

Event Session

Future-Proofing Our Region: Strategies for Resilience in the Greater Philadelphia Area

Date: September 12, 2024

00:00:00 --> 00:00:03: Welcome to the Center for Design Philadelphia.

00:00:04 --> 00:00:05: My name is Rebecca Johnson.

00:00:06 --> 00:00:09: I'm the Executive Director of AIA Philadelphia and Design Philadelphia.

00:00:09 --> 00:00:11: So happy that you're all here today.

00:00:13 --> 00:00:14: I want to thank you for attending.

00:00:14 --> 00:00:17: This is our second annual Urban Resilience Forum and we

00:00:17 --> 00:00:20: are really excited to bring this program together through the

00:00:20 --> 00:00:25: partnership of AIA Philadelphia Green Building, United Preservation Alliance for

00:00:25 --> 00:00:27: Greater Philadelphia and the Urban Land.

00:00:27 --> 00:00:30: Institute of Philadelphia, we know many of you are probably

00:00:30 --> 00:00:33: active in all of those organizations or at least two

00:00:33 --> 00:00:33: of them.

00:00:33 --> 00:00:35: So we appreciate you being here today.

00:00:37 --> 00:00:40: This is our agenda for the evening, for the afternoon.

00:00:41 --> 00:00:44: And now I think are you going to thank our

00:00:44 --> 00:00:45: event sponsors?

00:00:45 --> 00:00:46: I think that's what's next.

00:00:47 --> 00:00:49: So here's our agenda so you have a snapshot.

00:00:49 --> 00:00:50: Of what we're going to do.

00:00:50 --> 00:00:54: And to welcome our first guest and to thank our

00:00:54 --> 00:00:58: sponsors is Rich Free from Green Building United.

00:01:00 --> 00:01:04: Good afternoon everyone, thank you all so much for being

00:01:04 --> 00:01:04: here.

00:01:05 --> 00:01:07: What a delight to see a packed house here for

00:01:08 --> 00:01:11: the second annual Urban Resilience Forum and the first one

00:01:11 --> 00:01:14: the Green Building United is taking part in formerly as

00:01:14 --> 00:01:15: a partner.

00:01:15 --> 00:01:17: So really excited to be here.

00:01:17 --> 00:01:22: Thanks again to the amazing partners who put this together

00:01:22 --> 00:01:25: and really to the the planning team who has worked

00:01:25 --> 00:01:30: tirelessly over months, I think to secure speakers and think

00:01:30 --> 00:01:34: really diligently about a great program for today, what you

00:01:34 --> 00:01:35: see there.

00:01:36 --> 00:01:40: Before we introduce our first keynote speaker, I do want

00:01:40 --> 00:01:43: to take a moment to thank our amazing sponsors for

00:01:43 --> 00:01:48: today, AKRF, Concord Energy Services Fund for the

00:01:48 --> 00:01:51: Waterworks, O'Donnell,

00:01:48 --> 00:01:51: Inocorado, Langan, Parallel and Edge, Feast and Hood, and

00:01:52 --> 00:01:54: the

00:01:52 --> 00:01:54: University of Delaware Water Center.

00:01:54 --> 00:01:56: We get a round of applause for all of our

00:01:56 --> 00:01:56: sponsors.

00:02:01 --> 00:02:04: They've helped us to have this wonderful food here today,

00:02:04 --> 00:02:05: to have this amazing space.

00:02:05 --> 00:02:08: And thank you again to Rebecca for hosting us and

00:02:08 --> 00:02:11: really making all of the events today possible.

00:02:11 --> 00:02:14: So we have a really amazing line up of speakers

00:02:14 --> 00:02:17: as you, as you just heard and some of the

00:02:17 --> 00:02:20: speakers today are, yeah, I'm particularly excited about.

00:02:21 --> 00:02:24: We have great folks throughout the day, including my former

00:02:24 --> 00:02:28: colleague Abby Sullivan from the city of Philadelphia, worked

00:02:28 --> 00:02:29: together

00:02:28 --> 00:02:29: for quite a while.

00:02:29 --> 00:02:32: But our first speaker is close to my heart as

00:02:32 --> 00:02:34: a child of the Delaware Valley.

00:02:34 --> 00:02:38: And for those of you who are also children of

00:02:38 --> 00:02:42: the Delaware Valley and remember waking up to see what

00:02:42 --> 00:02:43: is happening.

00:02:43 --> 00:02:45: Are we gonna have school today?

00:02:45 --> 00:02:46: Will there be a 2 hour delay?

00:02:47 --> 00:02:49: What is happening outside?

00:02:50 --> 00:02:54: There is no more iconic or better avatar of that

00:02:54 --> 00:02:56: than Glenn Hurricane Schwartz.

00:02:56 --> 00:02:59: So we are so excited to have I'm Glenn here

00:02:59 --> 00:02:59: today.

00:02:59 --> 00:03:01: He's a senior consultant at AKRF.

00:03:02 --> 00:03:06: Of course, Prior to joining AKRF, he is retired from

00:03:06 --> 00:03:11: his chief role, his role as chief meteorologist for WCAUTV

00:03:11 --> 00:03:15: NBC10 in Philadelphia, which also went out to reading where

00:03:15 --> 00:03:16: I'm from.

00:03:17 --> 00:03:20: He's a renowned expert in meteorology, weather forecasting and climate consulting.

00:03:20 --> 00:03:21: consulting.

00:03:21 --> 00:03:24: Glenn is now a frequent speaker and author focusing on extreme weather and climate change connection, which we'll talk about today.

00:03:24 --> 00:03:28: today.

00:03:28 --> 00:03:29: today.

00:03:29 --> 00:03:33: He's certified with the American Meteorological Society, has served as a disaster Preparedness meteorologist for the National Weather Service, and was inducted into the Philadelphia Broadcast Pioneer Hall of Fame in 2010.

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00:03:38 --> 00:03:41: was inducted into the Philadelphia Broadcast Pioneer Hall of Fame in 2010.

00:03:41 --> 00:03:42: in 2010.

00:03:42 --> 00:03:46: Please join me in welcoming to the podium, Glenn, Hurricane Schwart.

00:03:46 --> 00:03:46: Schwart.

00:03:55 --> 00:03:56: Thank you very much.

00:03:58 --> 00:04:02: I would have to say that I'm especially honored to be here today because this is the first time I've ever gotten to speak to a group that included architects. And why is that?

00:04:02 --> 00:04:05: be here today because this is the first time I've ever gotten to speak to a group that included architects.

00:04:05 --> 00:04:09: ever gotten to speak to a group that included architects. And why is that?

00:04:10 --> 00:04:11: And why is that?

00:04:12 --> 00:04:18: My father was an architect for over 50 years, worked for Jefferson for many of those.

00:04:18 --> 00:04:21: for Jefferson for many of those.

00:04:22 --> 00:04:25: And so I have a lot of respect for that profession and a lot of respect for the professions of the people in this room because you're at the forefront of helping to fix the problem I'm going to be talking about and the urgency of doing something about it. Climate.

00:04:25 --> 00:04:30: profession and a lot of respect for the professions of the people in this room because you're at the forefront of helping to fix the problem I'm going to be talking about and the urgency of doing something about it. Climate.

00:04:30 --> 00:04:35: the people in this room because you're at the forefront of helping to fix the problem I'm going to be talking about and the urgency of doing something about it. Climate.

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00:04:39 --> 00:04:44: talking about and the urgency of doing something about it. Climate.

00:04:46 --> 00:04:46: Climate.

00:04:48 --> 00:04:48: Yeah.

00:04:48 --> 00:04:49: Changing.

