreciate that the NJDEP provides
17 information about the negative impacts of
18 wood smoke on its website.

19 After experiencing the effects of
20 the wild fire smoke emergency our state
21 experienced last year and seeing the
22 increasing carbon emissions of wood smoke
23 from recreational wood burning, I would
24 like the Clean Air Council to consider
25 this topic for next year's public

PROCEEDINGS

1
2 meeting.

3 Thank you.

4 CO-CHAIR CONNOLLY: Thank you so
5 much, Robert.

6 Next, Amanda Taylor.

7 MR. JOHNSAMSON: I will be speaking
8 on behalf of Amanda Taylor.

9 CO-CHAIR CONNOLLY: This is Peter
10 Johnsamson. Go ahead, Peter.

11 MR. JOHNSAMSON: I appreciate the
12 opportunity you are providing to us to
13 share about our technology. We are a
14 composting technology company that was
15 created in Sweden. We are able to take
16 organic waste, regardless if it is human,
17 animal, any kind of organic material,
18 sludge -- all of this -- and compost it
19 within 24 hours using our technology.

20 Currently we are partnered with
21 UTRVG down in Rio Grande Valley in Texas.
22 We have certifications on the compost
23 itself after it is processed. We are
24 able to also build facilities. We have
25 them throughout Europe as well as in

PROCEEDINGS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Asia.

Our footprint to compost is, for a plant, depending on the amount of waste New Jersey is generating per day, we are able to sort and compost that within 24 hours not having any backlog. This sort of gives an overview on this. I will share this presentation upon request or share it with my contact for this meeting.

The way the process works, I wanted to share. The food waste truck would come and deliver. We have a conveyor belt that sorts out the material that is compostable to non-compostable. We squeeze all the materials to create biogas if needed or bio diesel as well. And then the rest of it is composted within our product using four unique ingredients: Air, an agitator, and also microbes and water. All these four things are used to compost the material within 24 hours.

You can see, you can reuse the

PROCEEDINGS

1
2 compost to energize the land that is not
3 able to generate any of the organic
4 material that we are needing now. And we
5 have several different units, from a ten
6 ton units for restaurants all the way up
7 to 6-ton units for small facilities, all
8 the way to manufacturing facilities as
9 well, where we can put a factory, a
10 composting factory on a two-acre land,
11 and we are able to do that.

12 None of the material that we are
13 composting will generate any green gases.
14 We actually reduce methane, CO2 and all
15 of this using our methodology.

16 This is an example how the process
17 is. We take the traditional compost
18 material. Within four hours you can
19 start to see, with our patented
20 technology of microbes, we are able to
21 reduce it because we are turning the soil
22 over. Then within 8 hours to 24 hours we
23 have a product that you can reuse to
24 fertilize the land.

25 This is another slide that shows.

PROCEEDINGS

1
2 On the far right-hand side you see our
3 composter that is a ten-ton unit. We
4 also have a household unit as well. Some
5 of the speakers were talking about
6 starting the programs at households.
7 Getting our children educated from an
8 early age to understand the impacts on
9 the environment --

10 MR. MILGROM: Sorry to interrupt
11 you. You are a little over time. You
12 can share your slides with the Council.

13 MR. JOHNSAMSON: Okay. Thank you.

14 CO-CHAIR CONNOLLY: Thank you,
15 Peter. If you could please email us
16 those slides, that would be great.

17 The next public commenter is
18 Marissa Magura. Is she online? No?

19 Helene Lanctuit?

20 MS. LANCTUIT: I am Helene
21 Lanctuit, executive of Share My Meals,
22 food recovery organization specializing
23 in rescuing and donating healthy prepared
24 meals. Our work addresses both emissions
25 reduction and food insecurity in New

PROCEEDINGS

1
2 Jersey.

3 I am here to shine a light on a
4 significant opportunity for very high
5 quality waste reduction that could be
6 implemented at near zero cost. This,
7 unfortunately, represents about
8 2.5 percent of all food waste in New
9 Jersey, about 44,700 tons per year. If
10 rescued, donated and served, this could
11 reduce or eliminate food insecurity for
12 as many as 29,000 households.

13 Every day in New Jersey
14 supermarkets and caterers discard about
15 120 tons of prepared foods. A large
16 proportion of it is coming from
17 self-service stations like this hot food
18 bar at Wegman's -- ShopRite, where I took
19 the picture, or Whole Foods or from large
20 catered events.

21 We know corporations have a strong
22 interest in donating the foods and that
23 food recovery organizations like Share My
24 Meals, all table to table, have the
25 capability to safely transport them to

PROCEEDINGS

1 places of need.

2 The primary reason corporations
3 don't donate the food is that the current
4 guidelines regarding donation of surplus
5 food are ambiguous when it comes to these
6 type of service stations.

7 Understandably, corporations want to
8 protect themselves from liability.

9 Public health experts tell us that
10 temperature controlled and covered food
11 at self-service stations is safe to
12 donate and yet the current guidelines
13 suggest otherwise. You asked the
14 question this morning about if this could
15 be recovered. So, this is an easy win
16 for New Jersey.

17 For the corporations, we'd like to
18 see legislative measures to compel this
19 type of food donation, the guidelines
20 updated to remove the unnecessary
21 ambiguity related to self-service
22 stations, information on updated
23 guidelines provided to food service
24 corporations and training for health
25

1 PROCEEDINGS

2 inspectors. On the non-profit side,
3 funding made available to food rescue
4 organizations to help ensure that this
5 surplus food is consumed for those in
6 greatest need.

7 Thank you very much.

8 CO-CHAIR CONNOLLY: Christina
9 PioCosta-Lahue?

10 MS. PIOCOSTA-LAHUE: I am Christina
11 PioCosta-Lahue, president and founder of
12 Vivaria Ecologic, food waste composting
13 company here in New Jersey. I have been
14 working to develop commercial scale
15 composting facilities over the past four
16 years in this state and have faced a
17 handful of challenges. I want to
18 highlight one of those today.

19 There is a critical regulatory
20 barrier to food waste composting
21 facilities being developed. I recently
22 submitted a petition for rule-making with
23 the assistance of Dennis Toft from CSG
24 Law to the DEP to request to remove the
25 requirement that Class C food waste

PROCEEDINGS

1
2 recycling facilities be enclosed in a
3 structure.

4 The DEP just denied this request.
5 New Jersey is the only state in the U.S.
6 that has a requirement that food waste
7 composting happen inside a building. It
8 is not based on the science of composting
9 and it destroys the economics of
10 facilities being set up due to the cost
11 of the building itself and the cost of
12 air handling.

13 Not only that, it creates a
14 dangerous operational environment. In
15 cool weather there is steam rising off of
16 composting piles which is dangerous for
17 people operating machinery inside a
18 building.

19 So, the DEP's response to this
20 petition is that they would like to
21 conduct sort of comprehensive holistic
22 review of the composting rules, which has
23 been quite delayed over a couple of
24 decades. By statute, that would take at
25 least two years. And I believe that

PROCEEDINGS

1
2 process, while it is acceptable, it
3 shouldn't preclude making an incremental
4 change now to bring New Jersey in sync
5 with the rest of the U.S. and kind of
6 unblock this barrier to composting
7 facilities being set up that can also
8 accept waste under the food waste
9 diversion law passed in 2020.

10 I will pause there and I will
11 submit some additional comments in
12 writing. Thank you.

13 CO-CHAIR CONNOLLY: I think that is
14 all of the public commenters for today.
15 I want to say thank you for all our
16 speakers today and to our public
17 commenters.

18 Thank you to the Council and staff.
19 I know we will be able to come up with
20 some innovative recommendations based on
21 what we heard today. Keep a lookout for
22 our report on our website in the next few
23 months. So, thank you so much and thanks
24 for coming.

25 (Adjourned 2:43 p.m.)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

C E R T I F I C A T E

I, DEBRA STEVENS, a Certified
Realtime and Registered Professional Reporter
and Notary Public within and for the State of
New York, do hereby certify that I reported
the proceedings in the within-entitled matter
on Tuesday, April 16, 2024, and that this is
an accurate transcription of what transpired
at that time and place.

Debra Stevens, RPR-CRR

A				
ability 160:7 191:23	64:13 achievements 102:5	87:6 168:2 169:18 171:12 173:6,14 178:12 179:5	Affairs 2:5 7:13 affect 169:14	
able 23:24 24:21 25:17 48:6 62:19 64:13 85:13 86:24 89:4 91:5 93:3 94:24 101:8 105:11 132:10 134:11 143:4 172:16 175:8 177:8,20 179:13 180:13 191:24,25 198:12 199:8 202:15,24 203:6 204:3,11,20 210:19	achieving 39:25 41:11 Act 18:16 51:11 55:2 61:21 69:11 133:24,25 acting 96:6 action 2:10 6:12 7:21 59:6 65:25 84:8 86:14 170:5 171:8,11 185:7 actions 84:11,12 85:14,24 86:16 99:25 100:3,6 162:18 activated 149:21 active 168:25 actively 65:12 activism 138:8 activities 19:4,8 91:13,18 99:20 activity 91:17 actual 133:13 136:16 AD 117:16 Adam 8:13 118:23 add 88:25 added 64:8 135:3 adding 74:11 128:25 159:3 addition 3:5 37:5 99:19 133:23 141:19 156:21,24 165:11 additional 72:15 79:11 80:22 146:14 190:19 210:11 additionally 11:13 128:21 137:24 157:9 address 10:9,16 51:23 65:10 71:4 73:8 80:17 82:10 84:20 86:10,21	184:10 187:10 200:9 addressed 16:5 189:15 addresses 205:24 addressing 23:6 83:13 180:5,18 184:5 adds 187:18,18 adjourn 11:15 Adjourned 210:25 administration 185:15 193:7 administrative 65:25 administrator 195:21 administrators 90:13 97:8 195:16 adolescents 142:7 adopted 63:11 adults 89:21 advance 107:22 186:10 advancing 34:4 advantage 142:11 adverse 200:5 advertising 77:21 advice 7:19 advise 11:11 advised 174:9 advising 16:15 advisory 3:16 49:17 67:22 115:20 advocacy 62:15 82:10 186:14 advocate 22:17 106:4,5 advocated 61:19 advocates 24:23 27:19 108:12 aerobically 106:17 Aerospace 30:4	affluent 54:11,12 54:14 afford 169:6 affordable 32:7 167:22 AFL-CIO 8:13 afternoon 21:4 81:23 120:21 156:17 ag 46:3 132:8 age 33:15 36:3 205:8 agencies 19:21 79:5 167:21 171:15 178:16 184:2 Agency 201:10 agency's 49:23 agenda 9:24 22:9 185:20 aggregate 48:7 aggressive 66:18 agitator 203:21 agnostic 190:2 ago 15:8 95:23 136:14 145:2 162:6 173:22 194:3,25 agree 97:8 200:18 agriculture 7:23 51:13 122:23 123:2 Agronomy 79:25 ahead 202:10 aid 22:14 166:13,23 aids 41:18 aimed 5:13 air 1:2,4 2:6,23 3:16,23 6:6 7:3 9:9,9 11:20 12:2 12:10,14,15 13:2 15:24 16:5,6,8,12 16:12 17:4 20:7 20:12,16 21:7 26:20 27:15 28:15	50:8 60:10 71:15 103:2 135:22 143:6 185:21 199:23 201:24 203:21 209:12 algorithm 143:19 all-in 154:22 Allen 8:10 50:10 alleviate 168:7 172:21 184:10 alleviating 175:19 Alliance 51:3 55:21 56:12 allotted 10:19 allow 181:6 196:10 allowed 10:12 133:5,6 201:14 alongside 126:13 altering 128:22 alternative 160:4 alternatively 39:7 Amanda 202:6,8 amazing 50:7 51:19 56:17 64:3 146:24 184:11 ambiguity 207:22 ambiguous 207:6 amendment 29:21 109:25 America 169:25 American 8:6 AmeriCorps 137:9 137:10 148:4 amount 36:22 86:18 107:24 111:20 119:11 128:3,20 151:22 152:15 183:12 203:4 amounts 85:6 118:6 anaerobic 19:7 35:14 40:22 41:17 41:20 42:4 43:18 43:21 44:14 46:9 102:3,6,23 103:5 103:14,22 108:8

108:14 109:2,15 109:19,21 116:3 116:10,20 119:16 127:6 150:9 165:12 196:18 anaerobically 43:6 analysis 56:5 82:9 103:11 104:3 113:10,16,23 114:18 115:9 125:4 anchor 8:2 ancillary 119:6 and/or 146:19 160:19 178:22 angles 141:25 angry 3:2 animal 57:7 202:17 animals 108:2,11 ANJR 51:2 52:11 56:13 anniversary 65:4 announcements 9:12 annual 2:22 17:18 22:24 179:15 answer 47:3 140:18 142:24 146:7 194:16 197:22 answered 48:23 anti-hunger 22:13 antihunger 168:10 antiquated 68:21 anxiety 138:2 anybody 143:12 177:4 186:6 191:9 anymore 169:20 193:23 apologies 14:11 apologize 45:12 app 67:9 appealing 96:11 appear 40:21 apple 96:23 97:2 apples 26:15 34:18 182:12,15 applicable 42:5,25	43:23 applications 42:24 86:21 applied 63:13 apply 66:2 151:12 applying 19:16 172:17 appointed 49:16 appointments 171:23 appreciate 7:19 8:11 23:18 28:13 68:9 91:21 122:12 181:15 185:19 201:8,12,16 202:11 appreciation 92:19 approach 41:16 167:2 approaches 121:10 appropriate 34:8 appropriations 63:7 approximately 17:12 31:7 153:18 171:24 174:15,19 174:23 175:5,18 177:9,21 April 1:15 9:4 10:23 162:6 211:9 area 55:11 124:6 158:18 159:22 164:9 182:17 areas 123:16,20 128:14 146:16 197:17 arena 79:7 84:14 arising 35:2 arm 122:19 articles 30:9 Asia 203:2 asked 51:14 101:16 110:8 189:11 207:14 asking 68:13 97:13 aspect 150:19 aspects 13:12	aspirational 55:5 Asral 3:6 assembly 6:7 21:12 21:14 63:5 191:3 ASSEMBLYMAN 23:12 28:21 assess 20:20 assessing 19:24 39:21 assessment 131:24 asset 58:15 62:17 assets 43:7 assist 2:21 assistance 27:5 172:17 208:23 Assistant 12:9,25 assisted 3:12 149:2 Associate 121:4 associated 18:9 37:9,12 131:20 132:9 133:15 164:3 177:19 association 8:7,9 49:18 50:25 185:25 192:7 associations 79:4 Atlantic 12:22 atmosphere 35:22 103:8 attendees 9:13 10:7 10:14 attention 67:25 171:8 Attorney 201:9 audience 102:25 audiences 174:11 Audio 101:15 audit 86:2 91:16 92:23 93:21 audited 130:20 132:6 audits 82:3 186:20 August 73:17 authorities 141:15 authority 66:15 132:19 148:18,24 authorized 18:20	autonomy 87:14 available 11:20,25 32:7 42:13 71:6 73:17 84:23 96:18 110:20 116:6 134:14 143:3 145:8 158:20 197:15 208:3 average 18:18 149:17 153:18 154:4 170:6 averaging 176:6 AVERT 113:12 avoid 67:3 92:21 105:4,6 avoidable 34:15,19 avoidance 153:14 avoided 89:10 153:19,24 avoiding 44:11 45:18 award 85:5 aware 16:18 93:14 96:6 161:13 awesome 190:5	bag 159:16 180:7 180:11 bags 35:6 180:10 180:12 182:14 Baldauf 12:8 14:8 ban 52:22 59:19 61:8 bananas 182:12 bang 72:9 bank 59:3,4 174:25 banks 22:15 25:21 53:15 58:24,24 60:2 bans 180:7 bar 188:5 206:18 Barr 3:7 56:19 barrier 208:20 210:6 base 147:5 based 17:13 36:2 65:2 82:4 124:15 143:18 153:17 209:8 210:20 baseline 57:18 58:17 62:20 71:22 73:3 basically 35:7,20 37:2 52:13 58:23 84:7,18 89:2 107:23 110:11 111:3 115:8 131:7 143:19 151:8,12 152:21 156:11 162:6 186:6 basis 50:20 176:14 179:15 bays 109:3 Bayshore 49:8,9,20 56:10 bear 191:18 bears 54:7 beat 25:2 beautiful 126:21 179:22 becoming 167:10 befuddled 77:4 beginning 56:3
<hr/> B <hr/>				
B 158:15 B.'s 138:16 Bachelor 79:24 Bachelor's 13:22 back 50:6 61:24 72:21 88:12 94:13 95:7 103:12 106:18 110:6 120:18,25 193:12 197:23 198:22 background 3:14 6:19 57:19 122:17 168:13 backlog 203:7 backs 192:12 Backyard 64:20 65:20 bacteria 110:19 111:2 119:19 bad 64:9 194:24				

69:6 125:8 127:3 162:6 begins 104:20 behalf 202:8 behavior 87:12 behavioral 40:10 121:20,22 122:4 138:8 behaviors 92:20 belabor 186:16 188:16 believe 64:9 76:12 117:14 138:15 176:4 196:4 209:25 believers 144:10 belt 203:15 beneficial 161:2 162:16 benefit 6:15 20:15 22:25 47:15 75:20 144:5 151:11 159:4 160:10 186:12 benefits 39:21 46:23 153:13 157:20 160:5,14 160:17,23 161:5 190:20 Berdomas 2:25 Bernie 58:11 best 5:23 14:13 18:10 20:2 27:21 35:23 74:18 90:17 192:19 197:21 better 23:19 24:6 27:7,21 41:9,11 45:21 46:10 72:18 77:10 78:2 90:19 92:17 106:3 116:2 159:8 188:8 bettering 119:7 betterment 118:4 beyond 4:12 34:10 bid 158:13 Bielory 8:16 76:16 78:12	big 58:24,25 61:8 64:22 72:9 74:22 75:16 92:23 105:10 106:3,5,20 114:3,3 116:9 144:7 163:4 187:18 189:5 191:21 192:7 196:3,17,19 big-box 176:3 180:2 biggest 64:10 bill 22:14 61:11,18 63:4 118:13,16 155:3 191:6 201:13 billion 31:8,10 81:18 124:23 bills 21:25 61:7,13 116:19 179:23 180:15 190:25 bins 85:9 bio 80:6 102:16,22 109:14 161:16 203:18 bioenergy 35:15 40:18 54:2 Biofuel 159:5 biogas 43:9 101:24 102:2 111:4,5,7 119:16 120:4 152:7,16,20,25,25 154:9,24 203:18 biomass 117:22 biosolids 74:10 108:22 112:2 149:5 bit 58:14 92:24 111:5 122:13 124:5 128:7 132:13 133:11 145:15,22 197:13 bite 96:23,24 Blair 76:9 101:22 102:18,22 118:25 119:15 120:14 196:2	bleed 157:14 blend 154:24 blender 66:10,13 74:4 blew 64:9 blocks 139:11 blowing 81:7 blue 123:11 156:11 board 13:11 49:14 65:11 98:4 107:21 115:20 body 28:16 151:12 bogged 193:20 bones 35:5 book 30:9 56:23 bookends 114:20 books 69:13 187:9 boost 96:10 97:11 born 196:12 bought 63:25 98:7 bowling 22:24 box 188:25 boxes 25:8 109:9 brainer 191:10 Branch 91:15 98:4 98:11,12,16,21 101:17 breach 77:5 bread 34:18,22 93:20 breadth 129:25 break 110:21 120:18 173:17 177:20 196:8 breakdown 182:5 breakfast 87:23 breathing 20:16 Brian 76:9 101:22 120:13 195:25 brief 6:21 34:6 briefly 74:5 80:24 bring 15:2 51:17 56:4 60:5 63:8,20 65:14 66:20 69:3 71:13 76:14 79:11 103:3,24 111:24 120:10 151:22	156:2,15 159:11 160:13 164:16,19 165:6,10 191:18 191:23 199:2 210:4 bringing 113:25 brings 70:3 166:2 175:11 182:14 190:20 brought 6:3 15:7 15:12 66:10 98:24 155:23 165:21 Brown 8:18 73:24 73:24 75:7 Brunel 80:4 Brunswick 131:2,5 buck 72:9 buckets 60:5 93:11 162:22 bucks 98:6 budget 98:5 177:21 177:22 budgeting 22:5 budgets 83:24 139:15 build 53:3 75:4 117:19 148:7 202:24 building 53:3 85:17 108:19,19,25 125:2 166:19 209:7,11,18 built 62:4 108:20 150:10,14 160:9 bullet 104:16,19 112:25 bullets 83:2 bunch 92:15 burden 192:15 Bureau 3:6,8,9,11 13:10 buried 33:17 burn 62:4 201:6 burning 27:8 200:4 200:11,14 201:14 201:23 burns 119:13	burying 27:8 bus 94:14 98:24 99:3 buses 98:16 business 2:10 7:21 16:3 27:17 90:13 111:12 116:17 167:6 186:3 195:18 businesses 5:18 31:6 75:21 79:6 140:25 195:7 busy 28:9 button 52:17 buy 88:17 98:10 buying 85:9 174:5
C				
C 208:25 211:2,2 CAC 2:7 3:14,15 cafeteria 11:17 20:5 75:16 81:6 86:2,19,22 128:15 130:16,18 134:18 134:25 137:14 cafeterias 96:9 cake 158:3 calculate 76:11 calculated 82:5 calculates 153:21 calculating 72:19 calculation 153:16 calculator 143:15 California 103:18 198:6 call 9:15 52:21 61:20 68:20 100:15 156:3 called 61:3 65:24 66:11 Camden 148:17 149:15 cameras 9:21 campus 49:12 campuses 48:19 185:12 candidly 51:6 52:8				