00:04:50 --> 00:04:55: I forecast the weather for 50 years, 50, and yeah, it changed.

00:04:55 --> 00:04:56: it changed.

00:04:57 --> 00:05:01: I had to change my forecasting strategy because the climate has changed so much.

00:05:01 --> 00:05:02: has changed so much.

00:05:03 --> 00:05:06: But one of the terms that I hear all the time, that is really a terrible term, as they call it the new normal.

00:05:06 --> 00:05:11: time, that is really a terrible term, as they call it the new normal.

00:05:11 --> 00:05:12: it the new normal.

00:05:13 --> 00:05:14: This we just had a flood.

00:05:14 --> 00:05:16: This is the new normal.

00:05:17 --> 00:05:18: Well, no, it isn't.

00:05:19 --> 00:05:23: This is the normal for now.

00:05:26 --> 00:05:27: It's changing.

00:05:27 --> 00:05:31: It's going to continue to get worse in many different
00:05:31 --> 00:05:36: categories from the heat to the drought to the melting
00:05:36 --> 00:05:39: Arctic to hurricanes to sea level rise fires.
00:05:41 --> 00:05:45: I just looking at my phone and there's a ski
00:05:45 --> 00:05:47: area in California.
00:05:47 --> 00:05:52: It just got destroyed within the hour from that fire.
00:05:54 --> 00:05:57: There is some uncertainty and just how much worse it's
00:05:57 --> 00:05:57: going to get.
00:05:58 --> 00:06:01: So about planning for the future, well, we've got some
00:06:01 --> 00:06:02: questions about that.
00:06:03 --> 00:06:07: So we're going to separate this talking to two pieces
00:06:07 --> 00:06:10: out of those six pictures that I showed you.
00:06:10 --> 00:06:14: We're going to talk about rain and flooding and then
00:06:15 --> 00:06:18: we're going to talk about heat, the flooding.
00:06:22 --> 00:06:23: We've always had flooding there.
00:06:23 --> 00:06:25: You know, I'm back to Noah, right?
00:06:27 --> 00:06:33: But it's not taking as much rain to produce the
00:06:33 --> 00:06:34: flooding.
00:06:34 --> 00:06:37: It's not taking as big a storm to produce flooding.
00:06:37 --> 00:06:41: This was, I'm using data and pictures as recent as
00:06:42 --> 00:06:46: possible, some of these studies within the last few months.
00:06:46 --> 00:06:49: So my job is to keep up to date on
00:06:49 --> 00:06:50: this science.
00:06:50 --> 00:06:55: Here we were, January 10th this year, a record flood
00:06:55 --> 00:06:58: on the Delaware River in Philadelphia.
00:07:01 --> 00:07:04: Probably not many people aware of that and there they
00:07:05 --> 00:07:05: are.
00:07:06 --> 00:07:08: But it wasn't that big a storm.
00:07:08 --> 00:07:12: Look at the rainfall amounts 2 to 3 inches.
00:07:13 --> 00:07:18: Two to three inches of rain produces an all time
00:07:18 --> 00:07:23: record on the Delaware River and this kind of a
00:07:23 --> 00:07:28: decent sized storm moving up to the West, nothing that
00:07:28 --> 00:07:33: special, the stronger winds, but this is the kind of
00:07:34 --> 00:07:36: storm that there it is.
00:07:36 --> 00:07:41: There's that record level at the Delaware River at
00:07:41 --> 00:07:42: Washington
00:07:41 --> 00:07:42: Street.
00:07:43 --> 00:07:48: Now we've had even more recent floods not far away
00:07:49 --> 00:07:55: Connecticut just in the past month, many pictures, this house
00:07:55 --> 00:08:00: collapsing live on TV, thousand year flood.
00:08:00 --> 00:08:02: You've heard about 100 year floods, 500 year floods.
00:08:02 --> 00:08:04: Now we're talking 1000 year.

00:08:04 --> 00:08:07: Now that's also a terrible term to use because it's
00:08:07 --> 00:08:10: one of the most misunderstood terms in science.
00:08:10 --> 00:08:14: But that's what you see in the headlines that flooding
00:08:14 --> 00:08:15: Connecticut.
00:08:17 --> 00:08:20: It wasn't a tropical storm or anything.
00:08:20 --> 00:08:22: It was just a stalled front.
00:08:23 --> 00:08:27: And the most rainfall, over 16 inches of rain in
00:08:27 --> 00:08:28: just over one day.
00:08:29 --> 00:08:30: So here's the bullseye.
00:08:30 --> 00:08:33: There's the coastline of Connecticut.
00:08:33 --> 00:08:38: That bullseye, foot of foot of rain pictures.
00:08:40 --> 00:08:43: Now, why couldn't that have happened here?
00:08:44 --> 00:08:45: It's just a stalled front.
00:08:45 --> 00:08:48: The front stalls over us as you'll see in in
00:08:48 --> 00:08:49: a minute.
00:08:49 --> 00:08:52: Our all time record somewhere near 16 inches of rain.
00:08:53 --> 00:08:55: This is this is happening all over the world.
00:08:55 --> 00:09:05: These are last year, many countries, many continents,
disasters, damage,
00:09:05 --> 00:09:10: fatalities, multiple countries.
00:09:12 --> 00:09:13: There's more.
00:09:13 --> 00:09:17: Now this year I could, I could put dozens and
00:09:17 --> 00:09:22: dozens of pictures and dozens and dozens of countries
affected
00:09:22 --> 00:09:23: by this.
00:09:23 --> 00:09:30: And now in the USA this year, disastrous, horrible flooding
00:09:30 --> 00:09:37: in Iowa, North Jersey, Miami and California all on the
00:09:37 --> 00:09:37: news.
00:09:39 --> 00:09:43: And for good reason, because we're not just breaking
records,
00:09:43 --> 00:09:44: we're smashing records.
00:09:45 --> 00:09:48: And so some of the headlines, simultaneous floods and
many
00:09:48 --> 00:09:49: what happened to the Earth.
00:09:51 --> 00:09:52: And these floods kill hundreds.
00:09:52 --> 00:09:58: As climate change makes extremes more extreme, that is a
00:09:58 --> 00:10:04: good phrase, extremes become more extreme, and the
billion dollar
00:10:05 --> 00:10:11: disasters, adjusted for inflation, are going along with that
curve.
00:10:11 --> 00:10:15: When you get a hotter planet and a wetter planet,
00:10:15 --> 00:10:16: you get more disasters.
00:10:16 --> 00:10:20: One of the ways you get a hotter planet, there's

00:10:20 --> 00:10:21: the warming trend.
00:10:22 --> 00:10:24: There's the carbon dioxide trend.
00:10:24 --> 00:10:26: No coincidence.
00:10:26 --> 00:10:28: There's the methane trend.
00:10:28 --> 00:10:32: Notice we're not leveling off or dropping like we're hoping
00:10:32 --> 00:10:33: we're going to do.
00:10:34 --> 00:10:36: We're not even close to that point yet.
00:10:37 --> 00:10:40: And so the more those things increase, the more the
00:10:40 --> 00:10:42: temperature increases.
00:10:42 --> 00:10:47: And officially last year pretty close to that 1.5 that
00:10:47 --> 00:10:50: the United Nations was hoping to stop at.
00:10:50 --> 00:10:51: That ain't going to happen.
00:10:52 --> 00:10:54: It's already 1.9 over land.
00:10:55 --> 00:10:59: And there are different scenarios we don't.
00:10:59 --> 00:11:02: I look, I can't predict the weather for next week,
00:11:02 --> 00:11:04: let alone 100 years from now.
00:11:07 --> 00:11:11: So there are different probabilities potentials, just like in
weather
00:11:11 --> 00:11:12: forecasting.
00:11:13 --> 00:11:19: Unfortunately, this lower possibility looks now highly unlikely.
00:11:21 --> 00:11:27: So we're in the 1.5 range, more likely to go
00:11:27 --> 00:11:30: in the two to four range.
00:11:30 --> 00:11:34: That's by 2100 and 2100 isn't the end of the
00:11:34 --> 00:11:35: world here.
00:11:35 --> 00:11:36: That's just the end of the graph.
00:11:36 --> 00:11:39: It just it'll keep going up after that.
00:11:41 --> 00:11:45: And there are some recent studies by this is one
00:11:46 --> 00:11:50: of the world's experts back in the 1980s was testifying
00:11:50 --> 00:11:55: to Congress about global warming and what a danger it's
00:11:55 --> 00:11:56: going to be.
00:11:56 --> 00:11:59: And he was laughed at and he was ridiculed and
00:11:59 --> 00:12:00: he was mocked.
00:12:00 --> 00:12:04: And he was right, his prediction right on target.
00:12:04 --> 00:12:07: But his latest prediction's a little scarier.
00:12:07 --> 00:12:12: He's talking about accelerated warming even faster than
what you
00:12:12 --> 00:12:15: may have heard about or read about.
00:12:16 --> 00:12:20: One of the other things that's changing and advancing is
00:12:20 --> 00:12:21: moisture.
00:12:21 --> 00:12:25: You probably never seen this graph before, but in order
00:12:25 --> 00:12:28: to get more rain, you need more moisture.
00:12:29 --> 00:12:32: And so you got a sponge with folded water in

00:12:32 --> 00:12:32: it.

00:12:32 --> 00:12:35: The more water that's in that sponge when you squeeze

00:12:35 --> 00:12:38: it, the more that's going to fall to the ground.

00:12:38 --> 00:12:40: And that's what's happening.

00:12:40 --> 00:12:47: The level of atmospheric moisture over the whole Earth keeps

00:12:48 --> 00:12:49: going up.

00:12:49 --> 00:12:51: And what does that do?

00:12:51 --> 00:12:54: It leads to more flooding.

00:12:55 --> 00:13:03: The forecasts for the temperatures, average temperatures have been extraordinary,

00:13:03 --> 00:13:05: right on target.

00:13:06 --> 00:13:10: But it's the extremes that's the big deal.

00:13:10 --> 00:13:15: That's where houses fall into the river or ocean and

00:13:15 --> 00:13:20: people die from heat and the number of climate disasters

00:13:20 --> 00:13:23: to triple for the new generation.

00:13:23 --> 00:13:27: That's only with 2.7?? of warming, let alone 4, which

00:13:28 --> 00:13:31: is what we're on target for now.

00:13:32 --> 00:13:35: Oh, you didn't right out there.

00:13:35 --> 00:13:36: Yeah.

00:13:36 --> 00:13:36: Yeah.

00:13:37 --> 00:13:41: There was a question about whether we put inland flooding,

00:13:41 --> 00:13:44: but the urbanization it had has nothing to do with

00:13:44 --> 00:13:45: coastal flooding.

00:13:45 --> 00:13:49: So I added just the inland part because it's not

00:13:49 --> 00:13:54: just warmer air in a warmer ocean and urbanization, storms

00:13:54 --> 00:13:59: are more intense and they're also moving more slowly.

00:14:00 --> 00:14:03: So if you take a storm move in 20 miles

00:14:03 --> 00:14:06: an hour produces a certain amount of rain.

00:14:07 --> 00:14:09: If you slow down to 10 miles an hour, it's

00:14:09 --> 00:14:12: going to produce twice as much rain that many more

00:14:12 --> 00:14:14: hours over the same spot.

00:14:17 --> 00:14:22: And what part of the country has had the biggest

00:14:22 --> 00:14:24: increase right here?

00:14:24 --> 00:14:28: Northeast United States, probably because of the Gulf of

00:14:28 --> 00:14:30: Mexico

00:14:28 --> 00:14:30: moisture and the Atlantic moisture.

00:14:30 --> 00:14:36: I talk about storms all the time and again, downpours.

00:14:36 --> 00:14:38: We're talking about the worst of the worst.

00:14:38 --> 00:14:45: Here we are in the US, days of three inches

00:14:45 --> 00:14:53: or more going up, not just going up, though accelerating

00:14:53 --> 00:14:56: the last 10-15 years.

00:14:56 --> 00:14:59: We've seen this in a number of factors and that's

00:14:59 --> 00:15:02: why that James Hansen study is even more concerning.

00:15:03 --> 00:15:07: And in Philadelphia, as a result, the wettest hour, wettest

00:15:07 --> 00:15:10: day, wettest month, wettest year, that's occurred in many, many

00:15:10 --> 00:15:11: cities.

00:15:13 --> 00:15:16: So what are we planning for even 20 years from

00:15:16 --> 00:15:16: now?

00:15:17 --> 00:15:22: The old time record rainfall for one day in Philadelphia

00:15:23 --> 00:15:27: for 125 years was 5.63 rain, inches of rain.

00:15:27 --> 00:15:33: Remember Connecticut 16 inches Now records are normally not broken

00:15:33 --> 00:15:34: by much.

00:15:35 --> 00:15:36: These records are getting destroyed.

00:15:37 --> 00:15:41: 2013 eight inches an increase of 42%.

00:15:42 --> 00:15:48: Then we had Ida, 11 inch peak in Flemington, NJ,

00:15:48 --> 00:15:51: near Philly, increase of 200%.

00:15:52 --> 00:15:56: And if Oxford, Connecticut could get 16 inches of rain,

00:15:56 --> 00:15:58: we can get 16 inches of rain.

00:15:58 --> 00:16:03: One of the things that's happening that's added to this

00:16:03 --> 00:16:07: is the sea level going up in Philadelphia, the East

00:16:07 --> 00:16:09: Coast, Gulf of Mexico.

00:16:10 --> 00:16:14: You add sea level rise to every storm.

00:16:14 --> 00:16:19: So if Sandy would occur today, it would cause more

00:16:19 --> 00:16:19: flooding.

00:16:20 --> 00:16:24: There'd be more rain with it, there be maybe more

00:16:24 --> 00:16:27: wind with it, the sea level would be rising.

00:16:28 --> 00:16:31: So the same brain makes it worse for sea level

00:16:31 --> 00:16:32: rise.

00:16:32 --> 00:16:39: We're also seeing changes acceleration of the sea level rise.

00:16:39 --> 00:16:43: This is at six times the rate that it used

00:16:43 --> 00:16:44: to be going up.

00:16:44 --> 00:16:47: So we had all these projections and people say, oh,

00:16:47 --> 00:16:50: sea level is only going to increase a few inches.

00:16:50 --> 00:16:51: It's not a big deal.

00:16:52 --> 00:16:56: Well, if that is true, it is a big deal.

00:16:57 --> 00:17:01: And so all the projections for the future sea level

00:17:01 --> 00:17:03: rise are likely to be incorrect.

00:17:04 --> 00:17:09: Again, this is the newest data, newest studies.

00:17:10 --> 00:17:15: So in Philadelphia, for example, instead of 0 to 5

00:17:15 --> 00:17:20: tidal floods a year, now we're talking about 100 to

00:17:21 --> 00:17:21: 300.

00:17:21 --> 00:17:27: That's not even 2100 a flood every other day without

00:17:27 --> 00:17:28: a storm.

00:17:31 --> 00:17:35: So these are the increases that we've already seen.