canned 174:8	catalyst 193:10	Chair 2:7,7,17 7:14	charging 111:17	6:6 7:3 9:9,9
cans 81:8	categories 5:25	7:14,18 8:11	chart 6:12 38:20	11:20 12:2 15:24
cap 105:5	category 68:17	20:24,24,25 21:2	156:9 159:4	16:5 21:7 27:15
capability 206:25	141:6	49:13,15 65:11	chat 8:25 9:2,7	28:14 29:6,9,20
capacity 3:16 85:18	catered 206:20	67:22 121:4	cheap 36:11	41:19 46:8 60:10
106:25 147:3,7,15	caterers 187:6	chairing 4:2	cheaper 43:13	64:7 71:15 143:6
148:7 153:3	206:14	challenge 25:5	160:3	185:21 199:23
158:11 162:10	catering 25:14,24	161:14 200:8	check 26:18 157:6	201:24
163:20,25 190:10	Catrambone 91:14	challenges 39:20	cheese 131:14	cleaner 20:16 22:3
capital 163:17	93:16 98:3 99:18	47:10 208:17	chemical 29:22	43:13 180:25
capitalized 66:24	101:18	challenging 53:5,9	chief 49:23 167:18	cleaning 36:8 43:12
capture 104:24	causes 166:25	94:9,11 174:16	child 21:22 121:10	119:24
120:10 164:5	200:7	Chamber 7:25	135:21	clear 50:8 62:10
captures 104:12	causing 26:22	21:10 68:15	childhood 22:11	63:2 69:17 70:14
capturing 75:18	192:17	champion 29:6	children 128:21	78:4 168:18
carbon 29:16 37:4	CCMUA 149:14	change 1:5 3:24	135:9 170:3,14	clearly 15:9 69:25
37:19 39:11,14,14	150:9	4:17 12:16 15:5	205:7	197:3
40:16,18 44:5	CCMUA's 153:22	15:19 16:4,10	China 125:23	climate 1:5 3:8,24
46:13 89:10 103:4	celebrate 114:7	17:2 29:17 38:19	choice 99:12	4:17 12:15 15:4
103:7,14 106:6,7	Celsius 110:3	40:10 41:13 51:2	171:17 172:7	16:10 17:2 29:17
106:12,13 112:24	Center 2:11 7:22	55:20 56:12 82:18	choir 32:14	38:18 41:12 51:2
114:9,9,14 115:15	29:10 56:17 102:9	83:14 87:12	choose 172:3	55:20 56:11 63:18
115:22,25 116:4	166:13,23 170:5	102:21 115:17	CHP 151:10 154:10	82:18,25 83:14
117:10,11,12,16	centers 58:25	117:14 129:9	160:12 163:19	102:21 115:13,15
117:23 153:5,19	centralized 42:11	130:18 135:18,20	Christina 208:8,10	115:16 116:15
200:9,15 201:22	century 43:3	136:4,6 137:13	Christmas 201:15	129:9,11 135:17
card 195:18	CEO 166:13,15	138:5 140:3	chronic 123:22	135:20 136:3,6
cardboard 109:9	167:10 168:9	144:25 145:4,11	circular 29:15 39:4	137:11,13 138:2,4
care 21:22 93:2	certain 36:6 42:17	149:18 162:4	39:10,14,21 40:18	140:3 142:8
career 13:15	43:25 70:18 95:14	168:7 175:22	44:5 47:9	144:24 145:4,10
167:13	110:14 144:19	185:8 192:21	circularity 39:3,13	149:18 162:4
carefully 183:22	145:2,12	210:4	39:16,19	168:7 175:22
Carolina 188:9	certainly 14:12	changed 76:4	circumstances 35:4	185:7,8 192:21
carried 110:12	26:21 27:7 70:14	130:19	94:11	climbing 173:12
carrots 91:20	108:11 119:6	changes 28:18	cities 129:16	Clinic 133:13
cars 89:8	certification 78:24	128:15,23 130:16	162:11	close 64:19 186:23
cart 172:2	85:15 100:11	134:19,25	citizens 32:23	closed 110:14
cartons 93:14	certifications	changing 80:19	city 31:21 32:21	closer 24:19 152:19
96:14	202:22	86:8 92:20	79:20 164:9 198:6	closest 22:7 72:11
carts 98:24	certified 100:7	channel 40:6	Civil 13:25	closing 20:6,22
case 43:4,9 129:24	185:8 211:4	chapter 51:12	claim 77:2	cloud 20:12
135:13 142:16	certify 211:7	61:22 62:6,8	clarify 100:22	Co-Chair 2:2,9
172:24 199:7	cetera 187:6	73:19	class 117:23 157:25	6:20,24 12:6 21:5
case-specific 47:21	chain 5:4 35:10	chapters 30:9	158:14 208:25	29:4 34:3 47:4
cases 35:18	38:22,23 75:15,24	56:22	classes 29:12	48:25 49:6,17
casinos 59:24	93:18 125:8	charge 61:21	classroom 91:17	68:11 78:22
cataloged 60:19	chains 45:5	112:20,23	clean 1:2 2:6 3:8	101:13,16,21

118:21 120:12,16 120:20 140:19 142:13 146:9 148:11,14 164:24 166:5,11 181:18 182:9 183:2 184:16,19 197:24 199:11,14 202:4,9 205:14 208:8 210:13 co-chaired 185:5 Co-Chairs 50:10 co-develop 134:5 co-digesting 112:3 co-digestion 112:13 co-founded 185:4 co-gen 150:15 co-locating 42:25 CO2 17:12 36:5 104:22 111:5 113:7,14 204:14 CO2e 114:3 153:22 Coach 63:24,25 67:4,5,17 coached 88:7 coal 17:21,22 coal-fired 17:19 115:5 coalition 22:18 Coca-Cola 165:19 cogeneration 35:16 cold 69:4 collaboration 45:4 45:10 56:8 81:21 182:16,21 collaborative 124:13 167:4 collaboratively 6:14 colleague 58:11 colleagues 50:13,15 collect 91:8 111:7 collected 98:21 155:24 collecting 160:2 collection 33:9 44:22 47:23	148:19 collective 76:15 126:20 143:5 145:24 collectively 24:6 126:2 college 173:4,6 colleges 61:2 140:10 Colorado 30:7 colossal 4:11 combined 39:12 87:16 111:9 149:5 149:24 combining 107:22 combusted 120:5 come 14:7 26:10 28:16 50:4 67:23 68:23 77:15,17 95:3 132:21 147:11,22 148:6 169:12 170:15 171:23 203:14 210:19 comes 47:12 54:21 60:12 62:5 70:2 125:13 146:15 147:20 166:4 177:2 187:25 193:10 198:16 207:6 coming 15:22 27:19 28:24 31:14 65:7 68:6 72:6 73:10 81:17 83:6 92:18 95:7 109:6 111:17 114:25 136:17 165:16 183:12 187:3 206:16 210:24 commenced 101:25 comment 10:8 11:14 77:14 138:16 199:20 commentators 199:16 commenter 205:17	commenters 210:14,17 comments 9:3,6,7,8 10:22,24 11:8 199:22,24 210:11 Commerce 8:2 21:10 commercial 102:2 106:20 208:14 commercialized 40:22 commission 12:21 12:23 70:11,12 79:17 Commissioner 11:25 12:9,11,22 13:2 14:10 15:6 20:17 Commissioner's 14:19 committee 49:18 56:9,21 70:25 71:3 common 51:23 77:8 communicator 167:7 communities 4:6 6:17 47:14 55:24 64:7 122:16 139:25 146:15 147:2,23 148:3 169:22 community 2:5 7:12 22:18,24 25:12 59:2,6 64:20 65:3,22 79:19 99:23 121:5 121:12 123:8,21 124:9 127:25 151:23,24 152:6 161:23 166:14 167:6 168:3 171:16 174:6,25 180:24 185:9 191:5 193:13 195:6 196:19	198:19 Community's 166:24 Compact 12:23 companies 165:19 176:6 201:4,5 company 103:6 185:10 193:12 202:14 208:13 compare 180:6 compared 105:2 compel 207:19 compete 36:12 competing 116:12 complete 100:7 174:3 completed 121:21 122:6 151:6 completely 176:12 complex 171:7 172:6 complexity 109:5 compliance 12:18 13:9 complicated 109:8 139:23 complications 88:10 component 32:19 42:15 72:15 90:2 92:20 119:18 172:14 177:7 182:4 components 93:24 95:14 96:3,4 150:23 composite 62:3 compost 46:7 48:8 48:9 60:6 64:11 65:13,18 91:6,22 99:5,14 106:15 107:18 109:22 113:5 139:8 162:22 186:10 189:24 191:14,25 192:2 202:18,22 203:3,6,23 204:2	204:17 compostable 203:16 composted 35:13 203:19 composter 99:9,11 135:4 139:9,10,12 205:3 composters 85:9 88:19 91:7 186:5 198:20 composting 19:6 27:4 40:23 41:17 41:24,25 43:22,24 44:13 46:12 48:17 56:13,14 57:5,5 60:3 64:17,20 65:21 70:13 71:11 88:17,22,25 89:19 99:16 101:2 106:4 108:13 127:6 139:7 158:10 184:25 185:10,23 189:25 190:5,20 194:24 196:19 198:5,7,11 202:14 204:10,13 208:12 208:15,20 209:7,8 209:16,22 210:6 comprehensive 137:22 209:21 comprised 124:11 comprises 84:2 concentrating 40:20 concept 39:2,6 112:14 concern 201:2 concerns 4:13 102:21 181:4 183:9 concert 22:18 conclude 46:5 conclusion 164:17 180:18 conduct 209:21 conducted 56:23
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>134:11 conducts 79:9 conference 30:10 conferences 100:14 confident 73:10 connect 62:16,21 71:10 78:9 145:16 connecting 129:14 137:15 connector 139:21 connects 67:10 90:7 Connolly 2:2,4 7:13 12:6 20:24 20:25 21:5 29:4 34:3 47:4 48:25 49:6 50:10 68:11 78:22 101:13,16 101:21 118:21 120:12,16,20 140:19 142:13 146:9 148:11,14 164:24 166:5,11 181:18 182:9 183:2 184:16,19 197:24 199:11,14 202:4,9 205:14 208:8 210:13 consequence 180:15 consequences 82:13 170:24 179:25 conservation 46:16 consider 32:6,10 36:15 41:5 46:6 84:4 169:9 180:16 201:24 considerate 200:19 consideration 19:20 179:23 considerations 161:22 considered 41:9 42:20,24 43:15 44:3,20 considering 30:23</p>	<p>41:14 44:17 consistent 157:16 consistently 157:17 179:4 construction 152:8 consume 152:21 consumed 152:16 152:17 208:5 consumer 125:13 125:17 consumer-ready 37:16 consumption 16:20 34:2,8 37:24 38:9 39:9 96:10 97:11 contact 78:13 203:10 container 107:11 contamination 44:12 content 79:12 continue 36:23 105:21,23,24 Continuing 196:25 contracts 150:11 contribute 100:10 contributes 17:5 175:21 contributing 175:24 control 5:23 16:16 18:10 74:23 114:23,24 116:25 135:24,25 149:8 159:25 controlled 45:17 66:16 74:16 207:11 convener 139:21 conversation 141:8 conversations 162:24 conversions 200:22 convert 110:21 converted 35:13 conveyor 203:14 cook 99:21</p>	<p>cool 209:15 cooperative 81:21 121:6 122:14,18 122:19,22 123:5 124:14 147:9 148:5 coordinates 13:11 coordinator 167:14 copious 28:25 core 109:17 168:17 192:22 corncobs 155:7 Cornell 79:25 corners 117:7 cornerstone 24:10 corporate 75:8 76:4 85:3 184:22 185:12 corporations 206:21 207:3,8,18 207:25 Corps 137:12 correct 40:15 54:23 117:9 correctional 59:25 cost 38:5,5 116:12 144:4 154:3,9,12 154:13,22 155:2 159:8 161:6,7 162:14,16 163:7 163:17 165:6,10 165:24 177:19 206:6 209:10,11 costly 36:10 costs 31:9 82:16,18 89:23,24 116:18 153:24 198:24 Coughlin 6:8 21:13 22:21 23:8,12 28:21 31:25 53:25 Coughlin's 22:8 council 1:2 2:6,14 2:18 3:13 6:6 7:3 7:7,11,14 8:2 9:5 9:9,9,18 10:2,10 10:16,22 11:8,21 12:2 15:24 16:5</p>	<p>16:14 18:25 20:23 21:8 27:15 28:15 47:5 49:2,17 50:9 50:11 56:13,15 60:10 61:11 67:23 68:9,18 71:15 73:12,23 78:13,19 118:22 129:22 142:18 143:6 165:2 181:19 184:25 185:3,21 185:23 189:14,25 191:14 197:25 198:7 201:24 205:12 210:18 Council's 20:18 199:23 count 71:25 counterpart 32:22 177:13 counties 8:10 54:13 61:22 62:9,19 122:21 124:17,18 129:17 137:20 counting 40:16 141:17 countries 37:17 country 125:22 126:15 128:2 county 53:21 59:8 61:20,24 62:6 64:2 68:22 92:8 102:8,13 116:25 140:8 148:17 149:16 162:10 164:9 167:20 168:11 171:15 192:9 county's 149:14 countywide 61:23 couple 51:25 80:25 84:15 88:20 105:22 107:20 118:14 186:15 209:23 course 6:12 27:9 90:21,22 160:18</p>	<p>199:20 cover 104:23,25 123:15 124:25 149:23 169:7 covered 86:6 207:11 covers 197:17 COVID 88:10 COVID-19 16:11 Craig 6:7 21:12 23:8 crazy 113:9 114:21 create 4:5 48:8,8 67:2 138:21 178:13 180:20 203:17 created 55:4 110:15 202:15 creates 155:16 209:13 creating 22:15 39:16 119:6,7 credit 50:21 credits 179:10,16 crime 82:23 83:20 crisis 17:2 criteria 128:4 critical 87:11 89:16 92:20 126:18 193:2 208:19 critically 58:16 crop 36:20 cropping 79:22 crops 26:11 35:12 crossing 192:3 crowded 31:13 crusts 34:22 CSG 208:23 CSO 162:11 cubic 107:10 152:18 153:9,10 157:8 culinary 131:16 cultural 171:20 culturally 32:8 174:10 CUMAC 168:9</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

171:11 176:8 178:12,16 184:2 cumulative 16:9 curious 74:6 146:13 current 29:24 35:19 40:15 80:19 118:13 147:15 207:4,13 currently 2:6 29:8 29:18 32:18 33:5 35:8 38:12 44:17 80:20 126:15 142:5 148:6,8 169:24 176:5 178:7 184:24 185:14 202:20 curriculum 94:15 135:15 136:3 140:6 145:5,14 customer 112:16 cut 117:6,6 cutting 5:13 96:22 128:18 155:2 Cycle 185:10 193:13 cycles 171:6	78:6,11 97:6 107:2 113:22 152:3,5 153:10,23 154:5 156:6 157:9 157:15 171:12 181:11 182:13 194:6 203:5 206:13 days 76:5 141:12 141:13 150:5,5 156:14 171:25 deal 24:25 33:19 55:16 92:23 108:14 114:3,4 192:13 198:17,20 199:9 dealing 41:10 Debra 1:23 211:4 211:14 decade 167:12 decades 209:24 decarbonization 102:19 December 104:9 decided 98:10 131:21 173:23 decision 44:10 decision-making 41:6 decisions 142:3 decompose 104:21 decomposes 4:14 decomposition 157:21 decoupling 45:25 decrease 33:23 dedicated 29:5 51:13 dedicating 23:21 dedication 23:6 deep 131:21 133:18 deeply 4:3 define 35:8 defining 40:2 definitely 143:22 144:20 175:13 definition 168:19	definitions 33:22 58:21 degradation 17:7 degree 13:22 121:22 122:3,6 degrees 13:24 50:2 110:3 150:24 dehydrators 88:20 Delaware 161:10 delayed 209:23 deliver 67:15 78:10 78:11 173:21 203:14 delivered 139:11 156:5 delivering 21:21 44:4 delivery 172:4 Delran 99:6,11 delve 4:19 DeMaio 3:6 71:2 demand 31:15,19 146:4 150:4,7 161:12 demands 171:8 demonstration 42:9 Demonstrations 48:19 denied 209:4 Dennis 208:23 dense 106:14 190:16 Dentistry 122:5 DEP 2:20 3:16,21 5:18 9:8 11:24 13:15 19:25 30:3 50:6,16,20 55:7 55:10 56:19 58:6 58:7,19 63:18 64:9 69:21 71:20 72:22 73:18 76:5 86:24 120:23 128:9 135:15 186:25 192:24 193:8 194:14 197:10 208:24	209:4 DEP's 209:19 DEP.NJ.gov/Cle... 10:25 depack 109:18 department 1:10 2:5,10 7:12,16,20 7:23 13:16 14:22 16:15 18:13 20:19 30:5 49:22 51:6 55:15 64:10 65:2 66:18 71:2 121:5 122:24 123:7,9,10 123:21 132:8 134:6,6 140:8 146:11 148:25 Department's 13:14 71:6 departments 122:22 124:14 128:10 132:7 dependance 102:20 dependent 33:14 depending 203:4 deploy 115:22 described 150:15 deserts 23:7 146:17 deserved 14:13 design 102:18 149:16 156:23 162:10 designed 108:22 designs 40:13 despite 54:16 86:11 destroys 110:4 209:9 detail 61:10 64:14 deter 129:19 deterioration 34:12 determinants 57:15 184:5 determine 170:23 Devco 54:2 develop 5:2 62:9 63:14 64:23 78:7 79:7 87:13 92:18 128:10 133:13	136:3 137:11 208:14 developed 128:4 140:17 145:5,7 208:21 developing 18:14 55:7 144:2 149:7 167:17 development 18:24 31:20 47:13 63:10 66:20 102:8,10,12 123:3 127:14 149:3 185:3 diesel 203:18 dietary 168:24 Dietitian 121:25 difference 24:17 25:25 28:3 142:23 166:16 differences 146:19 different 14:23 61:7 72:16 89:25 91:13 93:23 99:9 100:5 106:19 113:3 123:16 124:13 126:19 131:15 134:21 137:7 150:11 163:22 189:12 194:4 195:3 204:5 difficult 96:15 97:7 difficulty 137:2 196:2 digest 41:18 43:6,6 158:15 163:16 digestate 48:9 digested 35:14 41:20 165:22 digester 74:10 116:21 119:17 156:10,22 digesters 42:7,8,11 42:22,25 108:8 109:16,19 150:9 150:12,22 151:7 151:11 152:9 153:2,11 154:11
D				
D 193:14 daily 104:23,25 105:5 176:14 dairy 174:7 damage 37:14 Dana 3:8 dangerous 32:11 209:14,16 darn 189:5 data 82:9 83:6,7 105:8 141:5 142:21 153:17 170:4 182:7 database 60:19 date 34:10 77:18,19 173:15 day 15:11 26:14 28:6 53:22 67:7				

154:22 155:20 156:17 161:2 165:11,13,23 digestible 102:4 155:9,17,19 165:21 digesting 157:24 158:4 160:10 196:18 digestion 19:7 35:14 40:23 41:17 41:20 42:4 43:18 43:21,23 44:14 46:9 102:6,23 103:5,15,22 108:15 109:2,21 110:9 116:3,10 119:18 127:6 150:13 153:15 154:6 dignity 176:25 dining 68:5 dioxide 89:10 153:19 direct 68:3 157:5 171:16 178:11 direction 58:5 74:24 184:15 directly 57:25 136:20 159:2,5 171:3 178:18 179:2 director 2:23 13:4 13:20 29:9 94:20 148:16 167:11,15 directors 90:12 dirty 186:20 discard 31:7 206:14 discarded 4:10 16:22 31:9 34:9 35:17 disclosure 75:12 disconnect 76:19 77:5 discuss 24:4 28:19 168:4	discussed 24:22 68:18 discussing 30:19 discussion 4:2 6:18 51:21 65:5 disease 123:22 disgrace 54:23 dispel 77:23 78:3 dispenser 96:13 dispensers 128:19 Displacing 46:11 disposal 16:17 33:6 34:17 39:16 52:22 59:19 61:8 116:13 161:6 disposal-free 68:5 dispose 83:25 disposed 35:11,16 disposing 160:3 dissertation 121:18 distance 107:15 distribute 133:9 distributed 102:12 135:8 distribution 39:9 40:2 58:25 112:9 171:14 distributors 60:2 district 21:15 23:2 98:14 101:4 116:25 138:14 141:14 districts 94:18 99:13 138:15 139:8,14 disturbed 76:17 disturbing 115:17 dive 131:21 133:18 diverse 6:3 174:11 diversion 210:9 divert 91:3 158:22 diverted 108:10 diverting 75:8,23 99:4 160:18 175:15 179:2 Division 13:5 divisions 12:14	doable 67:18 doctoral 121:22 document 104:5,7 104:11 105:14 199:21 documents 115:24 doing 14:24 31:3 47:19,22 48:12,17 61:22 74:11 80:20 82:3 84:13 85:10 86:15 88:5 89:18 91:15,18 92:24 111:22 122:14 124:8 130:23 158:10 168:16 176:5 178:12 180:7 181:5 182:24 184:3 192:25 dollars 23:3 63:21 75:3 donate 25:18 62:25 68:24 69:16,19 77:9,16 78:20 127:4,10 131:12 132:12 133:10 138:17 178:9 179:9 180:3 181:5 207:4,13 donated 25:22 120:22 206:10 donating 59:22 70:15 99:23 129:4 205:23 206:22 donation 57:3 69:13 98:20 129:20 133:16,22 138:19 139:5,20 140:13 145:19 176:18 207:5,20 donations 134:10 138:22 175:3 178:11 door 9:17 10:11,17 160:22 doors 174:2,22 dots 62:16,22 71:10	78:9 double 62:3 Dr 7:17 8:8,16 29:5 29:22 30:11,12 34:7 47:18 49:4,5 58:9 76:16 78:12 82:15 121:3 122:9 122:10 137:3 138:16 141:4 143:14 144:19 146:8,10,21 147:16,19 148:9 148:13 draft 51:11 drafted 19:19 191:2,16 drain 93:12 162:11 162:11 draw 116:13 117:2 Dreams 53:2 dressed 65:15 dried 157:25 drink 34:16,20 35:2 drive 66:13 67:13 71:14 73:7 80:20 84:7 108:22 driven 113:11 drivers 94:14 158:12 driving 99:25 droned 125:12 dropped 154:23 drops 120:3 drove 113:9 dry 120:4 158:4 dryer 158:19 dryers 152:4 158:21 161:21 drying 158:4,5 due 17:2 209:10 dump 157:11 dumped 113:4 dust 16:10 <hr/> E <hr/> E 211:2,2	earlier 50:17,19 56:20 57:14 82:14 90:8 150:15 162:5 162:22 183:14 191:12 194:11 early 20:6 68:18 76:5 205:8 earth 54:15 106:18 easier 43:14 easily 48:10 108:2 145:3,11 163:16 East 1:12 easy 39:18 92:9 129:13 145:13 207:16 eat 34:20,21,24 90:4 92:4 97:14 97:16,20 99:2 176:22 182:15 eaten 34:22 eating 121:17 echos 100:19 Eco-Technology 56:17 EcoComplex 29:9 29:25 30:21 Ecologic 208:12 economic 4:13 29:13 33:4 38:17 39:5,19 41:11 46:10 89:23 125:20 153:6 168:22 169:16 Economically 126:6 economics 116:9 117:3 121:20 196:3,7,22 209:9 economies 126:5 economy 6:16 29:16 32:12 36:25 39:4,10,12,14,14 39:22 40:18 44:6 119:7 edible 34:18 35:4 176:21 177:15 educate 70:20,20
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

educated 205:7	eighties 61:24	emerging 16:6	encouraged 10:7	enjoys 166:18,21
educating 89:12	either 9:14 131:12	43:25	10:15 42:5 45:18	enrichment 92:10
141:25	132:6 176:10	Emily 3:6 70:25	48:3 199:21	enrollment 87:16
education 19:14	188:17 191:2	emission 113:21	encourages 92:3	ensure 20:15 130:5
42:9,10 47:20	EJ 146:15 147:2,22	143:7,12	ended 88:11 158:7	138:20 172:8,16
48:15,19,22 69:16	151:23 161:23	emissions 4:15,16	177:10	173:25 176:21
70:24 78:3 79:6	elected 167:21	5:12 16:11,16	ends 33:11 38:13	178:9 208:4
79:19 85:10 88:5	192:23	17:4,6,8,13,19	91:19 95:20	ensuring 133:8
91:25 121:16	electric 111:16,16	18:2,9 20:8 38:5	158:23 175:18	173:18 180:23
122:3 123:2	112:17,19,23	75:14,23 82:25	energize 204:2	entered 9:17 10:18
128:12 129:9	150:4 154:2	83:4,9 104:6,13	energy 3:8 12:10	155:13 158:16
130:23 135:18	200:23	105:7,17 113:8,14	13:2,5,10,13 27:6	entire 5:4 177:23
136:4 137:13,13	electrical 161:12	113:24 114:5	29:6,10,20,23	entities 75:8
137:14,15 138:7	162:14	115:3,22 116:2	30:6 35:13 36:12	entitled 3:22 104:5
140:3 141:22	electricity 103:16	157:21 163:8	41:19 42:15,16	entrepreneurial
144:22,25 145:4	111:10,11,13	164:16 175:24	46:2,16,19,20	184:23
172:25 186:14	112:8,9 115:6,6	189:3 190:6	52:21 82:17 102:9	envelope 76:6
192:19 195:4,9	116:11 150:18	200:10,15 201:22	102:11,12,17	environment 6:16
197:2,4 200:17	152:12,15 153:4	205:24	117:9,10,11,16	26:23 32:12 36:17
educational 129:7	154:2 163:20	emitter 106:7	118:18 148:22	36:25 49:22 63:5
195:6	electrons 103:22	125:22	153:24 161:9	63:5 66:16 74:16
Educator 121:3	elemental 120:2,10	emitting 17:11	enforce 197:11	80:12 83:17 86:5
effective 39:11 72:4	elements 55:14	104:22	enforcement 12:15	86:7 88:11 96:11
87:5 118:19	eleven 152:3	emphasis 26:2	12:19 118:9	110:16,18 114:14
148:22	Elijah's 131:6,14	29:13	engaged 51:5	115:19 120:9
effectively 15:25	eliminate 18:3 24:7	emphasize 139:25	engagement 22:22	130:19 142:3
effects 200:6	183:15 206:11	emphasizing 39:15	Engaging 44:10	153:13 161:25
201:19	eliminated 89:2	Empire 124:25	engine 152:23	175:15,20 180:9
efficiency 33:14	113:8,14	employee 13:15	153:2 156:22	186:13 187:25
35:24 36:2	eliminates 190:5	employees 75:17	157:2	200:16 201:7
efficient 29:19	eliminating 113:17	120:23	engineer 13:16	205:9 209:14
38:16 40:4 42:7	175:20 184:4	empowered 138:6	14:5 29:22	environmental
efficiently 27:11	elimination 22:19	138:9	engineered 109:14	1:11 4:21 13:8,12
43:24 158:25	Elizabeth 66:9 74:3	empowering	156:24	13:20,25 22:2
effort 27:6 56:11	75:19	139:25 142:2	engineering 13:8	27:18 29:6,13
76:15 145:22	Elnakib 58:9 81:23	enable 47:11 85:17	13:23,25 29:24	33:4 38:21 41:12
efforts 8:12 19:10	121:3 122:9,10	Enabling 44:25	30:4	42:19 46:10,24
20:7 23:19,22	137:3 141:4	enact 178:8	Engineers 8:5	50:2 53:8 57:17
44:6 47:19 178:8	143:14 144:19	enacted 5:16	engines 111:9	66:24 69:12 70:10
Egenton 8:3 21:7	146:8,21 147:19	enclosed 209:2	113:20 120:6	79:17 82:12,16
21:11 28:8 29:2	148:13	encompasses 34:13	150:20 152:24	89:24 121:9,11,16
50:14 68:14,14	email 10:23 137:5	124:6	157:2	125:20 134:7
eggplant 92:13,15	205:15	encountered 90:11	England 56:19	157:19 160:5,17
eggs 174:7	emanating 18:5	90:12	English 167:9	177:18 180:19
eggshells 35:5	embarrassing 80:7	encourage 19:3,11	enhance 46:15	188:2 200:6
eight 104:21	emergency 173:23	19:21 57:11 82:10	167:5	201:10
Eighteen 193:18	201:20	84:13 98:17	enhancing 167:17	EPA 19:17 38:2

41:14,15 83:7 104:5 105:15 121:14 126:21 149:8 153:17 181:4 EPA's 5:25 25:18 38:23 41:22 113:11 equally 151:13 equipment 108:6 109:11 equitable 180:20 equity 57:14 121:10 equivalent 17:13 17:18 83:5 89:8 154:16 equivalents 153:19 escaped 55:13 especially 2:24 6:6 28:8 31:15 32:16 40:20 41:12 43:20 47:15 81:4 83:16 95:12 96:21 97:5 178:23 198:13 essential 40:16 93:21 essentially 185:25 196:5 establish 128:8 146:2 176:2 established 127:17 establishes 18:23 establishing 139:18 establishments 11:18 estimate 151:17 estimated 16:18 17:24 37:22 81:18 82:4 89:7 estimating 63:16 estimation 63:16 72:18 73:20 estuary 161:11 et 187:6 ethical 4:12 etiquette 7:4	Europe 202:25 event 26:10 events 152:23 206:20 everybody 14:20 21:3 25:2 28:5 31:12 32:13 33:13 33:15 39:2 54:6 59:21,22 63:23 76:14 94:4 104:17 107:21 115:10 164:22 evidence-based 138:8 evolution 104:12 exacerbates 17:2 exact 71:5 exactly 72:20 183:25 exaggerating 55:25 example 15:25 20:3 25:15 38:6 75:5 99:6 114:16 119:14 204:16 examples 43:17 142:20 exceeded 151:16 excellent 148:9 167:7 198:9 exceptional 151:16 excess 26:11 61:5 72:19 73:5,21 129:5 131:12 163:25 182:25 exchange 39:25 excited 15:6 136:15 exciting 136:10 executive 19:20 21:8 115:14 167:11,15 184:21 205:21 exemptions 19:3 exercise 72:8 exist 117:21 148:6 148:8 178:7 184:9 190:25 existing 66:24 74:9	118:7 142:5 160:8 163:23 exists 110:16 126:15 143:23 165:4 189:21 exit 9:16 expand 22:12 140:10 163:18 expanded 140:7 Expanding 140:3 expansion 67:4 111:23,23 112:2 expansive 22:13 expect 147:23 188:7 expectation 144:16 expected 31:16 expense 82:21 159:6 177:24 expensive 37:4 139:13 experience 31:17 102:15 143:5 148:19 177:6 184:23 193:11 experienced 201:21 experiences 167:5 experiencing 201:19 experts 3:19 4:24 9:23 27:18 68:20 103:18,20 207:10 expired 34:10 explain 69:24 explore 4:20 6:10 182:23 export 163:25 expression 5:7 extended 192:11 extension 81:22 121:7 122:14,18 122:19,23 123:6 124:14 147:9 148:5 extensive 79:9 extensively 86:6 external 101:7	150:25 extra 50:21 138:17 extract 105:25 Extracting 27:6 extremely 184:7 <hr/> F <hr/> F 211:2 face 170:3 faced 208:16 faces 200:8 facilitate 79:8 100:25 101:3 Facilitating 45:4 facilities 33:10 43:17 45:9,9 48:2 48:3,4 53:20 59:25 60:7,7 65:18 75:2,15 101:8 106:24 117:5,18,22 118:5 165:7,12 187:20 188:5 198:15 202:24 204:7,8 208:15,21 209:2 209:10 210:7 facility 18:21 47:24 52:11 54:2 60:6 74:3 75:9,19 99:15 102:4 103:15 108:18,20 109:17 112:4,13 112:20,22 113:2 116:14,23 119:5 149:19,25 150:15 150:18 151:10 152:13 155:25 156:8 160:10,20 161:8,24 162:8 165:10,22 facing 94:10 168:3 fact 32:23 81:13 86:11 116:12 133:13 193:21 factors 72:19 factory 204:9,10 faculty 123:12	129:4 failed 52:9 failure 152:23 fairly 15:13 17:16 fall 26:14 86:16 180:15 familiar 26:17 60:9 84:5 104:18 115:11 families 22:11 83:18,21 135:9 167:3 176:23 family 121:5 123:8 169:12 fan 64:10 fancy 66:10 fantastic 99:19 114:8 192:24 194:5,9 195:10 FAO 125:4 far 30:16 37:8 59:2 118:16 120:17 159:10 174:14 205:2 farm 5:4 38:8 42:23 108:3,4 Farmers 192:6 farming 31:23 46:6 farms 25:24 45:8 59:25 92:9,11 108:10 191:23,23 192:2 fascinating 55:9 69:10 104:11 fast 32:15 151:3 193:17 feasible 42:14 fed 108:2 federal 104:5 133:23 federally 123:13 fee 117:4 160:13 200:17 feed 19:9 45:25 108:11 111:8 156:17 feeding 19:8 75:17
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

169:25	94:4,19 143:2	124:8 125:16	38:3,7,8,12,21,22	112:3,21 113:25
feel 26:19 109:24	180:10 182:24	127:24 140:4	39:3 40:13,20	114:12 115:23
126:23 136:5	finding 116:2 160:3	focused 67:25	41:3,7,8,10,20	116:3,10,13,20
138:6,9 141:7	finds 139:4	82:17,25 85:21	42:12 43:5,23	117:2 118:2
194:18,20 198:8	fingers 189:7	102:18 121:18	44:5,14,18,19,25	121:18,21 123:22
feeling 193:8	finish 106:17	focuses 115:21	45:7,13,14,23	123:23,24 124:9
feels 191:9 194:7	fire 200:11,14,18	121:8 123:10,25	46:3,7,8,9,18,20	124:11,17,21,24
fees 116:23,24	200:23 201:20	126:24 127:8	46:21 47:23,25	125:4,5,5,8,12,18
159:12,14	fireplaces 200:12	focusing 82:24	48:4,7 52:8,10,11	125:21,25 126:7,8
feet 152:19 153:9	200:14,18,22	folks 50:18 67:12	52:20 54:5,9,18	126:11,13,14
153:10 157:8	first 12:7 22:16	77:12 134:15	54:21,25 55:6,8	127:2,3,5,15,19
198:10	30:25 55:7,22	151:4 191:19	55:11,15,17,18,23	128:3,5,8,12,15
Fekete 7:24	57:13 59:11 60:17	192:16,24	55:23 57:3,4,14	128:16,20,24
fellow 2:13,15	65:18 85:22 89:21	follow 8:20 18:6	57:17 58:15,18,22	129:3,5,10,12,14
fence 151:25	98:18 102:3	93:4	58:24 59:3,3,13	129:19 130:14,15
159:23	104:21 126:22	followed 187:5	59:17,22 60:2,4,8	130:17,20,22,23
fermentation	128:15 129:8	following 5:22	60:12,15 61:5,17	130:25 131:6,12
110:24	135:17 141:9	49:20 149:12	61:20 62:9,14,17	132:12 133:9,10
fertilize 204:24	178:25 185:6	food 1:4 2:8 3:23	62:22 63:10,17,20	133:12,15,22
fertilizer 46:3,8,11	192:17 199:25	4:2,7,10,13,16 5:3	65:22 66:12 67:2	134:10 135:2,5,10
46:14 82:20 115:4	fiscal 22:5	5:7,12,13,14,15	67:10,14 68:4,25	135:21,21,24
fertilizers 46:12	fish 125:9	5:17 6:2,13 11:17	69:7,13,19 70:13	136:4,8,8,11,16
field 26:15 52:25	fit 11:6 42:6 107:13	11:18 16:16,17,18	71:4,11,13 72:16	137:15,16,23
fifth 170:18	171:19	16:19,22,25 17:5	72:19 73:5,21	138:18 139:5,11
fight 22:8 24:9,12	five 12:13 56:22	17:9,10,25 18:3,8	75:9,19 77:16,23	139:20 140:4,12
24:20 166:24	62:3 97:11 123:20	18:15,15,17,20,22	78:5,20 79:13	140:24 141:5,8
figure 100:16	128:14,25 145:2	18:23 19:4,6,7,9	80:17 81:9,12,16	142:3,5 144:21
114:22 130:14	152:4 171:24	19:11,12,13,16,17	81:24 82:10,22	145:17,18 146:17
139:24 143:17,21	fix 194:19	19:21,22,24 20:8	83:11,13,19,21,22	146:17 155:4,6,11
143:24 181:12	flare 152:22	20:13,21 22:10,15	84:2,10,20 85:21	155:15,18,24
186:22	flexibility 95:22	22:16,22,25 23:6	85:25 87:22 88:3	156:20,24 157:4
figuring 25:12	flooding 162:12	23:7,9,23 24:7,9	88:13,23 89:3,5	158:7,23 159:3,7
143:19	floor 109:6	24:12,20,25 25:3	89:13,14,19,25	159:13,16,18
fill 175:8 194:2,15	floors 186:21	25:4,10,13,19,21	90:3,6,12,22,24	160:18 162:18
final 65:16 149:23	Florida 188:8	25:23 27:7 29:19	91:3,15,19,20	163:5 164:2,13,19
179:18	flow 53:15 114:22	30:21,24 31:2,8,9	92:2,3,17,22 94:8	165:24 168:4,5,10
finally 41:14 51:24	116:25 149:16,17	31:15,19 32:3,4,4	94:17,19 95:24	168:14,17,20,24
63:23 67:20	150:5	32:5,6,9,11,18,20	96:5,10 97:16,21	169:3,9,11,12,18
129:14 135:14	flows 149:19 162:3	33:2,2,6,9,11,18	98:21,25 99:5	170:4,6,21,24
140:9 193:18	162:7,9	33:19,21,22,22,22	101:4,7 102:3,7	171:14,17 172:8,9
195:13	fluent 167:8	33:23,24 34:2,7,8	102:24 103:2,8	172:12,20 173:2
financial 39:21,22	flurry 109:23	34:11,12,13,14,16	104:7,19 105:5,16	173:21,23 174:20
153:13 157:20	focus 14:19 29:17	34:16,19,20,22,25	105:20 106:15	174:23,25 175:5,7
161:5 171:4	52:10 53:7 63:20	35:2,7,9,10,10,11	107:2,12,14,24,25	175:10,12,13,15
financing 53:10,17	64:16 68:7 80:11	35:19,21 36:15,16	108:9,10 109:2,5	175:21,23 176:9
58:7	106:2 107:23	36:23 37:3,4,5,6,8	109:10 110:12,20	176:10,11,17
find 6:14 27:19	115:12,14,25	37:11,13,19,23	110:21 111:3	177:9,12,16,23

178:8,10,13,14,19 178:19,20,22 179:5,8,12,13,25 180:3,5,13,19 181:6,8 183:10,12 184:11 185:2,9,11 186:12,19,21 187:2,15,16,21 188:18 190:16 191:24 192:14,21 193:13 196:6 198:11,16 199:2 199:10 203:13 205:22,25 206:8 206:11,17,23 207:4,6,11,20,24 208:3,5,12,20,25 209:6 210:8 food-related 66:3 FoodCorps 148:4 foods 76:21,25 97:25,25 125:7 129:5 168:23 171:19 172:3 173:19,25 174:5 174:21 177:15 181:22 182:25 206:15,19,22 footprint 4:22 36:17 37:5,6,19 38:21 46:14 103:14 106:13 112:15 153:5 203:3 forever 33:18 50:13 55:13 fork 113:17 forks 159:19 form 35:23 120:11 157:23 166:2,4 200:24 formal 9:25 format 6:22 9:22 formed 3:15 56:9 70:24 73:12 forms 194:2,15 forth 58:23	Fortunately 189:9 forward 6:17 12:4 15:11,21,23 20:9 20:18 24:3,5 28:15,24 103:3 137:4 forward- 166:14 fossil 38:9,10 45:25 46:2,11,14 102:20 fossil-based 36:13 fought 14:21 found 10:24 86:3 93:24 95:4,11 103:17 107:4 130:7,21 131:17 133:20 134:23,24 Foundation 121:14 137:25 founded 185:9 founder 208:11 four 22:13 32:24 51:8 96:4 124:12 150:9 188:15,17 189:11 197:17 203:20,22 204:18 208:15 fourth 21:17 FRAC 170:4 fractional 35:9 framework 46:21 Frank 2:22 50:17 free 22:12 84:23 95:13 109:24 110:2 fresh 26:20 71:23 182:18 fridge 98:2,22 fridges 98:6,7,10 friends 50:13 59:5 192:6 front 92:6 108:17 160:21 178:3 front-end 109:11 frontline 24:23 fruit 96:21 191:11 fruits 181:23 182:2 182:19	frustrating 24:24 fuel 29:23 38:9 102:17 112:24 150:25 152:7 fuels 102:20 fugitive 16:10 18:2 Fulfill 59:4 full 89:9 103:13 114:4 165:14 176:16 179:11 187:20 full-time 119:5 176:8 fully 108:13 156:22 157:3 fun 26:13 function 8:25 9:3 24:19 fund 22:25 85:3 189:20,20 fundamentally 65:17 funded 123:13,14 123:15 funding 5:24 18:11 19:12,14,17 21:24 85:4,19 86:21,24 86:25 88:17 121:13 132:9 135:15 137:24 147:17,19,20,21 163:16 178:17 195:14 208:3 funds 178:18 179:2 further 16:4 29:23 178:7 future 20:19 22:3 28:2 31:18 41:5 44:19 157:13 161:9 180:21 181:2	garbage 52:6 62:2 66:8 67:9 garden 65:3 191:5 gardens 64:21 65:22 91:24 99:17 99:19 Gary 49:6,13,20,25 50:4 70:8 80:8 82:14 83:14 86:5 100:25 104:17 118:13 126:17 gas 4:15 17:18 33:12,13 35:22 36:8,9,11,12,13 37:7 38:15 43:10 43:12 66:15 67:2 74:15,20 75:23 82:25 83:4,10 105:25 110:22 112:5 113:20 119:12,24,24 120:7 143:11 150:12,17 151:8,9 152:10,10,16 153:4,14 154:9,10 154:12,19,21,25 156:11,19,22 157:20 158:24 159:2,6 160:15 161:3 162:15 163:7 164:4 200:23 gas-fired 115:6 gases 17:4 18:4 204:13 gasification 102:16 161:17 gasses 71:15 125:23 general 21:13 66:4 101:23 201:9 generally 84:7 116:21 generate 18:18 32:24 61:4 153:11 162:15 163:19 204:3,13 generated 5:18	17:25 38:11,15 73:5 125:6 150:13 150:20 164:3 generates 32:21 38:7 60:8 generating 36:7 38:4 47:24 89:22 119:5 141:2 153:6 203:5 generation 29:19 29:20 32:15,17 41:19 42:15 43:8 63:17 64:19 72:16 141:20 154:7,13 154:23 159:10 generations 31:3 142:9 181:2 generator 140:24 generators 18:17 53:13 59:17,20 71:25 106:21 118:10 141:5 150:17 185:13 187:17 188:18,19 generous 30:14 135:14 genesis 110:25 Geography 80:3 George 2:25 28:24 52:4 101:18 getting 25:4 31:12 62:23 76:23 86:20 93:5 98:23 100:7 106:3 112:19 117:9,10 151:2 158:16 168:16 177:3 196:23 197:5 205:7 GHE 188:23 GHG 164:15 Gipson 148:15 149:10 165:8 166:9 GIS 72:7,14 73:2 73:16 give 9:24 30:15 62:19 69:7 76:25
G				
		gain 161:8 gallons 156:6,7 gap 56:5 175:9 gaps 56:25		