00:17:37 --> 00:17:42: Now as far as heat is concerned, we've seen records

00:17:42 --> 00:17:47: more in other parts of the country and the world,

00:17:47 --> 00:17:50: but we can learn lessons from that.

00:17:52 --> 00:17:56: We heard this term in recent years that they've always

00:17:56 --> 00:17:59: been around, but they're bigger and they last longer and

00:17:59 --> 00:18:00: they move slower.

00:18:01 --> 00:18:06: Heat Dome, it just sits over to Pacific Northwest and

00:18:06 --> 00:18:09: it's called attribution science.

00:18:10 --> 00:18:12: We used to be able to say, or used to

00:18:12 --> 00:18:14: have to say, no one storm could be blamed on

00:18:14 --> 00:18:15: climate change.

00:18:16 --> 00:18:18: That is gone now.

00:18:19 --> 00:18:21: There is a science that does this.

00:18:21 --> 00:18:25: There are people who spend their whole careers working on

00:18:25 --> 00:18:28: this called attribution science.

00:18:28 --> 00:18:31: And that heat wave was made 150 times more likely

00:18:31 --> 00:18:33: because of climate change.

00:18:33 --> 00:18:36: And if we want to look it up, it's World

00:18:36 --> 00:18:41: Weather attribution.org and one day the heat Dome is going

00:18:41 --> 00:18:43: to be over us and stay.

00:18:44 --> 00:18:47: We had a piece of a heat Dome this summer

00:18:47 --> 00:18:50: and we got all those days in the 90s.

00:18:50 --> 00:18:52: Look at these temperatures all over the earth.

00:18:53 --> 00:18:57: This is virtually every continent during the last six years.

00:18:57 --> 00:19:01: Every one of those things over 50 is 122??F.

00:19:02 --> 00:19:10: Australia and Europe all every continent, even the Arctic and

00:19:10 --> 00:19:14: Antarctica setting records.

00:19:15 --> 00:19:18: And of course it gets hot enough, long enough and

00:19:18 --> 00:19:19: people start dying.

00:19:19 --> 00:19:22: The human body only has a certain limit of how

00:19:22 --> 00:19:23: far it can go.

00:19:24 --> 00:19:25: And this is what happened in Europe.

00:19:25 --> 00:19:30: 2370 thousand deaths.

00:19:30 --> 00:19:34: Now they don't happen when the temperature reaches the

00:19:35 --> 00:19:38: peak.

00:19:35 --> 00:19:38: It takes a few days for the heat to build

00:19:38 --> 00:19:40: up and not cool down at night.

00:19:41 --> 00:19:44: And then what happens is your first find the deaths

00:19:44 --> 00:19:47: in the hospitals and then this is when they start

00:19:47 --> 00:19:49: finding the people in the houses.

00:19:50 --> 00:19:55: That was in 2003, 2023, another heat wave.
00:19:55 --> 00:20:03: 47,000 deaths related to heat in Europe just last year.
00:20:06 --> 00:20:10: Keep waves becoming more extreme, extremes becoming more extreme.

00:20:10 --> 00:20:14: And these areas, the darker the red is, the more
00:20:14 --> 00:20:19: unsustainable human life is going to be, including part of
00:20:19 --> 00:20:24: the United States, huge parts of South America, Africa, Asia.
00:20:25 --> 00:20:27: How many billions of people live in those areas?
00:20:28 --> 00:20:30: And it's just going to keep getting hotter and hotter
00:20:30 --> 00:20:32: and hotter in this country.
00:20:32 --> 00:20:34: We had Chicago in 1995.
00:20:37 --> 00:20:40: Once again, the peak heat and then the deaths come
00:20:40 --> 00:20:41: days later.
00:20:43 --> 00:20:47: But what happens is when the night time temperatures are
00:20:47 --> 00:20:51: so high, the building doesn't get to cool down enough.
00:20:52 --> 00:20:58: And so you end up with the elderly, especially look
00:20:58 --> 00:21:04: at the rate between somebody around 60?? or 60 years
00:21:04 --> 00:21:06: old and somebody 85.
00:21:08 --> 00:21:11: That's five times the threat.
00:21:11 --> 00:21:15: So the elderly, especially vulnerable.
00:21:16 --> 00:21:20: And in Philadelphia, the last giant heat wave we had
00:21:20 --> 00:21:21: was way back in 1993.
00:21:22 --> 00:21:26: That's 30 years ago, 118 deaths.
00:21:26 --> 00:21:27: These were the temperatures.
00:21:27 --> 00:21:31: Look at the lows, not even going below 80 and
00:21:31 --> 00:21:35: the dew point, a measure of how uncomfortable it is.
00:21:35 --> 00:21:38: But I remember this is measured at Philadelphia
International.
00:21:38 --> 00:21:40: Those are the official records for Philadelphia.
00:21:40 --> 00:21:44: The urban heat island, as they call it, made this
00:21:44 --> 00:21:45: much more dangerous.
00:21:45 --> 00:21:47: And the people weren't dying at the airport.
00:21:47 --> 00:21:51: They were dying in brick homes in the city.
00:21:53 --> 00:21:56: And here's the heat island, the hot spots.
00:21:56 --> 00:21:59: Some of the other speakers are going to show some
00:21:59 --> 00:22:00: of this data too.
00:22:00 --> 00:22:07: But approximately 556,000 people were 90?? hotter on
average during
00:22:07 --> 00:22:13: a hot day than that official reading at the airport.
00:22:13 --> 00:22:18: So we got to 98 this year at PHL, but
00:22:18 --> 00:22:24: these areas got to 107 and that's today.
00:22:25 --> 00:22:29: And Philadelphia is addressing the problem.
00:22:29 --> 00:22:33: They were actually actions taken started in 1993 after that

00:22:33 --> 00:22:37: deadly heat wave and the Division of Housing, Community Development,
00:22:38 --> 00:22:40: their health centers, pools, playgrounds.
00:22:42 --> 00:22:46: And there's going to need to be more of this
00:22:46 --> 00:22:52: because as the heat increases and the moisture increases, there
00:22:52 --> 00:22:57: is a boundary for human safety, a limit on human
00:22:57 --> 00:22:59: and animal survival.
00:23:00 --> 00:23:03: And you're going to hear this term a lot more
00:23:03 --> 00:23:04: in the future.
00:23:04 --> 00:23:05: It's called the wet bulb temperature.
00:23:07 --> 00:23:10: We do hear about the heat index all the time,
00:23:10 --> 00:23:14: but the heat index is just the temperature and humidity
00:23:14 --> 00:23:17: in the shade and with light winds.
00:23:17 --> 00:23:23: The wet bulb includes sunshine, the sun angle, the wind.
00:23:23 --> 00:23:26: It's a better measure of heat stress on the human
00:23:26 --> 00:23:26: body.
00:23:26 --> 00:23:31: And once it gets cross that yellow line, that's when
00:23:31 --> 00:23:37: people can't stay outside for more than 1520 minutes without
00:23:37 --> 00:23:39: their organs starting to fail.
00:23:41 --> 00:23:46: Other impacts that we have, fires going on in California
00:23:46 --> 00:23:54: right now, drought, tornado outbreaks, they're not more total
00:23:54 --> 00:23:59: tornadoes
00:23:54 --> 00:23:59: that we can tell, but when there's a tornado outbreak,
00:23:59 --> 00:24:04: there are more on that day and maybe more intense.
00:24:05 --> 00:24:08: And these things called the ratios, you never probably heard
00:24:08 --> 00:24:11: this term until within the last 10 years, they've always
00:24:11 --> 00:24:12: happened.
00:24:12 --> 00:24:15: But this is like hundreds of miles of a line
00:24:15 --> 00:24:16: of thunderstorms.
00:24:16 --> 00:24:21: It's like 100 mile long tornado that just wipes out
00:24:21 --> 00:24:25: all kinds of land and trees or whatever.
00:24:25 --> 00:24:30: That's 500 miles of travelling for that particular one.
00:24:31 --> 00:24:37: And that is partly a result of the record heat.
00:24:37 --> 00:24:42: At the edge of the heat Dome comes the duration
00:24:42 --> 00:24:46: and so those are more frequent and more severe.
00:24:46 --> 00:24:50: There was one with 130 mile an hour wind gusts
00:24:50 --> 00:24:51: last year.
00:24:52 --> 00:24:56: Not officially a tornado, but a lot of tornadoes aren't
00:24:56 --> 00:24:58: even that strong.
00:24:58 --> 00:25:02: And Speaking of tornadoes, the edge of Tornado Alley is
00:25:02 --> 00:25:04: now shifted a little bit.
00:25:04 --> 00:25:08: The main shift has come in the Ohio Valley and