95:20 96:2 129:25 168:13 given 40:25 91:7 102:24 154:5 181:16 190:18 gives 92:16 160:7 203:8 giving 96:20 100:8 172:20 179:10 gleaning 26:9,18 92:11 global 17:14 36:3 51:10 Globally 125:21 go 8:19 26:12 28:18 32:4 54:3 57:9 64:14 65:15,19,20 67:8 86:4 87:4 88:14 93:20 94:13 94:21 99:5 100:13 105:21 110:20 114:20,21 121:2 126:8 129:24 135:12 161:20 163:8,13 173:23 179:23 183:17 187:17 189:19 192:16 193:15 196:6 198:12,22 199:3,7,8 202:10 goal 3:20 22:17 27:9 55:5 56:3 128:9 179:20,22 goals 4:5 38:19 64:13 127:15 138:11,12 goes 54:10,21,21,22 74:5 91:25 97:2 107:25 108:2 109:15 110:24 126:24 176:14,16 180:24 184:14 196:7 going 4:18,19,24 6:9,21,25 7:2,3,5 24:4 27:2,14 43:10,11 56:14,15	58:4,9,12 61:19 64:13 70:8,16 72:21 76:9 86:4 88:11 90:4 94:12 95:5,16 98:19 103:12 111:15 113:19 115:2 116:5 117:4,6 120:17 129:24 135:6,11 151:2,3 161:10 162:12 164:4 174:21 177:4 180:5 191:8 193:13,16 195:2 Golden 30:7 Gonzalez 166:12 167:25 168:9 181:25 182:20 183:24 184:18 good 2:3 4:22 14:8 21:3 23:15 25:10 26:19 30:13 44:4 65:8 69:10,15 71:24 76:18 80:5 103:18 112:22 120:21 133:23,25 140:22 141:5,7 143:9 146:7,21 165:17 180:8 185:13 187:14 188:12 190:4,24 goods 174:8 180:11 182:18 gosh 94:6 gotten 186:20 government 16:3 21:9 27:20 79:4 193:6 governmental 24:18 Governor 49:16 184:25 201:13 governors 49:24 grade 87:10,11 136:12 145:6 Grande 202:21 grant 19:13,17	63:14,19 69:22 73:18 85:5 86:20 86:25 88:16 123:15 137:9 145:6 178:17,18 grants 25:21 58:5 69:21 85:2,5 179:4 197:2 graph 152:14 grapple 86:18 grappling 131:23 grasp 129:13 grass 195:6 greasy 156:3 great 7:8 15:12,18 26:13 28:6 31:4 43:17 47:8,19 48:14 51:14 57:20 64:23 68:16 74:24 76:15 77:6 89:16 91:24 92:25 94:5 101:19 120:16 135:13 138:20 142:19,21 146:12 146:12 149:11 158:9 163:11 164:19 177:16 187:15 189:22 190:20 197:7 198:19 205:16 greatest 208:6 Greek 113:11 green 79:17 132:23 151:7 204:13 greenhouse 4:15 17:3,18 37:7 75:22 83:4,10 125:23 143:11 153:14 157:20 160:15 163:7 164:4 175:24 grid 42:17 102:13 103:23 111:11,13 111:16 grids 120:7 groceries 25:23 169:7 171:25	172:10 grocery 25:24 59:23 116:16 ground 72:25 175:11 176:2 184:3 group 6:3 7:8 56:4 groups 14:16,24 15:4 70:9 147:8 147:10 148:5 growing 91:25 167:18 170:23 173:15 174:16 181:13 grown 91:21 guaranteed 53:15 guess 81:13 116:6 165:5 183:17 guest 174:2 177:2 guests 11:16 171:18 171:22 172:9,16 173:9,19 180:11 guidance 84:18 93:4 100:22 133:3 guided 88:4 guidelines 95:25 128:11 131:25 132:2 133:2 138:24,25 207:5 207:13,20,24 Guran 29:5,22 30:11,12 34:7 47:18 49:4,5 82:15 guy 83:10 Guyana 79:23 guys 181:15 189:17 190:18 GWRA 115:11	158:5 160:21 halls 25:14,25 hand 6:20 62:20 147:12 hand-holding 147:14 handed 72:22 handful 208:17 handing 172:10 handle 93:22 handling 101:3 107:23 209:12 hands 186:20 hanging 191:10 Hanna 8:5 50:14 71:18 73:9 142:16 144:2 146:2 183:4 183:5 184:14 happen 6:25 67:19 96:9 138:18 144:25 145:12 150:8 192:4,5 209:7 happening 33:5 194:12 happens 35:7 38:12 73:13 74:4 110:9 110:9 192:8 happy 53:18 118:20 120:6,7,8 140:18 197:19 hard 5:19 57:22 97:4 117:2 147:24 196:23 harder 145:16 hardest 53:3,10 131:18 harm 26:22 Harvard 133:12 harvest 99:21 harvested 35:13 haulers 60:4 118:10 186:5 havoc 159:20 Hawaii 79:23 80:2 Hazardous 3:10 head 193:22 195:19
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

headquarters 20:2	heavily 178:16	holds 13:22	huge 81:7 93:25,25	175:14,20 177:18
headway 197:4	Helaine 3:7 56:19	holistic 64:24	95:11 118:5	181:7
health 7:17 13:21	56:20	137:17 167:2	177:18 182:4	impacted 115:19
21:23 46:23 55:16	Helene 205:19,20	209:21	197:4	171:3 200:20
57:15 121:5,10,23	Hello 120:21	holistically 67:21	human 16:20 25:6	impacting 36:24
121:24 122:3,3	help 4:24 6:4 8:25	68:6	33:25 34:8 202:16	impacts 16:10
123:8,10,17 124:7	24:7,21 43:2 52:4	home 17:16 99:2,3	hundred 182:20	20:14 37:7,9
129:18 132:7	73:3 75:13 100:16	139:22 167:22	hundred-year	38:17 46:24 83:15
134:6,7,8 137:25	100:16 107:17	172:4 176:23	17:14	89:14 125:19,21
139:19 145:18	128:5,14 134:8	180:13 182:14	hundreds 23:3	155:11 171:3
146:11 169:13,21	139:3 142:12	Homeland 14:2	hung 63:6	192:21 201:17
171:12 184:6	144:17 167:3	honest 175:7	hunger 22:9,11,20	205:8
200:6 207:10,25	172:8 193:25	honor 50:23 122:11	24:13 25:2 166:25	implement 5:19
healthcare 27:18	194:8,19 195:10	Honorable 21:12	168:21 170:3	18:14 19:15 88:2
171:6	197:11 200:15	honored 6:7 23:7	172:19 173:6	88:7 100:17
healthier 180:20,25	208:4	hook 74:8	175:20	implementation
healthy 32:6 92:2	helpful 184:7	hope 8:20 28:4	hungry 25:5,11,15	51:12 57:23 80:21
118:11 121:17	helping 3:12 42:3	48:23 63:23	97:19 135:8,9	149:6
168:25 171:16	130:24	hopefully 63:7	180:24	implementations
205:23	helps 2:25 26:23	67:18 68:7 75:4	hurdles 146:14	100:2
hear 5:6 6:9 8:24	144:4	112:14 137:5	hurt 191:9	implemented 87:21
17:17 69:19	hey 193:15,24	hoping 134:13	hydrogen 105:18	87:25 88:6 98:13
102:22 136:19	194:8	136:15,17 137:21	111:6 119:11,17	146:19 206:6
142:20 191:22	Hi 183:4	horizon 121:14	119:22	implementing 85:8
198:3	hierarchy 108:9	161:20	hydrolysis 110:23	100:22 149:7
heard 126:10 127:7	high 37:4,5 87:17	horticulture	Hygiene 8:7	implications 33:4
134:16 183:13	94:18 107:7 125:3	122:25		42:19 46:20
186:16 188:15	206:4	hose 74:8	I	importance 22:22
190:23 192:9	higher 19:14 42:10	hospitals 61:3	idea 100:9 106:2	31:25 41:23
194:11 195:9,25	48:15,18 128:11	hot 69:3 206:17	142:10 198:10	132:15 134:9
196:11,17 197:2	196:25	hotels 59:24 61:2,4	ideas 15:12 27:13	important 16:6
198:12 210:21	highest 126:5 162:7	hour 11:15 154:24	118:2,8,11	30:18,24 32:5,10
hearing 1:2,13 2:8	highlight 22:23	hours 28:11 104:21	identified 59:13	32:18 33:16 36:14
2:16,22 3:13,18	51:18 208:18	104:22 202:19	identify 47:14	39:17,22,23 40:10
3:22 6:2,23 7:6,14	highlighted 200:7	203:7,24 204:18	56:25 93:23	41:21,24 42:4,18
9:10,23 10:9,22	highlights 21:19	204:22,22	II 149:8	44:11,13,24 45:2
11:3,19,23,23	87:7	house 68:23	III 149:9	45:6,22 46:4,17
12:5 14:14 20:9,9	highly 155:19	household 169:4,15	Imagine 67:6	47:21 48:20 52:2
20:25 21:2 23:22	156:2	205:4	immediate 157:4	53:6,7 55:14
26:25 44:7,8 50:6	historically 14:20	household's 168:24	159:4	57:20 58:17 61:15
71:19 81:22	52:9	households 170:6	immediately 157:7	63:9 67:5 70:2
196:12	history 21:17 60:20	198:5 205:6	194:19	73:2 76:7,14
hearings 200:3	hit 17:16 80:23	206:12	immense 36:22	83:23 90:7,16
heart 22:8 175:12	hold 3:17 10:3	housekeeping 7:5	impact 1:4 3:23	93:5 95:4,8 103:3
heat 111:9 149:5,24	holder 151:8	9:11	16:11 94:2 102:25	105:15 109:4
150:20,21,23	holding 147:12	housing 167:12,13	136:6 141:18	112:6 114:11,15
heating 150:25	157:13 190:10	172:6	143:8 157:5	115:24 116:18

118:14 119:4	123:23	37:22 38:2 39:25	140:11 141:6	154:20
124:21 131:10	including 9:25 16:7	62:21 71:22 72:6	155:16 162:25	introducing 162:20
132:17,20 133:8	18:9 20:23 22:14	95:9 134:5 143:2	163:4	introduction 23:14
134:3 139:4,16	22:24 30:8 36:24	181:17 199:22	institutions' 155:24	80:12 102:6 157:7
150:19 168:3	71:20 170:3	201:17 207:23	Instructions 10:23	171:13
169:17 174:12,20	incorporate 137:12	infrastructure 33:8	instructors 131:9	invaluable 7:18
180:16,21 190:15	incorporated 53:20	40:4,5,12 66:25	Insult 54:19	invariably 90:24
190:17 196:14,24	increase 31:15,16	72:11 111:18	insurmountable	inventoried 60:19
197:7	37:13 97:8,10	138:21 160:8	4:23	inventory 182:7
importantly 172:25	101:6 156:18,19	164:20 165:6	integrate 42:16	invested 174:4
imported 37:16	161:11 170:8,22	ingredients 203:21	integrated 99:24	investing 21:22
imports 37:11	173:13 189:2	initial 191:16 193:6	integrating 138:7	investment 45:21
111:19	200:4	initially 87:8 94:23	integration 40:14	160:11 163:17
impression 76:22	increased 17:9	initiatives 13:14	44:7	invite 3:18 50:12
imprimatur 70:4	36:20,22 37:12	19:18 22:4 79:11	intended 16:20	invited 9:23 11:10
improve 51:24	162:3	178:10 180:23	33:25 135:10	involved 28:4 65:13
63:15 73:20	increases 31:13	injury 54:19	intention 158:18	167:22
123:17 128:23	32:16 190:7	innovation 29:10	interact 151:24	involvement 47:12
139:16 166:19	increasing 21:23	184:21	interaction 15:22	ironic 24:24
improved 44:22,23	22:14 129:20	innovative 5:3	interest 3:18 11:13	issue 4:20 22:7,19
improvements	167:22 178:23	45:11,20 86:14	86:10 158:17	24:22 51:23 54:24
40:11 139:6	200:9 201:22	210:20	206:22	63:2 67:21 77:13
improves 190:6,10	incremental 163:17	insecure 54:18	interested 26:25	124:22 126:13,18
improving 21:25	165:24 210:3	83:20 170:6 173:3	70:12 91:23	131:24 141:24
129:2	India 126:4	insecurity 24:9,12	130:10 174:9	168:3,6 169:13,21
impurities 36:10	indicated 11:13	126:14 168:4,14	186:7	171:7,12 183:22
in-vessel 19:5	173:8	168:17,20 169:4,9	interesting 55:3,12	184:9 193:3
inability 168:21	indiscriminately	169:13,19 170:21	131:16 136:19	issues 5:22 16:7
Inaudible 118:24	125:14	170:25 175:13	154:8 155:5	24:24 67:3 93:17
incentive 117:19	individual 175:3	178:13 179:6	187:19,22	105:19 157:10
incentives 42:18	individually 93:13	180:5,19 181:8	interfacing 79:3	180:19 181:7
133:16	individuals 167:3	205:25 206:11	interrupt 205:10	188:2 192:17
incentivize 179:9	171:2 173:11,16	inside 209:7,17	interruption 34:6	items 81:11
196:9	indoor 19:6	insight 23:9 28:13	101:15	Ithaca 79:21
incentivizing 84:17	Industrial 8:7	inspected 129:17	intersection 121:15	
85:16 200:21	industrialized	inspector 134:8	interstate 16:8	J
incinerated 35:16	54:15	inspectors 129:18	intervention 45:24	Jack 71:7
38:14	Industries 53:23	134:9 139:19	135:16 136:9	JAS 58:15
incineration 38:15	industry 16:3	145:18 208:2	137:7,18,22	Jersey 1:2,10,14
161:17	102:14 106:19	inspiring 142:19	interventions 88:7	5:8,10 7:10,25 8:4
incinerators 62:4	185:25 195:7	install 138:12	88:8 96:8 97:5	8:6,9 12:20 14:5
160:19	inedible 35:9	installed 43:7 152:4	134:22	20:7,11,21 21:10
include 19:5 21:20	inequalities 126:14	institutional 72:24	interviews 72:16	22:10,20 24:14
102:5 172:24	inevitably 119:20	institutionalized	introduce 7:2,11	27:17 29:7 31:3,5
included 134:18	infiltration 190:7	61:16 63:9	38:25 55:23 87:11	31:6,17,22,24
includes 19:11	inform 73:3	institutions 31:7	166:3	36:7 37:24 38:22
35:12 112:2	information 37:21	42:10 60:14 72:18	introduced 21:6	40:5 42:2 45:22

49:9,15,19,21,24 50:25 51:2 53:22 56:16 58:10,12 59:3,4 65:11 79:2 80:16,17 84:6,25 96:18,19 99:24 102:7 103:20,21 111:12,19 112:7 112:18 115:16 117:25 122:5 123:12,18 127:13 127:17 129:7 130:5,6 132:8 133:20,24 134:17 135:16 137:11,25 138:24,25 139:4 139:22 140:5,16 141:2 143:5,18,24 144:24 145:8 146:11,23 167:12 169:15 170:7,12 170:16 179:21 184:24 185:23 187:23 188:3 189:24 191:13 200:25 201:8 203:5 206:2,9,13 207:17 208:13 209:5 210:4 Jersey's 21:17 38:18 44:6 49:9 102:3 185:6 Jerseyans 20:15 Jessica 166:12,14 167:4,10,16,24 168:8 181:19,21 183:3,4 184:17 job 1:25 77:10 78:2 167:16 197:21 jobs 119:2,5,6,7 147:6 195:17 John 8:15 50:14 70:6,22 Johnsamson 202:7 202:10,11 205:13 joined 13:15 49:20 joining 23:10 30:16	journal 30:9 jump 103:9 106:22 June 67:24 68:23 justice 29:15 32:3,4 53:8 57:17 142:9 168:10 justify 83:12 <hr/> K <hr/> K 81:25 87:15 124:2 129:8 135:18 141:22 keep 2:25 10:6 60:22 76:22 90:10 106:16,16 110:14 193:21 194:12 210:21 keeping 186:7 kept 34:10 key 90:2 123:20 128:14 187:12 kick 12:7 14:13 kids 54:17 83:19 89:20 92:3,6 96:21,22 97:13,18 97:24 98:23,25 124:2 182:15 kilowatt 154:15,17 154:24 Kim 8:14 50:15 kind 23:13 24:8 50:11 52:16,25 57:16 60:18 73:6 74:13 76:7,11 80:7,13 81:6 82:22 84:19 85:20 88:2 89:12,19 92:16 93:23 100:8 100:19 104:11 109:23 128:4 139:2 141:24 143:7,15 144:12 147:9 156:3 159:25 178:5 180:6 187:3,19 188:11,22,24 189:20 191:9	193:13 195:4,13 195:16 197:16 198:21 199:9,10 202:17 210:5 kitchen 131:7 kitchens 48:6 59:15 60:3 knew 99:2 know 4:9 5:10 28:18,22 48:14 52:5 55:25 64:5 68:22 70:11 72:5 72:5,8 75:10 77:12 81:4 83:11 92:13 94:12 96:17 101:10 103:10 105:12,20 106:5 111:19 123:4 125:6,18,25 126:23 127:12,22 128:13 142:6 143:7 161:19 164:14 175:8 176:17 182:11,21 185:19 186:18 187:22 189:17,21 189:21 192:5 194:3 206:21 210:19 knowing 28:8 169:11 197:20 knowledge 40:7 72:24 85:18 95:9 knows 14:20 31:12 32:13 33:13,15 39:2 54:6 63:24 104:17 KW 150:16 Ky 3:6 <hr/> L <hr/> L 101:18 label 78:6 labeled 46:22 labeling 44:24 69:18 labels 77:18,20	176:13 labor 27:18 Laboratory 30:6 lack 201:3 lacking 71:24 laid 82:13 Lambert 78:23 80:5 101:18 Lanctuit 205:19,20 205:21 land 4:4 204:2,10 204:24 land-use 4:5 landfill 17:6,9,10 17:25 33:12,13 35:17,22,23 36:8 36:9,12 38:15 43:10 74:17 83:8 104:7,20 105:16 106:17 113:8 114:12 159:14 164:2 186:8 196:7 landfill's 33:14 Landfilling 16:25 landfills 4:14 18:5 26:6 33:7,11 35:21,25 36:6 38:13 43:2,3,4 54:22,22 62:3 71:14 74:18 81:14 104:13 105:2,3,9 105:20,22,25 107:25 126:9 157:22,24 158:6,8 158:11,23,24 160:19,25 175:16 175:19 177:15 lands 36:20 large 11:3 18:17 27:3 42:6,23 53:13 57:5 75:21 124:6 128:3 149:4 158:17 160:20 186:22 187:15 188:18 196:17 197:16 206:15,19 larger 60:6 84:11	112:15 198:13,14 largest 49:10 59:2 106:7 125:22 126:16 168:10 171:14 187:4 Lastly 19:24 late 108:21 130:10 Latest 170:4 La Tourette 12:11 Laumbach 8:8 119:9,9 launching 112:12 law 5:12,16 18:23 52:21 53:11 55:4 65:24 72:21 76:18 117:25 118:3 128:7 133:12 187:10,14 208:24 210:9 laws 5:19 86:8 187:9 Lawson 3:9 lay 52:3 78:3 laying 68:4 77:11 leaching 190:11 lead 20:3 71:3 leaders 22:19 leadership 28:13 leads 198:18 leak 74:21 leakage 38:17 45:13,16,18 104:24 105:6,10 leaks 35:22 learn 4:18 131:9 learned 105:13 learning 24:3 166:21 leave 9:16 25:9 116:5 171:24 180:12,24 leaves 58:10 119:16 140:5 174:3 led 13:13 56:10 133:11 left 10:5 34:11 52:6 126:24 127:8
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