00:25:08 --> 00:25:13: down toward the Deep South, and you're getting actually less
00:25:13 --> 00:25:17: activity in what used to be called the Tornado Alley.
00:25:19 --> 00:25:25: Not necessarily more total tornadoes, but now they're going
into
00:25:25 --> 00:25:27: more populated areas.
00:25:27 --> 00:25:28: That doesn't help either.
00:25:29 --> 00:25:32: So the warming and its effects are going to continue
00:25:33 --> 00:25:34: indefinitely.
00:25:34 --> 00:25:41: The more warming means more floods and heat dangers,
and
00:25:41 --> 00:25:48: we can reduce the danger damages and the suffering with
00:25:48 --> 00:25:51: resiliency and adaptation.
00:25:52 --> 00:25:55: And you can tell your clients this and sometimes you
00:25:55 --> 00:25:58: got to hit them over the head with the information
00:25:58 --> 00:26:02: because what you see outside of it's a couple degrees
00:26:02 --> 00:26:04: warmer, what's the big deal?
00:26:04 --> 00:26:05: It's a big deal.
00:26:06 --> 00:26:10: And it's going to cost more to do nothing.
00:26:10 --> 00:26:16: They talk about how much these resiliency projects cost.
00:26:16 --> 00:26:20: It'll cost more to do nothing.
00:26:20 --> 00:26:24: And Speaking of doing, that's what a lot of folks
00:26:24 --> 00:26:26: here are involved in.
00:26:27 --> 00:26:30: That is going to be the rest of session one.
00:26:31 --> 00:26:34: And these are the speakers that are going to be
00:26:34 --> 00:26:35: coming up.
00:26:36 --> 00:26:39: But in the meantime, thank you for your attention and
00:26:39 --> 00:26:41: we got some questions.
00:26:57 --> 00:27:02: Paul Steinke, Preservation Alliance for Radar Philadelphia
Always loved watching
00:27:02 --> 00:27:03: you on TV.
00:27:03 --> 00:27:03: Miss you.
00:27:04 --> 00:27:08: But so can you talk a bit about what, if
00:27:08 --> 00:27:11: anything, can be done to reverse this?
00:27:11 --> 00:27:12: Or at least to.
00:27:13 --> 00:27:14: Make it plateau.
00:27:15 --> 00:27:17: Yeah, maybe that's what I hear about later, but what's
00:27:17 --> 00:27:17: your answer to that?
00:27:18 --> 00:27:23: All right, Well, we have to reduce, first stop the
00:27:23 --> 00:27:30: increase of carbon dioxide and methane, greenhouse gases.
00:27:30 --> 00:27:32: The more gases you put up, the warmer it gets.
00:27:33 --> 00:27:34: How do you reduce carbon dioxide?
00:27:35 --> 00:27:39: Well, you don't drill for oil.
00:27:39 --> 00:27:41: You don't burn coal.

00:27:42 --> 00:27:49: And fortunately, there are actually things that don't do that,
00:27:49 --> 00:27:55: that still provide energy, The wind and the sun and
00:27:55 --> 00:28:01: hydro electricity, you're not producing greenhouse gases.
00:28:02 --> 00:28:06: And we are in a transition, the transition just happening
00:28:06 --> 00:28:06: too slowly.
00:28:08 --> 00:28:12: And the farther we get into that transition, you're going
00:28:13 --> 00:28:17: to see those charts level off and eventually go down.
00:28:19 --> 00:28:23: And when that goes down, eventually the temperature of the
00:28:23 --> 00:28:28: Earth, the increase of the temperature is going to flatten
00:28:28 --> 00:28:29: out and then go down.
00:28:30 --> 00:28:31: So it can be done.
00:28:31 --> 00:28:34: And we have this technology and science to do it.
00:28:38 --> 00:28:38: Yeah.
00:28:42 --> 00:28:46: I'm wondering whether you're willing to make a behavioral
observation.
00:28:47 --> 00:28:51: My observation is that most humans don't like to see
00:28:51 --> 00:28:56: predictions over longer periods of time if they're listening to
00:28:56 --> 00:29:00: you on the weather there and they will listen to
00:29:00 --> 00:29:04: a prediction of next day or within the week.
00:29:04 --> 00:29:08: But do you, do you have a comment on how
00:29:08 --> 00:29:13: the population in the United States may become better
attuned
00:29:14 --> 00:29:19: to the notion that there will be constantly changing
predictions
00:29:20 --> 00:29:24: so that the predictions will not be in any way
00:29:24 --> 00:29:24: fixed?
00:29:25 --> 00:29:26: There will be scenarios.
00:29:26 --> 00:29:31: The scientists will give you different scenarios, worst case,
middle
00:29:31 --> 00:29:32: case, low case.
00:29:33 --> 00:29:37: How does the population adjust its behavior in light of
00:29:37 --> 00:29:42: that lack of predictability and the the the dramatic changes
00:29:42 --> 00:29:45: in consequence of different scenarios?
00:29:46 --> 00:29:49: And this is the biggest problem.
00:29:49 --> 00:29:52: And this is partly why I'm doing what I'm doing
00:29:52 --> 00:29:56: and why I think talking about this is more important
00:29:56 --> 00:30:00: than predicting whether it's going to rain tomorrow or not.
00:30:02 --> 00:30:04: It's a communication issue.
00:30:06 --> 00:30:10: It's a visual issue.
00:30:10 --> 00:30:15: The more people see are those floods and those fires
00:30:15 --> 00:30:20: and those heat waves and see the results of this
00:30:20 --> 00:30:26: with the extreme weather, the more people are going to
00:30:26 --> 00:30:27: be convinced.

00:30:27 --> 00:30:33: But it's not enough because we have the biggest industries
00:30:33 --> 00:30:38: in the world fighting against this transition.
00:30:39 --> 00:30:44: That's where we have the difficulty in Philadelphia.
00:30:44 --> 00:30:48: I would hope that after being around for 27 years
00:30:48 --> 00:30:53: on TV that that I would personally have enough credibility
00:30:53 --> 00:30:57: that, you know, that I'm not some crazy person alarmist.
00:30:58 --> 00:31:03: But we need leaders all over the country, all over
00:31:03 --> 00:31:07: the world, to try to convince more and more people
00:31:07 --> 00:31:11: that this is an urgent issue and the faster we
00:31:11 --> 00:31:15: deal with it, the less harm is going to be
00:31:15 --> 00:31:16: created.
00:31:18 --> 00:31:20: Can you talk about the lag?
00:31:20 --> 00:31:24: Like we bring our carbon down and what the lag
00:31:24 --> 00:31:27: is before we actually start to see some results.
00:31:29 --> 00:31:32: Well, there's some disagreement on that.
00:31:32 --> 00:31:38: There are actually some scientists like James Hansen who
thinks
00:31:38 --> 00:31:42: that we've already gone past what he calls a tipping
00:31:43 --> 00:31:46: point and and we're already in a way due to
00:31:47 --> 00:31:52: certain things happening like the ice sheets in the Arctic
00:31:52 --> 00:31:57: and Antarctica giving way, not just gradually melting.
00:31:59 --> 00:32:03: So again, there's disagreement on it.
00:32:03 --> 00:32:06: That's where the debate is in climate change, not whether
00:32:06 --> 00:32:09: it's happening, not whether it's serious, not whether it's us,
00:32:09 --> 00:32:12: not whether it's going to continue getting worse.
00:32:12 --> 00:32:16: It's the details of what's going to happen in the
00:32:16 --> 00:32:20: future and what can we do to limit that.
00:32:21 --> 00:32:25: So there are some top climate scientists in the world
00:32:25 --> 00:32:30: who believe, and one of them right here in Philadelphia,
00:32:30 --> 00:32:35: his name is Michael Mann, world famous climate scientist
who
00:32:35 --> 00:32:40: continually talks about we leveled off the CO2 and methane
00:32:40 --> 00:32:42: and started going down.
00:32:43 --> 00:32:46: You'll see at least some results within 20 years.
00:32:48 --> 00:32:51: This is not going to take a century to level
00:32:51 --> 00:32:54: off, but at the rate we're going, we're not even
00:32:54 --> 00:32:55: leveling off.
00:32:56 --> 00:33:00: So as long as we keep going up, you know,
00:33:00 --> 00:33:05: it's a moot point because we're the ones that created
00:33:05 --> 00:33:05: it.
00:33:05 --> 00:33:06: We're the ones that got to fix it.
00:33:08 --> 00:33:09: Thanks, Glenn.
00:33:09 --> 00:33:11: I think that's all the time we have for this

00:33:11 --> 00:33:15: part of Q&A, but we'll have another opportunity following the
00:33:15 --> 00:33:16: panel conversation.
00:33:16 --> 00:33:17: So hold on to your questions.
00:33:18 --> 00:33:20: I'd also invite folks to, you'll see on your table
00:33:20 --> 00:33:21: there's AQR code.
00:33:22 --> 00:33:25: If you want to submit questions through that QR code,
00:33:25 --> 00:33:29: through that online form, we'll prioritize those questions as
well.
00:33:29 --> 00:33:32: So if you have questions during the discussion, feel free
00:33:32 --> 00:33:34: to scan that QR code and and submit them online.
00:33:35 --> 00:33:37: With that, I'd love to welcome all three of our
00:33:37 --> 00:33:40: panelists to the front of the room, Chris Lynn from
00:33:40 --> 00:33:42: Delaware Valley Regional Planning Commission.
00:33:42 --> 00:33:46: Gerald Joseph McAdams, Kaufman Junior from the
University of Delaware
00:33:47 --> 00:33:50: Water Resource Center and Lindsay Bruger from the Urban
Land
00:33:50 --> 00:33:54: Institute to continue our conversation with a focus on on
00:33:54 --> 00:33:56: what's being done and and some solutions.
00:33:56 --> 00:33:58: So welcome to the stage.
00:34:11 --> 00:34:16: OK, each person is going to have 5 minutes and
00:34:16 --> 00:34:23: then we're going to have a panel discussion right there.
00:34:23 --> 00:34:23: Advance it.
00:34:24 --> 00:34:24: That's the pointer.
00:34:24 --> 00:34:25: OK, great.
00:34:25 --> 00:34:26: Thank you.
00:34:28 --> 00:34:30: Yeah, so good afternoon everyone.
00:34:31 --> 00:34:34: It's a pleasure to to be here today with you.
00:34:34 --> 00:34:38: Thanks Glenn for that dynamic presentation on on climate
science
00:34:38 --> 00:34:39: and impacts.
00:34:39 --> 00:34:41: I think you made a job for the rest of
00:34:41 --> 00:34:45: us a lot easier provide providing that background.
00:34:45 --> 00:34:48: So I'm going to try to set the stage today
00:34:48 --> 00:34:52: for this panel by looking at climate resilience through a
00:34:52 --> 00:34:57: regional lens and also by providing a broad perspective on
00:34:57 --> 00:35:00: resilience of planning, policy and funding.
00:35:02 --> 00:35:07: So DVRPC, we've been working with our partners for a
00:35:07 --> 00:35:12: long time now to likewise help them understand the scale
00:35:12 --> 00:35:17: and scope and details of of climate of climate impact
00:35:17 --> 00:35:23: so that they can take informed action around planning,
design,
00:35:23 --> 00:35:26: operations and investments.

00:35:28 --> 00:35:32: So you know, this is a really important work.
00:35:32 --> 00:35:35: A lot of it's not very different from, you know,
00:35:35 --> 00:35:37: the message that Glenn was just delivering in his keynote.
00:35:38 --> 00:35:40: And we have some examples of that work shown on
00:35:40 --> 00:35:41: this slide.
00:35:43 --> 00:35:46: So to dig focus on one project, this publication on
00:35:46 --> 00:35:50: extreme heat that we did for our municipal governments was,
00:35:50 --> 00:35:54: you know, designed to help them define the problem,
understand
00:35:54 --> 00:35:58: the menu or suite of interventions they can take and
00:35:58 --> 00:36:03: promote the policies and to develop policies that promote
implementation.
00:36:04 --> 00:36:06: So I think, you know, one thing that was also
00:36:07 --> 00:36:10: interesting that this work was done, you know, at a
00:36:10 --> 00:36:11: regional scale.
00:36:11 --> 00:36:14: So the data you see here again, on land surface
00:36:14 --> 00:36:19: temperatures, you know, helped all of our partners
understand that
00:36:19 --> 00:36:23: things like extreme heat or not evenly distributed across, you
00:36:23 --> 00:36:27: know, across the regional scale and also, you know, the
00:36:27 --> 00:36:31: impacts of the also the impacts of the urban heat
00:36:31 --> 00:36:32: island effect.
00:36:37 --> 00:36:41: So going on DVRPC, you know, we're kind of unique.
00:36:41 --> 00:36:45: We're not a, we're not an actual government, but we
00:36:45 --> 00:36:49: work with all levels of local government as well as
00:36:49 --> 00:36:54: nonprofit, academic, institutional, community and private
sector partners.
00:36:55 --> 00:36:57: We do, we do a lot, we do a lot
00:36:57 --> 00:37:00: of planning, of course, but we also provide direct technical
00:37:01 --> 00:37:04: assistance, data and, and funding to our partners.
00:37:04 --> 00:37:06: And I think this helps give us a broad perspective
00:37:06 --> 00:37:09: on their work, on their roles and understand, you know,
00:37:09 --> 00:37:11: how they interact with with one another.
00:37:13 --> 00:37:18: I think this, you know, this is important because we
00:37:18 --> 00:37:23: see that there's, you know, a lot of emerging efforts
00:37:23 --> 00:37:28: here and there's a big opportunity to build resilience at
00:37:28 --> 00:37:28: scale.
00:37:28 --> 00:37:30: And I'm going to talk about that more in a
00:37:30 --> 00:37:30: second.
00:37:33 --> 00:37:37: So having worked in this space for a long time,
00:37:37 --> 00:37:41: you know, we understand that there are a broad range
00:37:41 --> 00:37:45: or a toolbox or a suite of measures, strategies to
00:37:45 --> 00:37:46: build resilience.