leftover 120:23	limited 158:11	lofting 120:9	99:23 103:25	main 40:21 122:22
legal 133:13,14	Linden 53:21	logistics 157:11	106:23 122:25	maintenance
legislation 52:14,22	line 62:3 151:9,25	London 79:20 80:4	123:3 124:7 125:7	148:16 158:13
59:19 61:6,9	156:12 159:23	long 28:14 52:19	125:12,15,19	major 53:4 124:22
77:17 178:21	linear 39:16	54:3 91:15 96:3	126:3,18 127:7	149:7 150:22
179:18 191:16	lining 98:23	98:4,11,12,16,20	132:5 133:19	158:12,17 164:8
197:8,8	link 4:16 57:10	101:17 103:16	135:5 139:14	189:18
legislative 5:11	61:13	105:19 107:14	141:4 142:20	majority 33:6
21:15,20 28:17	linkage 68:3	144:14 149:8	147:2 157:10	176:9 187:11
49:18 52:17	liquid 115:4 163:15	157:6,17 198:24	161:10,21,23	making 3:20 20:11
207:19	165:20	long-term 45:19	162:12,14,14	28:2 65:2 77:3
legislators 52:25	list 10:10,17 117:13	longer 37:6	163:5,10,11,22	97:24 116:11
195:8	140:24 141:3	longest 21:7,16	168:16 175:16	142:23 144:3
legislature 23:25	listed 9:23 40:24	look 6:17 12:4 20:8	178:6 187:7 190:4	192:7 197:4,12,14
55:3 61:20 72:22	179:18	24:3,5 28:15,24	192:15 194:13,15	210:3
Len 148:15 149:2	literacy 121:16	41:15 46:18 57:11	194:16 195:5,9	man 188:12
164:25 166:8	123:23 124:7	57:15 59:18 60:21	198:14	manage 19:22
lens 135:20 184:8	literally 74:8	67:20 73:7 78:19	lots 4:23 131:15	105:11
Leonard 8:16	177:14	105:8 115:18	182:11,12	managed 105:2
lessons 91:18	literature 130:4	140:15 152:14	love 114:6 139:2	119:13
let's 12:6 93:6 94:7	little 45:5 50:21	156:9 165:19	143:7 146:23	management 12:13
140:6 191:7	58:14 76:16 81:19	175:10 179:24	189:25 195:12	12:17 35:19 47:10
199:17	88:12 92:24 93:14	184:8 188:6	198:10 199:4	56:7 57:4,7 64:6
letting 27:22	96:14 103:6	189:11 190:19	low 150:5 165:10	65:21 66:8 76:12
level 25:6 72:7	106:19 108:15	looked 56:22 57:3	172:6 191:10	102:15 108:20
125:13,17 133:24	111:5 114:21	68:19 69:5 81:24	Low-Level 12:23	123:22 148:23
levels 16:2	117:19 122:13,17	looking 15:11,21	lower 37:17 39:11	149:3,5 164:14
lever 141:7	124:5 128:6	20:17 73:19 80:11	39:13 159:13	172:24 186:3
leverage 129:10	132:13 133:11	82:16,24 96:17	161:5	management's
142:11 160:8	145:15,20,21	103:13 114:19	lowest 170:18	109:17
leveraged 121:20	149:14 150:2	124:3 155:6,7,8	lucky 27:17 92:8	Manager 101:23
195:11	151:3 152:22	155:18 158:25	lunch 11:15 87:23	manages 78:24
leveraging 194:23	155:10 205:11	163:12,14 166:18	95:13 97:14,19,20	managing 49:10
liability 69:12	live 50:7 129:15	184:13	99:10 101:22	193:16
131:20 133:16,21	LLC 101:24,25	lookout 210:21	120:17,23 129:2	mandates 75:22
207:9	185:10	loss 33:22,23 34:7	lunches 22:12	mandatory 52:7
liaison 12:20	load 158:6	34:12,13 37:23	lunchtime 97:9	62:5 198:4,11
licensed 14:4	loads 156:15	190:11		manners 81:9
Licensing 3:12	local 22:22,25	losses 153:24	M	manufacturers
life 39:6 169:2	26:12 37:7 106:16	lot 15:15,15,18,19	macerator 66:11	60:15
171:19 176:11	122:15 127:23	17:20 24:11 26:4	74:4	manufacturing
lifecycle 103:10	139:25 159:17	26:6 28:12 31:4	machine 113:18	125:11 186:11
104:2 113:10,15	176:3	48:21 61:4 80:9	machinery 209:17	204:8
113:22 114:17	locally 123:14	81:10,13,16 82:8	machines 88:18	manure 57:7
light 109:23 169:10	located 18:19	82:21 84:14 88:10	macro 190:14	map 59:19 123:12
206:3	122:20	91:23,24 93:17,20	maddening 25:6	123:14,15 132:22
lightly 88:18	locations 43:18	95:17,24 96:8,22	Magura 205:18	mapped 59:22

mapping 58:16 59:10,13,16,23 72:7,14 73:2,16	170:15 174:3	mentioned 30:25 32:2 34:9 35:20 38:14 40:17 41:4 42:12 44:23 45:7 47:8,18 50:18 52:19 54:19,25 56:20 61:7 63:13 65:7 67:5 73:15 81:15 86:2 126:17 135:16 138:24 171:13 179:11 181:8 183:9 193:11	micro 60:4 102:13 190:14	mitigating 29:17
March 173:16	meals 67:8 95:12 132:10 205:21,24 206:24	microbes 203:22 204:20	MICROSOFT 1:7	mitigation 12:16 23:22 38:19 41:13
Maria 2:4 6:25 7:13,15 14:15 20:24,25 21:11 50:18 52:19 54:25	mealtime 128:22 128:22	Mid 45:19	middle 81:25 87:9 188:6	mixes 113:19
Marissa 205:18	mean 57:21 58:2 77:21 88:22 155:19 163:3 183:15 195:23	Middlesex 59:8	mile 160:21	mixing 157:14
market 18:24 109:7 185:2	means 24:13 168:6 177:16 183:15	Mike 21:6 24:8	miles 18:20 106:11	mobile 16:9 60:10 185:11
marketable 48:10	measurable 159:5	Milgrom 2:9 6:20 6:24 7:21 21:2 50:10 205:10	million 17:12 83:5 152:18 153:9 160:12,12 170:2 174:19,22 175:5	mode 9:15
marketplace 176:25	measure 104:15 177:8 179:12 200:15	mentioning 40:25	milk 93:10,11,11 93:13,15 95:20 96:13 128:18 131:15 156:3 182:11	model 113:11,12 181:4 182:23
markets 45:2 47:11 48:22	measured 87:19	mentions 41:16	milkshakes 156:4	models 113:12
married 108:14	menu 130:19	menu 96:12	mind 81:7 173:21	moderate 172:6
mass 33:24 62:4	menus 96:12	Mercer 59:5 116:24	mindset 173:24	moderator 8:25
Master 79:24 80:3 122:2	measures 87:21 88:14 207:19	mesh 163:23	minimize 47:16 94:9	modified 118:3,4
Master's 13:24 185:15	measuring 128:16	messages 3:3	minimum 21:21	moisture 120:3
Masters' 49:25	meat 34:19 35:5 125:10	met 7:13	minus 141:13	moments 188:11
material 17:6 46:2 53:15 74:9,12 107:22 109:22 111:25,25 113:3 113:18,19 144:6 202:17 203:15,23 204:4,12,18	Mechanical 13:23 30:4	methane 17:3,5,8 17:13,24 35:23 36:3 54:20 71:15 74:20 83:9,9 104:6,23 105:17 105:23 111:5 126:2,3 164:3 204:14	mind 81:7 173:21	money 85:6 91:7 98:5 169:7 196:23 197:10,14 198:25 199:6
materials 12:10 13:3 39:8 56:7 67:12 203:17	medical 21:24	methane-based 189:3	mindset 173:24	Monitoring 12:16
math 91:18	Medicine 122:5	methanogenesis 110:25	minimize 47:16 94:9	Monmouth 59:4
Matt 56:14 184:20 184:20 185:4,7,14	meet 86:23 170:23 172:12 173:18 174:15 181:12	methanogens 111:2	minutes 10:4 104:9 97:11 128:25 136:23 199:19	monopoly 196:5,9
matter 3:19 24:17 175:12 211:8	meeting 12:8 78:13 141:24 167:19 202:2 203:11	Methodist 166:13 166:23	miscommunication 77:19	month 65:3 155:3 169:8 171:24 173:13
matters 3:17 28:19 32:10 125:18	meets 168:23	methodology 115:8 204:15	misconception 77:8 95:17	months 15:8 136:17 193:18 210:23
maximize 195:22	megawatt 150:16	methods 115:21	misconceptions 62:24 77:24 78:4	moral 24:19
maximizing 66:25 74:13	member 21:8 50:12 70:7 73:25 79:16	metric 153:18	missing 183:8,20	morning 2:3 10:18 14:8 15:18 21:3 23:11,15 27:23 30:13 80:5 120:16 156:16 207:15
maximum 10:12	members 2:14 9:18 10:2 47:6 49:3 57:11 137:10 142:18 181:20 186:2,13	metrics 63:16 73:21 75:12 76:7	mission 166:24 173:18 186:10	mothballed 108:23
Maxwell 185:16	membrane 111:8	MGD 149:16,17	mistyping 45:13	mother-in-law 182:13
meal 95:15 128:25 141:15 169:6	mental 21:23 124:7 171:4	Michael 8:3 23:13 28:7,22 50:14 53:23 68:14 69:15		mouthful 5:16
	mention 32:3 72:13			move 107:14 174:19
				moved 13:17 110:12 131:2 175:4
				movement 178:3
				moving 15:15 71:12 126:10

194:12	need 9:15 15:16,19	118:23,23	news 4:22 189:22	nuclear 12:21 13:7
MSW 32:19,20	25:11 26:8 31:14	neutral 114:9	190:24	114:7
multi 75:3	32:2 40:4,5,11	117:11	Newton 92:7 97:23	number 11:4,12
multiple 16:2 141:9	44:7 45:11 47:10	never 17:22 55:10	nexus 46:21	67:8 75:21 105:10
141:14,25 147:6	48:11,13 51:23	55:17 58:19	nice 26:14	105:10 108:24
municipal 68:21	56:6 57:2 61:5	108:21 158:15	nicely 161:20	113:7,9,11,13
69:24 139:19	62:15,15,21 64:5	new 1:2,10,14 5:8	night 28:10,23	117:15 151:21
147:10 148:17	64:24 65:9,16,22	5:10 7:10,25 8:4,6	130:10	153:8 173:15
150:14 153:20	66:2 67:11,16	8:9 12:20 14:5,6	nine 49:10	174:14 187:20
167:20	69:8 71:9 72:5,5	15:13 18:25 20:7	nitrogen 36:21	188:4
municipalities	77:10 83:19,22	20:11,15,21 21:10	NJ 2:4,5,9	numbers 17:15
63:15 69:25 70:9	86:23 100:8	21:17 22:10,20	NJCC 185:24	60:17,21,22 61:12
84:10 185:12	117:14 127:20	24:14 26:2 27:17	NJCC's 195:5	76:11 143:25
186:6 201:15	145:21,24 147:12	29:7 31:3,5,5,17	NJDEP 121:14	173:9,11 178:23
Municipality	147:13 165:8,13	31:21,22,23 36:7	132:14 145:6	181:11 186:23
148:23	167:3 170:24	37:24 38:18,22	201:16	numerous 30:7
Murphy 201:13	171:9 172:3,10,12	40:5,12 42:2 44:6	nominal 155:21	nutrient 109:22,25
Murphy's 185:2	173:20 174:16	45:22 49:8,9,19	non-compostable	190:16
museum 68:24	181:13 183:25	49:21,24 50:25	203:16	nutrients 33:16
muted 8:21	188:13 189:19,20	51:2 53:19 56:18	non-organic	106:18 190:14
	191:23 199:3	58:10 59:3 75:2	165:16	nutrition 121:15
<hr/> N <hr/>	207:2 208:6	75:11 79:2,20	non-profit 56:18	123:11,24,25
name 2:3 52:19	needed 45:10 174:6	80:17 84:25 87:11	79:5 82:8 184:22	124:3
66:11 68:13 168:8	203:18	93:19 95:25 96:18	185:24 195:20	nutritional 33:24
190:2	needing 194:18	102:3,7 103:19,20	208:2	122:7
nameplate 106:25	204:4	111:12,19 112:7	non-profits 180:9	Nutritionist 122:2
narrow 80:15	needs 15:20 18:2	115:16 117:25	non-volatile 162:20	nutritious 32:7
nation 22:16 54:15	22:23 43:3 62:15	122:5 123:12,18	nonprofits 178:11	92:3 168:23
nation's 170:17	64:17 65:19 80:23	127:13,17 129:7	normal 35:4 156:13	171:17
national 30:6	112:8,8 161:9	130:5,6 131:2,4	normally 5:6	<hr/> O <hr/>
127:22	168:24 192:5	132:8 133:20,24	North 188:8	o'clock 120:18
nationally 82:11	197:8 199:7,8	135:16 137:11,25	Northeast 192:6	obligation 24:20
natural 36:11,13	negative 112:24	138:23,24 139:4	Northwest 59:5	obtain 46:9
66:15 74:15 112:5	114:10 116:4	139:21 140:5,16	northwestern 59:6	obviously 24:2
122:23 152:16	117:11,12,16,23	141:2 143:5,18,24	notable 102:5	39:18 42:19 43:16
153:4 154:9,10,12	201:17	144:24 145:8	Notary 211:6	43:22 44:22 68:16
154:19,20,25	negatively 200:20	146:10 163:22	note 174:20 177:21	108:13 126:12
159:6 196:5,9	neighborhoods	167:12 169:14	178:15	165:4
200:23	200:5	170:7,12,16	noted 146:16	occur 105:19
Naturally 84:10	neighbors 26:8	179:20 184:24	170:11 178:24	Ocean 59:5
Naval 14:3	120:8 159:22	185:6,22 187:23	181:4	October 63:12
near 10:10,17	162:2 200:19	188:3 189:19,24	notes 28:25	103:12 104:8
104:4 131:6 206:6	nervous 92:24	191:13 198:5	notice 188:3	odor 159:24
nearby 11:18	net 114:4	201:8 203:5	noticed 86:9	odors 159:23
nearly 83:8	nets 109:9	205:25 206:8,13	November 103:12	off-loading 157:12
necessarily 141:10	network 112:9	207:17 208:13	nuance 183:8	offer 95:11 172:4
147:17 194:25	Neuman 8:13	209:5 210:4 211:7	nuances 184:12	

offered 47:22	102:2 148:16,20	173:22 174:4,18	packages 22:14	participating 6:8
offering 27:12	178:4	177:20 182:17	packaging 37:13	participation 79:8
43:20 96:14,20	Opiekun 2:17 7:17	186:9 193:9 194:7	45:22 69:18 81:10	particular 51:19
128:18	20:25 47:7 146:10	205:22	108:5,7 109:8,13	91:5 191:17
Office 22:16 52:17	146:10 147:16	organizations	packed 181:23	particularly 2:15
officers 12:20	148:9	19:15 50:24 52:2	packing 106:9	25:20 53:6 71:24
officials 167:21	opportunities 5:24	79:5 168:11 179:2	Padilla 166:12	115:23
192:23	18:11 167:23	180:3 196:20	168:8	partner 58:7 71:7
offset 153:5 159:8	opportunity 11:16	197:9 198:14	page 15:6	165:9,17 175:2
162:16	15:2 30:20 50:9	206:23 208:4	pages 57:12	partnered 87:2,3
offsets 159:5	68:8 122:12	oriented 145:23	painful 61:10	165:18 202:20
offsite 153:25	129:22 168:2	original 156:23	painfully 62:10	partners 47:14
oh 94:6 95:18 137:3	181:16 202:12	originally 33:25	pandemic 16:12	56:13 167:6
188:12	206:4	154:11	93:18	170:21 179:14
okay 86:22 146:6	opposed 183:18	outdoor 19:6	panels 149:22	partnership 47:13
198:19 205:13	opt-in 146:25	outlined 151:7	pantries 23:2 26:7	149:4 167:12
old 66:8	optimization	outreach 47:20	59:14 60:2 67:11	partnerships
oldest 133:21	148:21	48:23 79:9,20	67:13	139:18 176:3
on-site 152:12	option 34:15 43:14	122:19	pantry 131:7	parts 15:15 35:9
onboarding 193:2	163:13 164:19	outside 99:12	170:20 171:18,22	96:19 137:7
once 69:2 89:20	options 24:4 101:6	107:12 113:17	172:5 181:11	165:15
90:22 95:5 144:23	130:20 161:6	114:21 118:6	paper 133:6 136:13	pass 53:2 63:7
157:12 184:6	163:9	135:23 151:25	136:16 165:15	Passaic 168:11
one-pager 55:4	oral 11:14	191:24	papers 130:9	171:15
one-third 16:19	orally 11:4	outstanding 76:3	parameters 53:12	passed 52:22
ones 72:10 197:16	orange 132:23	overall 123:18	133:15	187:14 210:9
ongoing 100:14	155:8	151:15 154:5	Parents 147:6	passenger 83:5
onions 109:10	orchards 45:8	177:22	park 102:11	passion 23:5
online 111:17	order 11:12 19:20	overflowing 81:8	part 51:21 56:21	passionate 4:3
134:14 167:24	115:14 163:3	overhead 177:24	58:19 64:7 65:19	142:8 166:20
205:18	172:21 175:25	overlap 194:13	66:19 69:22 71:7	pastas 174:9
onsite 154:6	176:20	oversaw 13:9	71:18 72:14 75:7	patented 204:19
open 68:23 141:12	ordinances 68:21	oversight 12:13	77:20 84:11 88:16	path 193:14 198:18
182:21	organic 38:10	13:7 55:13	92:9 123:5 129:16	pathogen 109:24
operate 79:6	40:19 46:7,8,12	overview 6:22	129:16 136:20	109:25 110:5
171:17,22 172:4	46:13 70:22 74:12	203:8	144:8 146:5	pathway 39:11
operated 108:21	81:9 88:23 108:7	ownership 167:23	150:11 186:8,19	Patterson 124:15
operates 149:14	109:14 111:25	oxygen 149:20	187:4 189:8,9,12	130:13
operating 110:2	157:21 186:2	oxygen-free 110:17	190:24 192:22	Paul 12:8,12,25
132:3,25 133:7	192:6 202:16,17		193:5 195:11	13:15,22 14:7
209:17	204:3	P	196:3 197:12,13	50:16 53:11 54:19
operation 152:7	organics 55:21	p.m 11:6,7 210:25	199:5	63:12 65:6
156:10,13 176:8	56:10,23 57:25	pace 32:15	partially 157:3,3	pause 111:21
operational 40:3	105:21 106:10	package 55:16 78:5	participants 8:20	210:10
209:14	109:19 186:7,11	packaged 107:23	118:12	pay 116:20 198:25
operations 13:7	organization 56:18	107:25 109:10	participate 3:19	200:16
49:7,11 101:25	56:24 70:19	182:18	10:15 50:12 79:15	paying 83:24

154:16	performed 79:22	physical 124:6	192:9	45:24 124:4
peels 155:8	period 157:17	168:22 171:4	plans 53:21 57:19	139:17 178:7,9,25
peer 30:8	perishable 125:7	physician 76:17	57:21 62:10 149:8	180:22 184:13
Peg 50:17	permanent 105:5	pick 26:15 60:4	185:7	194:22
Penn 13:23	permeability 190:7	67:13 172:2 199:2	plant 16:7 110:11	policy 22:9 66:19
Pennsylvania 14:5	permit 193:14,19	picking 177:24	148:20 149:15,21	72:3 73:8 97:5
people 7:8 14:23	200:17	picture 92:14 93:6	151:20 155:12	121:9 123:24
24:13 25:5,11,15	permits 66:4,4	93:10,16 113:2	156:5,13,15	133:12 139:6
34:20,24 64:18,18	195:19	149:22 206:19	159:11,21,24	142:20 144:3,20
64:18 69:7 78:11	permitted 9:19	pictures 171:21	160:9 162:13	144:22,23 145:3
90:10 94:5 106:23	198:23	pie 187:4,11	164:20 165:16	145:13,22,23
108:12 110:8	permitting 42:3,14	piece 15:14 52:13	203:4	146:3 178:20
123:4 124:12	101:5 161:22	69:2 77:16 178:6	plant's 150:3,7	190:22
129:19 131:19	163:21 191:13	187:5 191:17,21	plants 17:20,22	policymakers
132:18 133:9	194:10	pieces 187:12	66:21 108:23	44:10
134:2 136:20	perpetuates 171:6	piles 209:16	112:11 159:12	pollutants 20:13
139:3 147:16,20	person 1:7 2:14	pilot 79:13 87:4	162:21 164:7	pollutes 201:7
147:24 160:2	10:12,19 11:5	91:12 98:8 155:14	plastic 109:10	pollution 16:8
162:23 163:11	28:18 31:11 50:7	155:22 156:14	113:4 159:19	20:20 38:4 63:19
169:20 170:2	167:4 172:22	piloted 134:12	180:7,8	poor 169:19
172:20 187:13	199:17	pin 50:20	plastics 49:16	pop 117:17
192:13 198:25	personal 193:11	pineapple 35:5	67:22 68:2	population 31:13
209:17	personally 3:25	PioCosta-Lahue	plates 165:15	54:17 106:15
Pepsi 165:20	personnel 79:3	208:9,10,11	platform 68:5	107:5
per-day 53:25	persons 11:4	pipeline 112:5	play 27:5	portfolio 13:13
percent 17:10,24	perspective 107:3	pits 200:11,15,18	played 149:6	17:21 84:12
22:15 31:16 32:20	188:24 189:14,16	200:23	playground 80:14	portion 59:7 84:3
35:24 36:20 52:6	189:23 190:22	place 9:14 30:25	please 9:6,13,16	109:14
54:9,16,17,20	191:7 192:20	71:13 137:19	10:10 11:7 30:15	posit 16:4
55:5 60:11,13,13	196:22 197:5	163:8 176:25	47:6 57:10 68:12	position 29:25
60:14,15 83:3,8	perspectives 6:10	187:16 192:18	118:22 136:25	164:22 168:15
88:12 89:3,18	pesticide 36:21	196:10 211:11	153:12 205:15	positioned 164:8,9
119:20,21 126:7	Peter 202:9,10	places 25:14 54:11	pleasure 23:16 50:5	positive 46:23 54:4
130:22 135:3,5,6	205:15	126:4 129:21	120:14	175:14 181:7
136:7 144:17	petition 208:22	207:2	pledge 50:20	possibility 182:10
150:3,6 151:6,15	209:20	plan 10:9,16 51:12	plowed 35:12	possible 22:4 44:16
151:18,19 153:3	PFAS 161:13,16	55:8 57:10 61:25	plus 141:12,13	64:20 66:5 127:11
154:3 155:3,17	Ph.D 29:23	62:2,7 63:11,11	178:2	possibly 34:19
156:19 158:4,20	phase 37:10	111:23	point 24:8 34:17	62:11
161:12 170:7,11	phenomenal 58:6	planet 7:10 54:11	64:19 69:23 76:15	post 13:19 41:3
174:23,24,25	66:6 188:21	180:25	76:20 77:7 81:2	88:10 93:18
175:6,18 177:9,22	Philadelphia 31:21	planner 4:4 57:19	83:7 142:25 189:7	post-consumer
182:20 186:24	148:24	planning 2:21 3:11	193:24 196:8	41:4,8 44:19
199:4 206:8	phones 9:14	4:5 44:7,9 45:19	points 100:8 104:16	poster 66:7 97:23
perception 40:8	phosphorous 36:21	50:2 55:18 61:16	104:19 112:25	200:8
Perfect 30:17	photo 92:6	61:21,23 62:12,16	115:7 200:25	posters 96:12
perform 104:2	photos 91:12	63:9 65:23 73:6	policies 5:23 18:10	Postgraduate 14:3

potato 34:24	159:21	185:5	54:1 55:1 56:1	195:1 196:1 197:1
potatoes 26:16	prepared 76:21	prior 11:7 29:24	57:1 58:1 59:1	198:1 199:1 200:1
potent 83:10	154:12 165:14	34:17 154:6	60:1 61:1 62:1	201:1 202:1 203:1
potential 6:10	205:23 206:15	156:20 157:24	63:1 64:1 65:1	204:1 205:1 206:1
17:14 26:6 27:13	preparing 16:24	167:10 170:8,10	66:1 67:1 68:1	207:1 208:1 209:1
36:4	preprocessed	200:2	69:1 70:1 71:1	210:1 211:8
potentially 111:24	162:19	priorities 115:12	72:1 73:1 74:1	process 53:9 54:4
POTW 74:5	present 18:7	115:13,13	75:1 76:1 77:1	56:24 64:25 69:6
pound 175:23,23	presentation 8:22	prioritized 22:10	78:1 79:1 80:1	74:12 102:14,18
pounds 31:8 81:18	9:25 30:15 47:8	priority 116:16,17	81:1 82:1 83:1	103:11,16 104:4
82:6 87:22 89:10	146:12 149:11	Prisons 163:2	84:1 85:1 86:1	104:10 110:23
107:5 124:23	155:5 162:5,23	private 60:25 149:4	87:1 88:1 89:1	114:5,13,20,22
135:7 136:11	189:13 203:9	proactive 173:20	90:1 91:1 92:1	148:21 150:10,23
174:19,22 175:5	presentations 10:5	173:24	93:1 94:1 95:1	151:2 193:17,19
poured 93:12	11:11 30:10 71:19	proactively 173:14	96:1 97:1 98:1	193:20 194:10
poverty 170:18	presenter 8:21	probably 24:16	99:1 100:1 101:1	198:23 203:12
171:7	presenters 9:20	54:6 76:10 106:23	102:1 103:1 104:1	204:16 210:2
power 16:7 17:19	18:6 175:17	111:18 140:22	105:1 106:1 107:1	processed 155:25
17:22 36:7,13	preservation	151:3 182:6	108:1 109:1 110:1	202:23
38:10 43:8 101:24	123:24	problem 4:22 14:22	111:1 112:1 113:1	processes 39:10
111:9,20 149:6,25	president 21:9	25:4 54:5 62:23	114:1 115:1 116:1	163:21
154:5,18 162:16	76:24 101:24	73:8 108:4 142:14	117:1 118:1 119:1	processing 16:23
practice 80:19	184:24 208:11	147:17,18 169:20	120:1 121:1 122:1	40:15 45:9 48:4
practices 5:23	press 31:5	188:22 189:5,6,6	123:1 124:1 125:1	74:10 103:8
18:10 80:21 87:12	pressing 4:20	189:9	126:1 127:1 128:1	125:11
89:11 90:17	pressure 149:12	problems 39:20	129:1 130:1 131:1	processors 45:23
192:19	pretty 37:24 73:9	42:21 116:9	132:1 133:1 134:1	60:16
pre 41:3	103:3 106:12	126:19 146:20	135:1 136:1 137:1	procurement
pre- 41:4	114:14 161:18	procedures 132:4	138:1 139:1 140:1	150:10
pre-consumer 41:7	186:23 189:5	132:25 133:7	141:1 142:1 143:1	produce 26:12
44:18 47:23	prevent 26:22	proceedings 2:1 3:1	144:1 145:1 146:1	74:14 109:7,21
pre-K 78:25 80:11	127:3 162:12	4:1 5:1 6:1 7:1	147:1 148:1 149:1	111:10,12 119:3
preaching 32:14	prevention 13:19	8:1 9:1 10:1 11:1	150:1 151:1 152:1	119:13,20 125:9
preaudit 87:19	123:23	12:1 13:1 14:1	153:1 154:1 155:1	128:3 141:10,11
precious 97:7	prevents 190:9	15:1 16:1 17:1	156:1 157:1 158:1	150:6,17 152:12
precipitates 119:25	previous 8:11	18:1 19:1 20:1	159:1 160:1 161:1	152:22,25 153:4
preclude 210:3	31:25 80:8 155:5	21:1 22:1 23:1	162:1 163:1 164:1	156:25 159:7
precut 96:20	175:17	24:1 25:1 26:1	165:1 166:1 167:1	182:3,6
prefer 34:24	previously 13:4	27:1 28:1 29:1	168:1 169:1 170:1	produced 54:9
preferable 41:16	79:18 81:15	30:1 31:1 32:1	171:1 172:1 173:1	104:5 115:5
126:25,25	100:20 157:23	33:1 34:1 35:1	174:1 175:1 176:1	124:24 130:21
preferences 168:25	160:6	36:1 37:1 38:1	177:1 178:1 179:1	151:9 152:15
171:20 172:13	primarily 121:11	39:1 40:1 41:1	180:1 181:1 182:1	155:23 157:8
preferred 34:23	123:21	42:1 43:1 44:1	183:1 184:1 185:1	161:3,4 164:4
prep 71:18	primary 149:23	45:1 46:1 47:1	186:1 187:1 188:1	producer 155:14
preparation 35:3	207:3	48:1 49:1 50:1	189:1 190:1 191:1	160:15 165:18
prepare 3:13	Princeton 30:5	51:1 52:1 53:1	192:1 193:1 194:1	192:11

producers 27:10 158:17 165:9,25	131:17 134:21 146:18 167:18 186:12 205:6	163:5,16 172:7,23 178:10 181:16 185:11 201:6	purchasing 180:12 pure 149:20 pursue 15:10 74:24	questions 8:23 9:19 9:25 47:2,5 49:2 58:21 68:11 71:5 78:15 101:11 104:2 117:13 118:20,22 140:18 142:24 164:25 166:7 181:3,19 194:16 197:19,22 197:25
produces 71:16 103:15 125:25	progress 20:12 23:25 56:2 65:9	provided 150:4 159:12 207:24	push 70:19 100:23 127:13	quick 3:14 74:2
producing 16:23 82:22 106:12 108:3 111:4 115:4 152:10,18 154:4 173:19 192:16	progressive 187:24	Providence 79:21	pushed 52:16	quickly 51:4 129:25 152:14
product 40:13 88:24 91:22 108:7 109:23 110:7 112:21 115:4 158:2 203:20 204:23	project 51:19 58:13 58:16 59:10 62:18 66:7,7 72:14 73:2 73:16 79:14 87:2 155:14,22	provider 173:24	pushing 76:6	quite 23:18 86:6 97:15 153:15 209:23
production 5:16 18:16 29:21 35:15 37:9 39:9 45:8 46:2,3,15 52:21 102:17 125:9 153:25 156:11 157:15	projects 53:4 64:22 85:8,10 196:18 197:15	provides 38:2,20 201:16	put 52:11 57:10 61:10 66:12 67:2 69:23 71:3 96:25 98:4 103:22 104:19 105:5 106:17 107:3 110:13 111:10,13 112:4 114:17 117:15 120:22 130:24 137:8 141:6 144:14,23 145:23 146:4 155:20 158:13,20 176:13 191:19 196:10 204:9	quote 193:21
productive 6:18 12:5	Promise 131:6,14	providing 10:24 11:14 26:2 42:17 171:15 202:12	puts 108:7	<hr/> R <hr/>
products 37:16 45:3 46:22 172:11 181:23	promote 75:14 82:9 84:23 121:10	provisions 65:23 68:22	putting 114:19 134:21	R 211:2
professional 1:24 8:5 14:4 79:4 185:8 211:5	promoted 167:15	PSEG 154:16	pyramid 126:21	radiation 2:23 12:14 13:8,18
professionals 186:4	promotes 4:7 29:15 96:16	psychology 138:2		Radioactive 12:24
Professor 121:4	promoting 39:12 89:12 198:4	public 1:2,13 8:14 8:15,18 10:7,14 11:16 13:11 21:23 28:5 29:8 44:8 50:6 60:25 66:19 70:6 73:8,24 77:14 78:25,25 84:8 121:24 122:2 124:16 130:13 131:3,5 149:4 166:20 169:13,20 171:12 185:15 193:7 195:15,21 199:16,20 200:3 201:14,25 205:17 207:10 210:14,16 211:6	<hr/> Q <hr/>	radius 53:14
profitability 39:23	properly 133:10 138:19	publications 30:8	quality 1:5 2:23 3:17,24 12:14 13:17 16:7,12 31:23 103:2 135:22 177:12 206:5	Rahway 66:14 75:5
profound 82:12	property 21:21	published 104:8 136:14	quantity 53:13	raise 85:3 117:4
program 13:17 20:19 47:16 49:15 78:25 79:7,10,12 84:9 85:2,5,12,22 91:8 96:16 100:6 130:23 134:16,25 136:21 137:12 138:2 139:7 140:7 146:24,25 158:16	proportion 206:16 67:17 78:15	publishing 19:12	question 48:24 51:14 59:18 68:13 69:15 70:16 72:13 74:2 76:3 78:2 90:8 101:14 110:8 118:25 119:10 140:20,22 142:15 144:8 146:21 165:3 181:21 183:3 198:2,9 207:15	raised 90:8
program's 79:14	proposal 19:2 67:17 78:15	pulled 55:19		raiser 22:25
programs 19:13 21:23 22:2 92:10 117:21 129:7	proposed 19:19	pump 74:9		raising 21:20 23:2 77:25
	prospective 69:12	pumping 162:14		range 16:6
	protect 207:9	purchase 173:25 178:19,21		rapid 17:7
	Protection 1:11 2:24 12:15 13:18 49:22 134:7 201:10	purchased 174:7 174:24		Rashkes 199:25 200:2
	protections 133:17 133:22			rate 37:13 118:17 118:18 143:7,15 159:13 170:6,18
	protects 134:2			rate-payers 159:9
	proteins 174:8			ratepayers 161:8
	proud 25:20			rates 37:25
	prove 38:16 112:13			RD 193:14
	provide 6:21 7:9 9:5 10:8,14,21 22:3 23:8 37:22 48:9 84:17 85:4			REA 19:13 86:25
				reached 176:11
				read 36:19 80:7 104:11 115:18 179:21
				readily 110:20

165:22	reasons 42:9 94:25	33:13 35:23 55:11	130:14,17 142:12	refrigeration 69:18
reading 105:14	141:9 151:21	55:18,23 58:15	153:5 154:2 163:6	refrigerator 67:14
130:11	153:7 190:4	61:17,21 62:9,14	163:7,7 172:8	regard 5:7 26:24
ready 98:23	rebates 200:24	62:18,22 71:12	173:2,6 177:17	189:2
real 25:25 94:6	recapture 18:4	74:20 97:22	183:12 204:14,21	regarding 9:22
127:13 138:3	receive 43:5 176:20	148:22 185:2	206:11	75:11 207:5
142:20	177:10 179:12	205:22 206:23	reduced 95:13	regardless 169:15
Reality 106:18	200:17	recreational 200:4	111:4 135:2,4	202:16
realize 80:6 105:9	received 79:23	200:11 201:23	151:20 152:2,3	regards 187:2
169:12	121:13 135:14	recruiting 23:4	154:17	region 119:8
really 5:18 7:8,10	145:6 146:18	recyclable 109:12	reduces 137:23	regional 65:21
12:5 14:19 28:12	179:14	recycle 18:22 63:24	151:14	87:17 107:6
48:21 51:19 52:19	receiving 109:3	63:25 67:4,5,17	reducing 1:4 3:23	regions 118:7 149:8
52:24 53:6,16	172:9 177:11	85:9 101:9 109:13	4:6 5:11 20:12	Registered 1:24
55:2,12 57:20	receptive 95:2	141:21 201:4	29:18 39:7 90:18	121:25 211:5
58:19 63:2,8	recess 97:18 120:19	recycled 44:21	102:25 105:17	registrations 66:4
64:24 67:25 68:9	129:2	91:10 108:18	111:3 115:3,25	regrowing 91:19
70:2 71:9,10	recipes 92:12 99:22	150:21	125:12 127:2,15	regular 50:19
73:22 76:4,5,13	recognition 52:12	recyclers 49:10,19	128:12 129:19	171:22
80:11 81:6 82:7	85:12 95:23	50:25	142:4 179:25	regulate 165:25
82:15,22 83:10,15	recognize 2:13,19	recycling 3:9 5:15	180:8 190:11	regulating 200:13
83:20 85:23 86:12	70:25 85:13 123:5	18:15,21,24 19:2	reduction 19:11,18	regulation 62:12,13
89:15,16 94:4	124:21 134:4	19:4 33:9 39:8	19:25 23:23 55:2	regulations 18:14
100:21,23 103:17	recognized 117:24	48:2 49:8,11 52:7	55:5,8 63:11,19	64:11 65:7 70:15
103:19,21 104:9	recognizing 80:22	52:10,20 62:5,7	67:21 68:2 88:13	132:2,24 160:23
104:23 105:4	recommend 132:16	64:6,21 88:22	89:18 103:5 106:6	163:24 164:13
106:2 113:16	recommendation	89:20 101:8	114:5 115:15	regulators 195:8
114:19 118:12	57:13 66:17 73:11	102:16 164:2,14	128:24 134:10	regulatory 12:21
122:12 124:9,20	73:23	186:3,12 209:2	136:4,8 143:9,9	18:12 53:8 54:4
125:3,3 126:17,19	recommendations	red 123:14	144:18 153:15,23	55:13 65:17 86:5
127:8,18,20	3:20 4:25 5:22	redefining 40:3	154:21 160:16	208:19
131:19 132:17,20	11:24 18:8 20:18	redistribute 131:13	179:20 183:10,14	rehabilitates
133:4 134:3	28:16 51:25 57:8	134:13 183:13	184:10 187:8	190:13
135:12 136:14,19	57:12 100:19	redistributing	205:25 206:5	reimbursed 95:16
137:21 139:16,20	129:23 138:10,12	129:5	reductions 143:12	132:11
140:10 141:16	144:3,15 210:20	redistribution	redundant 197:14	reinforce 95:8
142:17 169:17	recommended	129:3	ReFED 82:7 83:7	reinforced 186:18
174:12 178:25	162:17	redirecting 184:2	141:4 143:14	reinvent 179:5
179:8 188:5,24	record 120:22	reduce 4:21 5:3	references 130:8	reiterate 124:19
189:18 190:15,16	173:9,17	16:16 18:4,8	refers 33:23 34:2,7	reiterating 81:2
191:7 193:3,17	recover 89:4	19:16,21 20:7,20	34:11	rejection 37:15
196:13,23,24	158:24	31:2 46:13 93:8	refine 78:15	relate 118:9,10
197:7,9 198:3	recovered 33:12,17	102:19 103:7	reform 71:11	related 40:12 57:18
realm 86:16 135:24	35:11 36:8 207:16	114:13 115:22	reformed 64:12	57:24 58:4 162:4
135:25	recovering 36:9	116:18 121:21	refrain 60:9	207:22
Realtime 211:5	39:8 90:21	127:9,19 128:5,8	refresh 95:8	relates 196:6
reason 172:7 207:3	recovery 25:22	128:14,20 129:10	refrigerate 78:7,8	Relations 21:9

relationship 52:15	reporting 38:24 75:22	187:5 200:5,13	reused 150:21	11:2,3 50:6 99:11
Release 13:18	represent 2:4 56:14 156:12	residents 31:6	reusing 39:7	111:14 115:11
releasing 4:14	Representative 7:16	123:19 170:13	reutilization 29:20 30:22	195:15
relevant 84:24	represented 77:7	residuals 113:5,5	reutilize 36:15	root 166:25
relief 21:22	representing 4:11 7:12 21:14 50:24	resistance 94:23	review 11:8 133:19 209:22	roots 195:6
reluctant 131:19	represents 206:7	resource 7:9 37:7 39:4 45:15 47:9	reviewed 30:8	rose 13:19
rely 109:11 178:16	request 203:9 208:24 209:4	102:13 134:14 148:22	reviewing 180:17	roughly 54:8 170:7
remains 20:14 117:8	require 73:23 129:8 135:17	resources 4:12 16:23 31:14 40:14	revised 6:2	round 60:22
remarks 54:20	162:18	79:12 82:21 84:18	reward 144:5	Rowan 28:10,22 53:25
remediation 22:2	required 61:25 95:13 128:9	84:22,23 122:24	rice 174:10	RPR-CRR 211:14
remember 70:10 193:23	requirement 201:3 208:25 209:6	126:8 130:2 140:14,16	rich 109:25	rubbish 91:2
remembers 69:15	requirements 161:24	respect 9:12 177:2	Richard 7:17	ruin 156:4
remind 25:2	requires 18:17 176:2	respectively 80:2	richer 32:24	rule 65:2 66:5 93:19 139:22
remission 143:15	requiring 164:13	response 51:11 209:19	richest 170:17	rule-making 208:22
remote 155:25	reroute 183:16	responsibility 40:2 192:11	Rick 2:17 20:24 146:9,10	rules 8:19 19:2 75:11 209:22
remove 17:21 161:15 162:19	rescue 168:5 175:10,12 177:14	rest 96:24 203:19 210:5	rid 62:24	run 67:13 114:12 119:24 152:25
201:4 207:21 208:24	177:16,23 178:8 178:20,22 181:6	restaurant 67:7 78:10 159:17	right 28:18 43:24 67:8 69:23 76:13	153:2 154:18
removed 35:10 108:5	181:22 182:4 208:3	restaurants 25:9,13 25:23 48:5 60:13	110:18 117:8	156:21 157:2
removes 108:6	rescued 174:24 175:6,23 206:10	60:24 67:10,15	118:7 126:24	running 10:6 116:8 116:19 191:3
removing 113:18 114:2	rescues 176:15	72:17 187:6 204:6	137:19 138:25	runoff 190:9
renewable 30:6 66:15 74:15	rescuing 175:7 176:10 182:3	rest 96:24 203:19 210:5	139:7 151:25	rural 32:22 92:8
101:23 112:5 117:24	205:23	restaurant 67:7 78:10 159:17	161:15 183:7,17	rush 164:18
Renewables 76:10	research 29:15 30:2 32:25 79:22	restaurants 25:9,13 25:23 48:5 60:13	184:15 194:2 197:9	Rutgers 14:2 29:9 29:12,25 30:21
reorganization 14:17	121:8,13,15 128:13 142:6	60:24 67:10,15	right-hand 205:2	48:16 50:3 56:12
repeated 54:7	168:16 170:4 178:6 186:14	72:17 187:6 204:6	rightsizing 27:11	59:10 81:21 82:15
repeatedly 81:3	Researcher 30:3	resulted 62:2 153:25 155:21	Rio 202:21	87:3 92:25 103:11
repeating 54:7	reserved 11:2	resulting 16:17 153:25 155:21	ripple 170:25	114:18 119:10
replaces 39:5	resident 32:21	results 41:9,11,12 44:4 46:11 90:20	rise 169:23 181:9	121:6,23 122:7,14
Replenish 59:7	residential 60:12	113:23 130:7	rising 209:15	122:18,20 140:15
replicate 75:4		134:23 146:12	road 18:20 66:14 89:9 100:13	191:14
report 11:23 15:22 51:11 53:18 67:24		188:23	106:11	
115:12,16,21 210:22		retailers 176:4 178:9 179:8	roadmap 84:19	
reported 1:23 136:8 211:7		retraining 141:20	Rob 119:9	
Reporter 1:24 211:5		retrofitted 108:25	Robert 8:8 199:25 202:5	
		reuse 141:21 203:25 204:23	role 27:4 66:18,19 84:6 149:7 167:16	
			195:22	
			roll 112:14	
			rolled 85:22	
			room 1:13 9:16	
				S
				sad 177:12
				safe 132:12 134:11 139:5 168:23
				207:12
				safely 131:11 206:25
				safer 22:3
				safety 13:20 37:17