00:37:47 --> 00:37:50: But to help us simplify this discussion, we tend to
00:37:50 --> 00:37:52: group them into two broad buckets.
00:37:52 --> 00:37:55: We like to think about our 2 broad buckets of
00:37:55 --> 00:37:57: really meaningful substantive actions.
00:37:58 --> 00:38:01: That includes what we what we think of as nature
00:38:01 --> 00:38:04: based solutions from the urban scale to the landscape scale.
00:38:04 --> 00:38:09: Of course, this happens across that continuum as as well
00:38:09 --> 00:38:14: as incorporating climate change considerations into the
planning, design and
00:38:14 --> 00:38:19: operations of really all aspects of the built environment, but
00:38:19 --> 00:38:23: especially our critical infrastructure systems.
00:38:25 --> 00:38:29: Another key theme is that, you know, climate change is
00:38:29 --> 00:38:32: a multiplier of existing inequities.
00:38:32 --> 00:38:38: So disadvantaged communities, when they experience not
only the acute
00:38:38 --> 00:38:42: impact impacts of acute climate hazards, but also the chronic
00:38:42 --> 00:38:47: effects, they will recover more slowly than other areas and
00:38:47 --> 00:38:52: those effects will tend to linger, thereby deepening the
conditions
00:38:52 --> 00:38:53: of disadvantage.
00:38:55 --> 00:38:58: So I think it's important to, to note right now,
00:38:58 --> 00:39:00: as we're all sitting here today, you know, we're, we're
00:39:01 --> 00:39:02: at a unique, we're at a unique moment.
00:39:02 --> 00:39:06: There's been a huge growth in the awareness of, of
00:39:06 --> 00:39:10: climate change impacts and a desire to take action, no
00:39:10 --> 00:39:14: doubt spurred by a lot of the observations Glenn was
00:39:14 --> 00:39:16: sharing as well as in our region.
00:39:16 --> 00:39:22: Hurricane Sandy, tropical storms Ida and ECS, the never
ending
00:39:22 --> 00:39:26: parade of heat waves that we seem to have every
00:39:26 --> 00:39:29: summer and, and and and and more.
00:39:30 --> 00:39:34: There is, there is all this, you know, has led
00:39:34 --> 00:39:39: to a huge increase in planning, data analysis and proliferation
00:39:39 --> 00:39:43: of, of, of tools and, and data sources.
00:39:43 --> 00:39:48: There's also right now unprecedented opportunities as we
know available
00:39:48 --> 00:39:52: with federal funding as Jerry's going to talk about more
00:39:52 --> 00:39:53: in a second.
00:39:54 --> 00:39:57: But you know, despite this great opportunity that we have,
00:39:57 --> 00:39:58: you know, I believe.
00:40:00 --> 00:40:02: That we really need to do a better job of
00:40:02 --> 00:40:06: engaging both the private and public sectors to, to build
00:40:06 --> 00:40:10: resilience at scale and especially especially at the at the

00:40:10 --> 00:40:11: regional scale.

00:40:14 --> 00:40:18: So given the moment that we're in right now and

00:40:18 --> 00:40:22: all the many, many activities that are that are going

00:40:22 --> 00:40:25: on nationally and in our region.

00:40:26 --> 00:40:29: DVRPC currently thought it was a good time to to

00:40:29 --> 00:40:32: take a step back and conduct what we are calling

00:40:32 --> 00:40:38: a climate resilience landscape assessment to better understand the challenges,

00:40:38 --> 00:40:42: needs and opportunities of our many partners and better define

00:40:42 --> 00:40:43: our role.

00:40:43 --> 00:40:46: This work is going to result in a needs assessment

00:40:46 --> 00:40:49: that will not only inform our future work, but hopefully

00:40:49 --> 00:40:52: it will help inform our partners work.

00:40:53 --> 00:40:58: We're working with the consultants, Burrell Happold and Interface Studios

00:40:58 --> 00:41:00: on this project.

00:41:01 --> 00:41:03: So it's a good time for us commercial for that

00:41:03 --> 00:41:03: work.

00:41:04 --> 00:41:08: You know, we're doing a lot of engagement, but we

00:41:08 --> 00:41:12: want to engage as many practitioners and partners on this

00:41:12 --> 00:41:15: as possible so we can make the work as so

00:41:15 --> 00:41:18: we can make the work as, as relevant for as

00:41:18 --> 00:41:20: possible for everyone.

00:41:21 --> 00:41:25: So with that, you know, if you're interested in this

00:41:25 --> 00:41:28: work or would like to talk to me more, I,

00:41:28 --> 00:41:30: you know, I welcome future discussions.

00:41:31 --> 00:41:35: And now I'm going to pass it off to Jerry.

00:41:45 --> 00:41:45: Thank you very much.

00:41:45 --> 00:41:46: Thanks everybody.

00:41:46 --> 00:41:49: It's yeah, my name is Gerald or Jerry, but I'm,

00:41:49 --> 00:41:50: I'm a Philadelphian.

00:41:50 --> 00:41:52: I was born in Kensington on Agate St.

00:41:52 --> 00:41:56: and at the hospital right down the street and grew

00:41:56 --> 00:42:00: up there with my my father and my mother and

00:42:00 --> 00:42:01: my grandparents.

00:42:01 --> 00:42:03: And then I moved over to East Camden across the

00:42:04 --> 00:42:04: river.

00:42:04 --> 00:42:07: And so I know Philadelphia, I can say water with

00:42:07 --> 00:42:11: the best of them and Philadelphia is 1 syllable, right?

00:42:13 --> 00:42:16: But I'm delighted to be invited to hear that today.

00:42:16 --> 00:42:21: Glenn, thank you very much for the the keynote to

00:42:21 --> 00:42:22: get us started.

00:42:23 --> 00:42:25: And I want to talk about the landscape, the landscape
00:42:25 --> 00:42:29: of Philadelphia and how it might affect the challenges that
00:42:29 --> 00:42:31: we have with climate and climate resilience.
00:42:32 --> 00:42:35: And I do remember studying architecture up at Rutgers.
00:42:35 --> 00:42:38: I think the the limit you you guys could design
00:42:38 --> 00:42:41: was four stories back in the 19th century.
00:42:42 --> 00:42:44: That was the limit of structural engineering.
00:42:44 --> 00:42:47: So in Chicago and Denver here, I'm not sure how
00:42:47 --> 00:42:49: many stories this is, but I like hanging out with
00:42:50 --> 00:42:53: the architects and they work well with the engineers and
00:42:53 --> 00:42:54: the planners.
00:42:54 --> 00:42:56: So I am down at the University of Delaware in
00:42:56 --> 00:42:57: the Biden School of Public Policy.
00:42:58 --> 00:43:00: Lot going on down there, a lot of changes.
00:43:01 --> 00:43:04: There was a big event I heard on Tuesday down
00:43:04 --> 00:43:07: the street in Philadelphia and this is a big event.
00:43:07 --> 00:43:11: So a lot happening in this this little city of
00:43:11 --> 00:43:13: ours and that's a good one.
00:43:13 --> 00:43:14: King said it's 1955.
00:43:14 --> 00:43:18: It's something I've been thinking about for the last five
00:43:18 --> 00:43:21: years is justice runs down like water and righteousness like
00:43:21 --> 00:43:22: a mighty stream.
00:43:23 --> 00:43:26: He said the 1955 it's actually from the Bible, Amos
00:43:27 --> 00:43:30: in the in the Bible and it's a good water
00:43:30 --> 00:43:31: water term.
00:43:31 --> 00:43:34: I think that reminds us about getting along in peace
00:43:34 --> 00:43:35: together.
00:43:36 --> 00:43:41: So Philadelphia, Philadelphia was founded between the
Schuylkill and the
00:43:41 --> 00:43:45: Delaware by William Penn right 1682 because of the water
00:43:45 --> 00:43:46: that was here.
00:43:46 --> 00:43:51: And he designed a grid network right from the Philadelphia
00:43:51 --> 00:43:54: to Schuylkill with the City Hall at the center.
00:43:55 --> 00:43:58: And then he called the Green Country town, and then
00:43:58 --> 00:44:01: he put these squares in everybody so often, like Washington
00:44:01 --> 00:44:02: Square, right?
00:44:02 --> 00:44:05: And that was actually a good design for the late
00:44:05 --> 00:44:07: 17th century for the environment.
00:44:07 --> 00:44:11: You can see Philadelphia, an old 1776 map there.
00:44:11 --> 00:44:14: It's interesting to see the names of the creeks that
00:44:14 --> 00:44:15: were there.
00:44:15 --> 00:44:17: And you know what the mouth of the Delaware is