55:15 77:23 salad 92:4 salads 99:22 Salem 102:8,13 salvage 26:11 Samaritan 69:11 76:18 133:23,25 sandy 190:11 Sara 58:9 81:22 121:3,12,25 148:12 sat 108:23 saved 130:22 136:10 savings 46:16 saw 88:12 89:21 136:7 140:4 144:9 157:7 162:21 175:16 saying 90:13 94:5 95:25 133:4 172:18 195:14 198:3 says 32:25 153:17 172:18 scale 6:2 19:3,5 25:19,21 27:3 42:6,8 57:5,5 60:6 64:16,22 101:2 125:3 127:23,23 141:11,16,17 143:4 187:20 208:14 scaleability 144:9 scaleable 144:20 145:3,3 scaled 143:12 161:18 Scarborough 8:14 50:15 scarcity 25:4 scared 138:6 schedule 28:9 scheduling 128:23 school 14:4 21:24 22:12 79:3,13 81:5 82:2,6 83:17	83:24 84:20 87:15 87:17 91:14,23 95:16 97:6,23 98:3,4,8,9,15,18 99:13 101:17,19 107:7,12 121:12 121:19,23 123:25 129:6 131:8,13 132:10 135:4 136:10 137:11,14 138:13,15,18 139:10,14 141:12 141:13,15 143:5 143:20 144:24 182:14 185:16 schools 48:13 57:4 59:24 60:25 64:21 65:12,21 79:2,10 79:15 80:18 81:4 81:17,25,25 83:23 84:8,24 85:7,11 85:13 86:9,10 87:4,8,9,14 88:11 91:5,8,13,23 92:23 93:2,3,9 94:10 97:12,17,22 98:11,12,17 100:6 100:15,15,20,24 101:3 124:3,4,16 127:24 128:6,11 129:15 130:13 131:3,5,18 132:5 135:8,19 138:20 140:21,23 141:6,7 141:14,17 143:20 145:9 147:3 148:6 158:10 163:2 182:10,11,17,24 science 79:24,24 80:3 121:23 145:10 209:8 Sciences 121:6 122:4,7 123:8 scientific 115:20 194:22 scientist 30:2 Scope 75:14,21	115:9 scramble 180:10 scraps 75:19 screen 8:24 scribbling 183:6 sea 35:17 SEC 75:11 second 30:15 53:23 62:6 66:6 73:19 75:7 106:7 158:19 second-year 67:24 secondary 44:25 47:11 48:22 149:20 seconds 190:18 section 25:18 65:25 77:14 sections 124:10 sector 61:3 129:15 137:16,17 141:17 143:16 145:17 sectors 72:17 security 13:5 14:3 22:10,17,23 23:6 137:16 145:17 sedimentation 149:23 see 8:24 15:12 24:18 27:8 30:17 34:5 37:18 61:11 71:24 75:20 87:5 93:7 94:4 104:14 109:7 113:2,4 125:5 129:21 131:21 132:3,22 134:22 136:5 140:21,23 142:19 142:22 144:10 149:22 156:18 158:9 163:18 171:21 187:3 194:6 199:4 203:25 204:19 205:2 207:19 seeds 110:5 seeing 81:7 86:17 149:18 170:21	173:9,12 181:10 201:21 seeking 5:21 86:21 167:4 seen 37:20 106:23 137:6 146:14 sees 193:9 segregated 165:13 select 171:18 self 87:14 self-opt 146:25 self-service 206:17 207:12,22 self-sufficient 172:23 semicircle 190:3 senate 63:4,6 191:4 Senator 52:15 send 47:25 99:14 110:10 116:22 137:4 sending 98:19 101:7 sends 14:10 senior 30:2 seniors 172:5 sense 25:7 66:23 87:13 92:17 107:13,15,20 139:14 sensitive 111:15,16 159:22 sent 3:3 9:8 91:9 separate 18:21 49:10 91:2 109:12 separated 44:15,20 159:18 sequestering 114:2 serious 94:6 Serpil 29:5 34:4 47:5,7 51:14 57:6 58:22 82:15 serve 95:11 served 12:25 21:13 30:3 49:23 95:15 173:10,16 206:10 serves 3:15 12:9,19	29:8 30:2 49:13 167:7 service 20:23 28:5 29:8 49:21 88:3 90:6,12 94:8,17 94:20 96:5 130:15 130:24 137:10,16 201:3,5 207:7,24 services 52:18 166:19 172:15,24 serving 21:7,16 28:14 95:12 167:18 168:11 session 63:6 set 80:15 85:20 103:24 132:25 173:21 199:5 209:10 210:7 Seth 3:10 setting 121:19 settings 121:12 settle 113:13 seven 61:7 167:14 171:25 sewage 108:22 sewer 35:17 Sewerage 66:14 shake 156:4 share 20:10 89:6 90:9,15,22 95:18 97:2,25 98:13,17 98:18 100:23 122:13 129:4 130:7 131:4,9,13 131:24 132:15 134:19 135:2 136:11,15,18 137:14 138:13 144:21 145:13 191:25 202:13 203:9,10,13 205:12,21 206:23 shared 71:23 sharing 27:13 30:20 37:21 100:12 166:22 Sharon 8:18 73:24
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

sheets 133:14	43:12	106:22 130:8	126:20 142:14	12:7 21:6,12,16
shelf 176:11	similar 14:24 31:17	186:15 205:12,16	175:13 189:10	22:6,8,21 23:8,10
shine 206:3	37:20,24 38:23	slows 194:17	199:5,6	28:20 29:3,5
shining 15:25	43:10 95:18	sludge 108:19	solutions 4:20 5:3,9	30:25 31:25 51:20
shipping 106:10	109:16 117:21	149:21 150:14,24	6:11,15 27:13,20	53:24 78:23 80:9
shocked 93:9	simple 38:6 55:4	151:13 153:14,23	47:21 73:7 102:19	82:14 101:22
shop 172:2	Simplifying 194:10	157:25 158:3,14	107:20 127:7	121:2 148:15
shopping 177:5	single 51:20 67:6	158:21 202:18	185:11	166:12,21
ShopRite 177:5	127:25 138:13	slurry 66:13 74:5	solvents 154:21	Speaker's 21:19
206:18	139:9 145:9	109:15 155:9,16	solving 105:18	speakers 9:13
short 136:22	single-use 68:2	155:22	somebody 170:10	20:10 48:14 121:2
144:13	81:11	small 19:3,5 42:7	somewhat 156:25	199:15 205:5
short-term 44:9	sister 84:9	48:5,5 57:4 64:16	193:10	210:16
155:13	sit 54:10	101:2 106:14	Sondermeyer	speakership 24:11
shortages 94:13	site 91:6,9 99:14	119:11 152:15	15:17 49:7 50:5	speaking 9:21
shortfall 183:19	101:9 139:10,13	160:13 185:13	69:9 70:21 72:12	14:25 28:11
shoulder 192:15	153:6 154:13	187:17 188:5	73:14 74:7 76:2	102:24 202:7
show 62:17 86:14	172:5	191:7 193:12	77:6 78:17 191:12	speaks 177:11
97:10 99:12	sites 117:17 139:20	196:20 204:7	192:10	188:21,25
100:13 136:23	176:5,15	smaller 48:3,4 60:7	soon 136:18	specialists 182:8
137:21 143:9	siting 53:4 67:3	64:21 85:6	sorry 34:3 74:21	specializing 148:21
showcase 86:12	75:2	Smith 52:15	164:17 205:10	205:22
showed 142:17	sits 184:25 188:4	smoke 200:10,20	sort 51:15 151:16	specific 5:21 18:7
showing 99:8	situation 172:22	201:18,20,22	177:25 203:6,8	155:10 178:25
shown 5:25 87:10	situations 171:5	smoothly 10:6	209:21	specifically 85:24
154:14 159:3	six 49:24 58:24	SNAP 172:17	sorting 44:23	106:25 138:7
shows 98:15 204:25	61:6	social 29:14 57:15	176:19	142:7 146:16
shut 62:13	sixth 65:4	83:15 121:22	sorts 203:15	specifications
side 127:8 205:2	size 42:6 87:16	125:20 126:14	sought 51:9 55:22	69:17
208:2	111:4 143:20	142:9 180:8 184:5	sound 42:21 45:5	specifics 86:4
sieves 74:21	SJ 58:13	184:9 188:2	89:15	speed 189:23
sign 10:3,10,17	skin 35:5	195:22	sounds 89:14 144:6	spend 24:11
significant 17:3,17	skins 34:24	Socially 126:12	soup 59:14 131:7	spent 174:14
20:11 31:22 53:19	slice 34:18	Societal 160:23	source 18:21 44:15	splash 80:14
63:19 83:16 84:2	slide 36:19 65:16	society 8:4 170:25	44:20 127:4,9	spoil 34:11
106:12 107:24	77:17 91:11 92:22	186:13	159:10 164:15	spoilage 37:14
111:20 115:18	96:7 97:4,21	soil 29:21 109:25	source-separated	spoiled 176:12
144:17 151:21	98:15 99:4,7,16	190:6,15 204:21	43:5 66:12	spoke 50:16
152:6 153:16	99:18 100:5,18	soils 190:8,12	sources 16:9 37:19	spoken 200:3
154:25 155:12	109:20 112:25	solar 114:7 149:21	60:10 112:8	spokesperson
156:10,18 163:6	114:16 115:10	solid 3:11 32:17	South 53:22 59:4	167:19
164:15 206:4	116:5,6 136:22,25	61:25 108:3	112:18 188:9	sponsor 26:9 52:16
significantly 18:4	150:2 153:12	109:21 153:20	space 18:13 86:12	sponsored 22:13
152:2 175:22	188:20,21 195:13	solids 151:14,20	Spanish 167:8	sponsors 61:12
silent 9:15	204:25	155:21 161:3,16	speak 10:13,20	85:4
siloining 14:21	slides 30:17 34:4	162:20	77:13	spoons 159:19
siloxanes 36:10	80:25 88:15	solution 42:23	speaker 6:7 11:11	spot 107:19 151:8

<p>195:5 spot-on 76:3 sprawl 31:20 spread 48:11,18 186:21 squeeze 203:17 stabilize 161:7 stable 158:3 staff 2:20,24 49:23 71:20 88:3 89:20 90:7,16 94:8,17 95:7 96:5 117:6 123:12 129:3 130:15 210:18 stage 80:16 85:20 stakeholder 47:12 56:24 64:25 stakeholders 6:4 27:12 Standalone 42:22 standard 132:3,24 133:7 standards 37:17 78:5 145:10,11 201:11 standpoint 143:6 start 72:24 79:14 87:13 114:21 131:3 141:8 195:14 204:19 started 12:7 20:4 64:15,25 103:10 124:15 130:12 141:22 152:7,11 152:17 154:10 156:6 193:12 199:18 starting 167:13 205:6 starts 20:4 107:15 state 1:12 2:10 7:9 7:20,25 12:20 13:23 17:21 19:21 21:16 22:5 27:4 33:10 41:5 43:15 45:11 47:19 48:12 49:16 53:6 54:12</p>	<p>59:7,14 60:23 62:5 63:12,21,24 64:2 66:7 67:16 68:15 70:3,4 74:19 75:6 112:7 112:11,15 122:21 123:11,13,16 125:2 126:16 128:2,7 129:8 131:23 132:20 135:17 137:20 138:14,21 139:22 140:16 163:2 170:20 179:20 196:21 198:6 200:8 201:20 208:16 209:5 211:6 state's 5:13 12:22 13:13 21:21,25 25:21 55:7 60:20 state-appointed 167:20 state-of-the-art 6:11 State.NJ.US/DE... 11:22 statement 54:5 77:3 78:20 117:25 states 16:21 41:10 45:14,16 54:13 106:8 124:22 125:24 126:16 127:12,16 131:22 132:17,21,23 133:2,3 170:2,5 170:17 181:10 188:7,9 201:11 statewide 55:18 56:5 61:16 62:7 63:10 143:11 144:11 station 66:9 stations 206:17 207:7,12,23 statistic 170:16 177:13</p>	<p>statistics 170:19 173:8 175:17 status 169:16 statute 209:24 stay 116:17 steadily 17:9 steam 160:20 209:15 steering 56:9,21 185:5 Steitz 2:22 step 20:3 38:3,7,8,9 45:7 steps 5:11 19:16 23:24 26:21 84:22 Steve 2:9,16 6:20 7:21 Stevens 1:23 211:4 211:14 stewardship 22:6 121:11 stick 67:14 stigma 173:2,7 stipulations 69:2 stock 19:9 stocks 45:25 Stockton 59:11 stomach 110:17 storage 12:18 111:8 178:2,3 store 62:13 151:9 176:7 store's 116:16 stores 59:24 176:3 180:2 stories 25:24 storing 16:24 storm 162:3 story 51:4 stoves 201:12 strains 171:5 strapped 147:25 strategic 68:16 strategies 6:11 19:25 20:20 strategy 168:5 stream 91:4 93:22</p>	<p>160:18 streamlined 65:23 streams 44:12 72:2 72:10 162:18 163:15 street 1:12 59:5 173:5 streets 18:25 strengthen 138:23 stress 159:15 169:10 stresses 22:21 strong 40:6 116:11 117:25 206:21 strongest 133:21 strongly 61:18 133:4 struck 71:21 82:7 structurally 39:24 structure 14:16 190:6 209:3 stuck 185:18 students 28:12 81:12 87:13,18 88:6 89:13 92:16 94:3 99:20,21 107:6 129:12 130:25 131:8 136:2 142:22 studies 97:9 129:25 142:16 study 81:19,20,24 87:4,4 98:9 107:4 135:13 156:14 157:6 stuff 64:16 75:25 100:17 110:10 114:6 196:19 198:21 styles 171:19 subcommittees 70:24 subject 3:19 subjects 80:10 submit 11:7 199:21 199:24 210:11 submitted 208:22</p>	<p>subsequent 88:15 substantial 4:17 63:21 160:11 successes 194:23 successful 52:10 196:13 sufficient 168:22 suffocating 64:11 suggest 196:16 200:13,21 207:14 suggested 80:13 suggestions 30:23 178:5 suing 201:9 sulfates 119:14 sulfide 105:19 111:6 119:12,22 sulfite 119:17 sulphur 120:2,2 sulphur-generati... 119:19 summarily 161:7 summarized 183:24 summer 12:3 150:6 supermarkets 59:23 60:14,23 72:17 206:14 supervisors 94:15 supplies 190:13 supply 5:4 35:10 38:22,22 40:6 75:15,24 93:18 125:8 support 19:17 27:5 48:10 51:6 100:15 122:15 126:19 127:14 129:18 137:17 138:9 139:4,6 140:12 145:18 147:10,11 147:14 163:25 168:6 177:23 178:8,19 180:22 180:22 199:8 supported 42:2,16 134:19</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

supporting 38:18 124:17 140:2	SWAC's 194:14	159:16 176:23	teach 89:23 135:20	tenure 21:20
supports 128:5 132:2 178:21	swamps 146:17	180:13 182:11,18	teachers 88:4,5 94:15,17 136:2 147:4	term 21:18 34:13 88:18 105:19 144:13,14 149:8
supposed 88:9 135:12	Sweden 202:15	187:13,21 194:24	teaches 29:11	terms 78:19 82:24 143:11 144:2,9,15 188:4
sure 14:20 37:20 39:2 68:12 69:20 73:12 88:21 96:5 97:24 103:19,21 115:10 131:10 138:4 142:18 163:12 168:18 171:9 176:24 177:3 183:7,25 184:14 186:17 187:13 191:8 192:8 193:3 194:2 197:9,12	sweet 195:5	197:20 198:15 202:15 204:17 209:24	teaching 94:16 124:2 129:11 138:4 144:24 147:4	terrific 26:11
surplus 25:23 178:10 207:5 208:5	SWIFR 63:13 69:22 73:18	taken 5:10 69:3 96:25 158:5	team 68:20 79:17 124:11,13 135:19 166:20 167:17 176:14,16 177:25 185:6	testament 194:5
surprise 21:24	synagogue 76:24 138:17	takes 51:15 66:11 69:11 145:20 155:15 198:23	technically 88:21 158:14	tested 130:3
surprised 178:17 182:2	sync 210:4	talent 103:25	technological 40:11	testified 11:5
surveyed 97:12,13	Syracuse 185:16	talk 7:3 33:2 56:16 58:9,13 61:14 76:9 80:10 103:6 106:24 107:16 108:15 116:7 132:13 142:21 149:25	technologies 5:24 18:11 40:21,24 43:19 44:2 74:19 114:8 117:24 161:15,18 195:2 196:11 199:9	testify 11:4
sustainability 3:7 12:10 13:3,6,10 13:14 15:4 29:14 40:8,9 75:12 76:6 78:24 79:19 85:8 116:15 184:21	system 4:8 6:13 38:7 39:5 58:18 65:18 119:25 125:5 142:5 178:14 179:11	talked 24:15 57:6 57:14 100:25 104:17 118:13 119:4 187:7,8 191:12	technology 36:2 41:25 114:10 119:2 165:4 189:16,19 202:13 202:14,19 204:20	Texas 202:21
sustainability-foc... 29:11	systems 32:5,9 38:3 40:13 64:22 79:22 99:9 121:9 123:22 124:9 129:12 166:19 171:6	talking 37:3 66:23 82:20 83:3,13 86:17 162:23 164:12 169:18 171:9 181:14 205:5	teeth 139:2	thank 3:5 6:23,24 7:7,15 8:16 12:4 14:9 20:22 21:11 23:10,12,13,16,21 27:15,16,23 28:6 28:20,21,23 29:2 30:11,12,22 46:25 47:3,4,7 48:25 49:4,5 50:8 68:8 72:12 77:25 78:15 78:21 80:5 101:11 101:20 118:21 120:12,14,20 122:10,11 140:19 146:7,22 148:9,11 148:13 149:10 164:23,24 166:5,7 166:10 167:25 181:17,18 184:15 184:16 185:17,18 185:21 197:18,24 199:11,13 202:3,4 205:13,14 208:7 210:12,15,18,23
sustainable 4:6,7 6:13 12:17 15:3 15:14 40:17 46:6 46:21 49:14 56:7 56:16 57:6 58:12 65:11 80:16 84:6 84:8 99:24 102:9 102:11,17 117:5 127:14 134:17 146:23 185:4 200:24	table 5:5 95:19 97:2 103:25 131:25 137:15 186:25 190:21 191:20 206:24,24	tank 12:18 66:25 74:14,23 156:8	tells 64:4	thanks 14:7 21:2 27:22 28:5 30:13 30:19 183:2 210:23
sustainably 19:23	tables 26:8 89:6 90:9,15,22 98:13 98:18 100:23 129:4 131:4,10 132:15 134:20 135:2 136:12 138:13 144:21 145:13	tanker 74:7	temperature 110:4 110:15,19 207:11	theme 52:24
sustained 162:9	tackle 126:18	tankers 157:12	template 51:10 62:20	theoretically 75:20
	tackled 193:4	tanks 149:24 151:14 157:14,14	ten 128:25 152:2 186:16 190:18 201:11 204:5	thermophilic 110:4
	tackles 5:17	tap 163:10	ten-ton 205:3	thing 53:3,10 55:3 57:16 60:18 69:10 71:12,20 78:18
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	target 156:23	tens 75:3	
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	targeted 72:4 85:24		
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	targeting 147:22 148:3		
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	task 102:24 103:24		
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	tasked 16:14 55:6		
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	tax 21:22 133:16 179:10,16		
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	Taylor 202:6,8		
	take 9:15 23:24 26:5 28:25 51:9 57:11 66:18 81:12 90:3 96:23 98:25 99:3 105:15 114:11 118:20 119:15,23 120:17 140:15 158:13	tea 35:6		

95:3 109:18 116:2 117:8,15 138:3 140:9 144:16 159:15 163:14 things 10:6 14:24 15:16,19 24:5,6 25:16 26:3 36:14 36:24 39:24 65:20 68:18 70:18 96:8 96:12,19 110:5 114:23 117:14 118:15 125:9,10 126:9 128:16,19 128:21,24 130:18 131:16,18 133:17 135:23 142:21,22 143:21 144:13,19 144:20 145:2,12 145:12,14,15,20 145:24 147:4 148:3 158:9 174:10 183:17 189:15 190:3 192:4,16 194:4 196:10,15,16,21 197:6 203:23 think 6:13 14:17 15:8,16,20 23:19 24:17 25:7 28:3 30:16 33:3 58:21 60:9 69:21 70:4 71:21 72:25 73:14 73:21 78:17 83:18 88:19 92:12 98:5 98:11 100:20 104:16 106:6 107:2,9,11 108:9 108:24 111:14 112:6,7 114:6 141:21,24 144:13 145:16,21 146:23 147:19 148:2 170:10 177:11 180:4,21 187:11 187:23 188:13 189:13,22 194:6 195:14 197:13,17	210:13 thinking 45:12,20 82:19 146:6 163:11 166:15 183:6 third 54:12 88:21 125:22 third-party 75:24 thirds 154:4,18 thought 70:8 103:2 113:16 135:19,25 136:18,24 160:6 183:23 187:21 thoughts 30:22 47:17 192:20 thousand 98:6 125:2 152:18 153:9,10 thousands 23:3 threat 31:22 three 10:4,12,19 15:9 54:13 62:8 81:24 87:8 91:12 96:3 105:13 109:3 113:12 122:22 193:16 194:21 197:21 199:19 threshold 59:18 thrilled 3:25 throw 25:10 thrown 34:16 93:15 tied 145:10 tiered 65:17 191:13 tight 139:15 time 22:6 24:11 40:25 55:22 57:9 59:11 60:18 64:14 97:6,6,10,16 101:11 104:14 108:4 116:8 145:21 147:25 148:2 157:6,18 162:7 171:23 187:18 193:22 197:18 205:11 211:11 timeline 144:12	146:4 times 32:24 36:4 37:21 47:9 101:10 125:2 186:17 194:21 Timothy 7:24 tip 116:23,24 117:4 tiping 159:11,14 tired 24:16 tirelessly 2:20 Title 161:22 Toby 8:5 50:14 73:19 183:4 today 2:12 4:18,19 6:5,8 7:19 14:10 18:7 20:9,10 24:5 27:12 28:17 30:18 40:20 50:12,21,23 51:20 56:15 65:6 69:20 77:13 79:15 83:2 111:22 124:5 124:8 142:7 163:12 183:14 185:22,23 188:16 190:23 191:22 192:3,25 194:6,11 195:2,9,25 196:11 196:17 197:3 198:3,13 199:15 208:18 210:14,16 210:21 today's 3:22 6:22 15:21 Toft 208:23 told 15:17 70:17 90:13,14 98:25 193:15,24 ton 113:25 153:20 204:6 tons 4:9 17:12 18:19 47:25 53:13 53:22 59:20 107:2 107:8 111:25 113:6,7 114:2 153:18,21,22 193:16 206:9,15 toolkit 19:12 63:15	69:24 71:4 100:3 tools 84:17 top 54:14 83:2 88:16 99:10 113:2 125:11 127:21 135:6 140:25 topic 2:12 3:18 4:3 15:7 23:9 86:11 201:25 toss 96:24 tossed 90:25 tossing 91:2 93:13 total 38:5 60:24 102:15 119:21 154:22 188:4 totally 77:4 touch 81:19 124:4 touched 80:9 83:14 touches 97:21 tough 111:12 town 63:25 64:6 town's 79:16 towns 65:12 toxic 17:4 190:6 toxicity 16:12 toxins 16:9 traceability 44:24 track 3:2 tractor 112:17,19 traditional 39:6 204:17 trafficking 42:21 trailer 109:6 112:17,19 train 90:16 94:24 training 79:9 88:3 90:6 94:8 95:4 102:9 129:3 130:15 134:8 192:23 193:6 207:25 transcript 11:19 transcription 211:10 transfer 19:8 66:9 transform 43:2 transformation	39:15 translate 143:10 translates 170:12 transmission 159:9 transpired 211:10 transport 16:8 37:8 37:11,15 206:25 transportation 25:22 26:3 62:23 63:3 135:22 transporters 27:10 transporting 16:24 126:10 trash 31:8 81:7 95:21 160:18,20 162:19 177:10 trauma-informed 167:2 trays 81:10 treat 90:2 treated 39:4 treatment 43:16 66:21 108:23 110:11 112:4,11 117:18 148:20 149:15 151:5 159:12 164:21 165:7 177:4 tree 201:3,5 trees 201:5,15 tremendous 51:10 52:14 64:8 77:19 167:16 trends 31:18 Trenton 1:14 76:10 101:23 102:2 trials 44:2 tried 25:16 51:16 70:22 131:3,8 trigger 94:5 truck 42:20 74:8 106:10 109:8 152:5 203:13 trucks 113:17,19 151:22 152:3 156:8 true 5:8 77:4
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

132:12	197:15	unfortunately	USDA 121:13	187:25 194:14
Trustees 49:14	typical 156:12	169:22 181:9	128:4 132:14	vast 170:8
truth 24:16 85:22	typically 151:17	187:10 206:7	use 4:4 8:24 9:2,6	vegetables 92:5
try 20:2 84:22	154:2	unimaginable	11:16 37:12 38:6	181:24 182:3,19
87:11 91:3 92:4	<hr/>	170:16	66:3 74:14,25	vehicle 112:24
92:12 97:22 99:21	U	unintended 179:24	76:21 88:22 106:3	vehicles 83:6 106:9
108:10 114:22	U 126:22	180:14	113:13 115:8	111:17
127:18	U.S 14:3 37:23	unique 164:10	121:8 134:4	verbal 10:3
trying 30:14 33:2	38:21 81:17 83:3	203:20	142:11 150:12,17	Veronique 56:15
73:7 80:16 82:9	133:24 143:17	uniquely 164:7	150:24 152:11	78:23 79:18
84:7,12,19 85:17	187:21 209:5	unit 205:3,4	154:9 158:19	128:17 140:23
86:18 93:19 94:25	210:5	United 16:21 54:13	161:3 164:10	142:17
97:17 107:16	ugly 64:15	106:8 124:22	179:16 200:18	Veronique's 107:4
127:9 130:13	ultimate 22:17 27:9	125:24 127:12,16	use/consumption	version 91:16
131:11 139:24	199:6	166:13,23 170:2	45:21	versus 95:11
145:16,17 170:22	ultimately 26:7	units 204:5,6,7	users 183:16	144:14 172:10
172:25 173:5	UN's 127:14	universe 73:4	200:14,16 201:6	vessel 110:13,14
179:4 181:12	unavoidable 19:22	universities 61:2	uses 158:2	vetoed 201:13
192:13 195:7	34:25	140:11	usually 26:14 32:24	vice 2:17 7:18
196:21	unbelievable 69:14	University 13:24	37:12	20:24 21:2,8
Tuesday 1:15 211:9	unblock 210:6	14:2 28:10 29:12	Utilities 13:12	49:15 67:22
turn 9:14,20	undergraduate	30:5 48:17 50:3	148:17	184:24
179:16 191:25	49:25 122:6	79:25 80:2,4 87:3	Utility 148:24	Vice-Chair 2:16
turning 204:21	Underground	119:10 122:4,8,20	utilization 41:21	video 136:22
turnover 94:18	12:18	191:15	186:11	view 24:14 76:20
95:6	underline 33:16	unloading 112:21	utilize 168:5	89:25
twice 32:21 162:9	43:21	unnecessary	utilizing 41:18,19	village 51:15,17
two 3:4 14:18 50:24	underlines 41:22	207:21	46:7	56:5 64:16 70:23
53:19 81:25 83:2	understand 31:24	unopen 89:5	UTRVG 202:21	71:8
95:6 105:12	33:20 40:7 46:19	unprecedented	<hr/>	villain 60:11
134:20,22 136:14	48:16 76:19 91:20	149:19 181:10	V	virtual 199:17
139:11 142:24	132:14 134:9	unsure 170:14	V 161:22	virtually 2:15
145:7,14 150:5	139:3 144:4 169:3	untouched 89:6	vacation 14:12	vision 68:17
152:24 154:4,17	172:20 205:8	unused 25:10	vacuum 129:15	visit 92:11,14
156:7,15 157:2	Understandably	up-cycle 181:6	vacuums 105:24	101:19
158:11,17 162:5,7	207:8	upcycle 25:18	vague 45:6	visits 176:7
179:7 184:5	understanding	updated 207:21,23	Valeri 8:15 50:14	visual 94:2
191:15 193:16	39:13 40:9 104:13	upload 30:14	70:6,6	visuals 91:11
194:20 195:16	understands	upscale 127:4,10	Valley 66:14 75:5	vital 172:15 178:15
209:25	135:21	upscaling 47:16	202:21	178:22 181:14
two-acre 204:10	understood 97:24	upside 176:13	valuable 7:9	Vivaria 208:12
two-yard 107:11	183:7	urban 31:20 32:23	value 33:24 45:5	voice 140:2 166:16
type 33:15 36:2	undertook 80:18	urbanization 32:14	89:13 93:25 117:9	volatile 155:17
59:12 71:5 110:16	underway 73:15,22	32:16	117:10,10,15	156:2
117:5 146:18	uneaten 90:21	urge 26:18	van 92:7	volume 81:3 119:21
161:17 207:7,20	unequivocally 77:9	usable 88:23	variety 190:14	174:21
types 113:3 181:22	unfortunate 173:17	usage 36:21 154:5	various 155:15,23	volumes 188:21

voluntary 56:8	Wasserman 184:20	86:19,22 87:20,22	198:11,16 199:2	We're 58:4 149:20
volunteer 70:17	185:17 198:9	88:13,23 89:3,14	199:10 202:16	we've 51:9 57:16
147:5 148:2	199:13	89:19,22 90:5,18	203:4,13 206:5,8	57:22 127:7
volunteers 23:4	wastage 33:23	91:3,4,15,16	208:12,20,25	weather 209:15
67:11 147:23	34:11,13 37:25	92:21,22 93:22	209:6 210:8,8	webinars 100:14
177:25	waste 1:4 2:8 3:10	94:2 97:3 101:4,7	Waste-to-Energy	website 11:21 12:2
VP 49:7	3:11,23 4:3,7,11	102:3,7,15,16,16	5:15 18:16	71:6 100:4 199:23
	4:16 5:3,7,12,13	102:24 103:2,8	wasted 4:13 6:2	201:18 210:22
	5:14,17 12:17,17	104:7,20 108:3	16:25 19:8 25:19	wedges 96:22
W	12:24 15:3,14	109:2,16 112:3	36:18 93:24 95:24	wee 28:11
wage 21:21	16:16,18,25 17:5	115:23 116:10,13	120:24 125:7,10	week 107:8,10
waiting 65:8	17:9,11 18:3,8,15	116:25 118:3,6	wastes 40:19	156:13 162:9
walking 109:6	18:17,20,22,24	121:19,21 124:11	157:22 163:19	169:8 193:17
194:7	19:4,6,7,11,12,13	124:17,21,24	164:11	weeks 3:4 11:22
walks 174:2	19:16,17,22,22,24	125:4,5,12,13,14	wastewater 43:16	136:14 162:5
wall 172:18	20:8,13,21 23:10	125:15,17,18,21	66:21 110:11	197:21
want 3:25 7:7 11:4	23:23 24:7,20,25	125:25 126:6,13	112:4,10 117:18	Wegman's 206:18
23:21 25:9 26:22	26:6,12 27:7	127:2,4,15,19	148:19 149:15	weigh 118:15
36:18 50:8 58:14	29:16,19 30:21,24	128:3,5,8,12,15	151:5 160:9	weighs 176:17
62:10 65:13 68:24	31:2 32:4,15,17	128:21,24 129:10	161:14 162:13,21	welcome 2:2 26:10
76:18,24 84:20	32:18,20,22 33:3	129:14,19 130:15	164:7 165:7	146:8 166:9
94:9,22 101:5	33:6,9,11,18,20	130:17,20 134:10	wasting 32:11	184:18
103:9 107:16	33:21,22 34:2,12	135:2,5 136:4,8,9	36:23 82:5 83:21	welfare 195:22
119:15 127:3,18	34:14,16,19,25	136:16 137:23	93:6 128:17	well-established
132:22 137:8	35:2,8,11,19,21	140:4,6,12,24	watch 183:21	33:8
138:3 139:8	36:15 37:14 38:8	141:3,5,8,10,11	water 13:17 31:23	wellness 123:18
159:15,18,20	38:10,13 39:3	142:4,12 143:10	37:6,18 46:15,19	124:5
172:3,9,11 173:20	40:14,21 41:3,4,7	144:21 149:20	46:20 82:19	went 14:15 53:12
176:24 177:3	41:8,10,20 42:13	153:20 155:4,6,11	110:13 148:24	101:11 113:15
183:6 186:8,17	43:5,23 44:5,12	155:14,15,18,24	161:13 162:3	156:7
187:12 193:3	44:14,18,19,25	156:21,24 157:4	190:10,11 203:22	weren't 88:19
194:9 196:8	45:7,13,14 46:7,8	157:22 158:7,23	wax 109:9	175:7
198:20 207:8	46:9,13 47:16,23	159:2,3,7,13,16	way 25:13 34:23	Weston 8:10 50:11
208:17 210:15	47:25 48:7 51:13	159:18 160:2,14	44:21 54:3 74:13	wet 119:16
wanted 15:10 62:17	52:5,10,11,20,20	160:24 161:6	84:16 98:20 110:6	wheel 179:5
70:25 74:2 87:9	54:10,25 55:6,8	162:18 163:6,7,15	127:2,5 138:5,20	wide 16:5 151:8
120:21 168:18	55:24 57:3,4	164:2,3,13,14,15	162:23 164:10	wild 201:20
174:7 203:12	58:23 60:4,12	164:19 165:9,14	166:2 169:3	wildly 116:11
wanting 138:17	61:25 63:17 64:5	165:18,20,25	173:21 184:10	willing 147:13
wants 166:15	66:8 67:21,25	172:8 175:21	193:15 195:10	191:19
warehouse 176:16	70:13 71:4,13,25	179:19 180:2	203:12 204:6,8	win 161:4 207:16
warehouses 58:25	72:2 75:9 76:12	183:11,14 184:11	ways 42:2 45:17	win-win 159:14,25
warm 150:5	79:13 80:17 81:3	185:2,11,13 186:2	87:5 163:12	wind 114:7
warming 17:14	81:9,16,24 82:3	186:12,19,21	166:18 167:5	windfall 183:18
36:3 51:10	82:11,23 83:11,13	187:2,16,16,21	189:12	wish 34:21 201:6
warning 10:4	83:25 84:2,11,20	188:18 191:24	we'll 70:4 124:4	within-entitled
Washington 198:6	85:21,25 86:2,3	192:14,21 196:6	137:3 149:25	211:8
wasn't 157:5				

wonderful 78:18	workgroup 55:21	63:12 68:3,23	1,182 65:12	19th 21:15
wondering 75:13	56:10 58:2 70:23	82:6 87:24 88:9	1,475 53:22	<hr/>
wood 200:4,10,11	working 5:2,9,19	89:9 95:5,7,7	1,600 61:3	2
200:14 201:4,6,18	14:18 19:14 27:9	103:13 107:5	1,700 87:17 107:6	2 119:21 154:23
201:22,23	28:25 29:18 51:22	113:6 124:24	1,900 150:16	2,000 85:7
wood-burning	83:17 103:11	152:19 153:22	1.5 107:10	2.2 114:2
200:22 201:12	111:23 112:18	168:15 173:10,12	1.67 153:18	2.5 176:7 206:8
Woodbridge 49:8	118:17 137:10	174:13,14 175:4	1.9 150:16	2.9 174:19,22
word 41:22 48:11	142:22 173:14	191:15 201:21	1.9-megawatt	2:43 210:25
197:5	185:10,14 195:18	206:9	149:24	20 136:23 153:22
wording 191:17	208:14	year's 2:8 14:14	10 31:10 49:24	194:25
words 76:23	works 73:11 79:11	201:25	154:16 170:7	20-minute 9:24
wore 50:20	107:7,10 113:5	years 14:18 16:4	176:6	200,000 89:10
work 2:20 6:14	123:21 130:5	29:7 31:14 36:19	10,000 85:7 156:7	2003 13:19
7:18 15:20 16:2	151:12 163:18	49:21,24 51:5,8	10.5 170:11	2007 102:7
17:20 18:12 23:17	164:21 182:13	52:7 69:14 84:15	100 3:3 72:15 119:6	2009 102:10
23:20 24:2 25:16	189:22 203:12	95:23 102:14	150:6 199:4	2010 13:21 21:14
25:17 27:2,3,16	world 52:5 60:3	105:13,22 108:24	100,000 157:8	2013 52:12
27:21,23,25 50:19	62:14 66:23 67:6	108:24 127:20	11 51:5 54:16 98:12	2014 52:18 79:14
51:4,16,24 57:18	76:4 166:16 186:5	134:12 145:2,7	124:16 137:20	2015 85:23 127:16
57:24 58:3,8,17	194:24	148:18 167:14	154:16 174:24	2016 13:3
59:9,12 61:5	worried 132:5	168:12 170:9	110 153:8	2017 5:12 124:15
63:22 66:3 67:16	worry 169:5,10	173:22 184:22	110,000 113:6	127:18 130:12
80:18,23 84:14	worth 171:25	189:4 193:12	12 36:20 57:12 62:2	2019 102:4
86:13 103:4	wouldn't 78:8	194:3,25 208:16	79:2 80:12 124:2	2020 5:17 17:8,10
110:20 113:21	132:10 188:7	209:25	129:9 135:18	52:23 55:19 210:9
122:15 123:16,17	wrap-around	years' 200:2	141:22	2021 150:11 152:8
124:8,17 125:16	172:15,23	yesterday 53:24	12,191 153:21	152:17 154:20
127:8 128:10	wreak 159:20	yields 90:19	120 206:15	2023 104:8 170:5
130:12 133:11,19	writing 179:4	York 14:6 31:21	120,000 152:20	174:18
136:2 137:5,8,25	199:24 210:12	79:20 198:5 211:7	14 60:13 130:22	2024 1:15 9:4,9
143:17,24 145:25	written 9:3,5,7,8	younger 96:21	15 17:19,22 54:14	211:9
147:6,7,11,13,21	10:21 11:7 104:8	youth 123:3 138:3	54:17,20 108:24	2030 5:14 22:20
161:25 172:14	199:21	142:2,7	15,000 173:16	55:6 127:16,19
173:4 175:25	wrote 52:13 133:6	<hr/>	150 59:14 100:8	144:16 183:11
177:7,17,19 182:5	<hr/>	Z	16 1:15 104:22	187:8
182:22 184:3	X	Z 77:2	176:5 211:9	21 61:22 89:8 119:5
191:8 194:9 195:6	X 67:7	zero 29:16 72:23,25	160,000 174:15	122:20 124:17
195:7 196:21	X-ray 13:9	77:2 206:6	164 60:25	21,000 82:6 135:7
205:24	XY 77:2	<hr/>	17 57:8,12	217 54:25 72:21
worked 22:12	<hr/>	0	175,000 170:13	21st 43:3
57:22 61:6 63:18	Y	<hr/>	18 32:19 54:17	22 32:20 52:5
79:18 107:19	yards 107:10	1	18,000 60:23 67:15	186:24
114:18 131:4	year 2:20 3:17 4:10	1 120:18 170:3	180 141:12	24 202:19 203:7,24
140:5	16:13,14 18:19	175:5	1954 3:15	204:22
workers 24:23	26:9 31:9,10	1,000 31:10 79:15	1987 13:16 62:6	25 18:20 29:7 52:6
130:24	53:14 59:20 63:8	1,135 136:11	1990 17:8	102:14 174:25

25-mile 53:14		7266.10 66:2		
25-percent 173:13	5			
26 60:13	5 51:12 82:2 87:15		8	
27 160:12	154:14,15 170:3		8 60:15 135:6	
29,000 206:12	173:22 194:3		204:22	
295 17:10	5,000 156:6	80 35:24 36:4 56:23	124:23 149:16	
	50 55:5 144:17	151:6 152:18	153:3 155:3	
	151:15,19 161:12	800,000 58:5		
3	50-percent 183:10	80s 108:20		
3 31:7 75:14,21	187:7	80x50 51:11 115:11		
3,200 60:24	500 22:15	843 59:13		
30 9:4 36:4,19	500-plus 138:15	85 35:24		
49:21 126:7	141:15	86 83:5		
148:18 154:3	500,000 63:14	89 115:14		
175:18 184:22	69:22			
189:4	501C(6) 185:24			
300 153:9	52 18:18 47:25			
300-percent 189:2	53:13 59:20 110:3			
30th 10:23	53 174:23	9		
34,000 107:5	53,000 173:10	9 60:14		
35 54:8	55 17:12	90 153:3 155:17		
350 153:10	55-gallon 60:5	158:20		
360,000 174:5,13	564 69:25	9096 1:25		
37 52:7	5643 179:7	92 89:3 135:5		
39 168:12	5644 179:7	94 158:4		
39-acre 102:10	5645 179:19	98 150:24		
	58 136:7 149:17			
4	58-acre 49:11			
4 11:7	5th 87:10 136:12			
4:15 11:6	145:5			
4:30 11:3				
40 54:9 69:14 126:7	6			
175:18	6 154:14,15			
40,000 198:10	6-ton 204:7			
401 1:12	6,000 60:23			
42 156:19	6.1 83:3			
43 60:11	60 31:16 83:8 154:3			
44 170:2 175:6	600 111:25			
44,700 206:9	61 17:24			
45 88:12 89:18	62 177:22			
135:3 151:18,19	62,000 87:22			
450 107:2	65 150:3			
466 65:12				
47 160:11	7			
475-ton 53:25	7 177:9			
480,000 113:7	70 31:16			
4H 123:3,4	70s 108:21			
	725,000 170:12			