00:44:17 --> 00:44:21: where the Henry Hudson got stranded on the Half Moon
00:44:21 --> 00:44:24: when he was trying to find Near Passage to India,
00:44:24 --> 00:44:27: right off of Cape May on the Oyster Shoals.
00:44:27 --> 00:44:29: And then of course, failed N up to the Hudson
00:44:29 --> 00:44:31: and market history was changed.
00:44:32 --> 00:44:34: So but he was trying to get up to a
00:44:34 --> 00:44:38: Philadelphia, which then was the largest, third largest port in
00:44:38 --> 00:44:41: the English in the British Empire after Liverpool and and
00:44:41 --> 00:44:42: London.
00:44:42 --> 00:44:45: And then you can see how the the city evolved
00:44:45 --> 00:44:46: over time.
00:44:46 --> 00:44:49: At the time of Walt Whitman, when Walt Whitman was
00:44:49 --> 00:44:51: hanging out across the river and Camden writing poetry.
00:44:52 --> 00:44:54: You can read his read his books, his poems.
00:44:54 --> 00:44:56: He talked a lot about the Delaware River.
00:44:56 --> 00:44:59: So you know, Delaware, the Philadelphia is a Watertown and
00:44:59 --> 00:45:02: therefore it's at the front lines of the climate emergency
00:45:03 --> 00:45:04: as as Glenn mentioned.
00:45:05 --> 00:45:09: So the cities here, the sister cities like Chester, Wilmington,
00:45:09 --> 00:45:13: where we're working, Camden are all on the front lines
00:45:14 --> 00:45:18: because they're they're location on the river and they have
00:45:18 --> 00:45:19: innate wealth.
00:45:20 --> 00:45:23: We did a study, it's actually published in the Journal
00:45:23 --> 00:45:25: of Oil on gas mining of all places, because I
00:45:25 --> 00:45:28: wanted to get the story into the heart of the
00:45:28 --> 00:45:28: beast.
00:45:28 --> 00:45:32: Then that the value of the resources in the Delaware
00:45:32 --> 00:45:37: River, water dependent are significant, like forests that filter
00:45:37 --> 00:45:37: the
00:45:37 --> 00:45:37: water.
00:45:37 --> 00:45:39: Coming down to Philadelphia recreation.
00:45:39 --> 00:45:44: This is recreational use like kayaking, power, boating over a
00:45:44 --> 00:45:47: billion and drinking water is significant as well.
00:45:47 --> 00:45:51: That's Philadelphia plus New York, the 1st and 6th largest
00:45:51 --> 00:45:56: metropolitan economies draw water from the Delaware and
00:45:56 --> 00:45:58: hydraulic fracturing
00:45:56 --> 00:45:58: refracting it was just a up in Wayne County.
00:45:58 --> 00:46:00: It's just a very small part.
00:46:00 --> 00:46:03: And that's why the four governors in the Delaware Base
00:46:03 --> 00:46:08: Commission voted to on a moratorium against hydraulic
00:46:08 --> 00:46:09: fracturing in
00:46:08 --> 00:46:09: the Delaware Basin.
00:46:09 --> 00:46:12: And I think that's the better term, a moratorium.

00:46:12 --> 00:46:15: I heard Kamala Harris talk about she's for fracking.
00:46:15 --> 00:46:17: If I were to advise her, I'd say I'm for
00:46:17 --> 00:46:22: a moratorium on hydraulic fracturing in watersheds that feed drinking
00:46:22 --> 00:46:25: water supplies, and I think that would go over well
00:46:25 --> 00:46:28: to all parties, but I haven't been asked yet.
00:46:33 --> 00:46:35: There's some famous people down at the bind store.
00:46:36 --> 00:46:38: So then moving up, this is the NOAA map where
00:46:38 --> 00:46:40: the sea level rise continues.
00:46:40 --> 00:46:41: You can see the blue.
00:46:41 --> 00:46:43: This would be sea level rise in the middle part
00:46:43 --> 00:46:44: of the century.
00:46:44 --> 00:46:48: Wilmington flood prone areas like we're working, I'm working with
00:46:48 --> 00:46:52: Karen in Greenville United NE Wilmington that got really hit
00:46:52 --> 00:46:52: hard by Ida.
00:46:53 --> 00:46:56: This is the neighborhoods that are 5 feet above sea
00:46:56 --> 00:46:58: level and then moving up, you see Camden, Chester all
00:46:58 --> 00:46:59: the way up.
00:46:59 --> 00:47:02: Those are the areas that are vulnerable on in the
00:47:02 --> 00:47:03: Delaware Valley.
00:47:03 --> 00:47:04: But fortunately there are remedies.
00:47:04 --> 00:47:07: A lot of them are old, actually.
00:47:07 --> 00:47:09: You can see the flooding from Ida where Karen and
00:47:09 --> 00:47:12: I are working with Green Building United in northeast
00:47:12 --> 00:47:14: Wilmington.
00:47:12 --> 00:47:14: This is drone footage of Ida.
00:47:14 --> 00:47:17: And so I was on the climate committee with the
00:47:17 --> 00:47:20: governor back in 2015 with a couple Deans, and I
00:47:20 --> 00:47:24: wrote the water chapter for the state of Delaware and
00:47:24 --> 00:47:27: climate resilience we forecasted in Ida for 2040 or 2050.
00:47:28 --> 00:47:31: So for me, Glenn, you showed the acceleration of the
00:47:31 --> 00:47:34: storms in the last five years maybe, which is really
00:47:34 --> 00:47:35: concerning.
00:47:35 --> 00:47:39: Ida was the was a really for me, Ida was
00:47:39 --> 00:47:44: 2021 we thought was going to happen in two decades.
00:47:44 --> 00:47:48: So we're planning on a flood resistance park.
00:47:48 --> 00:47:51: Karen and I were working with the city and their
00:47:51 --> 00:47:52: engineers.
00:47:52 --> 00:47:56: This rendering over on the right is not designed by
00:47:56 --> 00:47:58: a consultant like you.
00:47:58 --> 00:48:01: It was designed by a senior in a landscape architecture
00:48:01 --> 00:48:04: class at the university that actually went to high school

00:48:04 --> 00:48:07: right across the river and Howard High School and shows
00:48:08 --> 00:48:11: a flood resistance park that has green spaces, wetlands
where
00:48:11 --> 00:48:15: the combined sew overflow will be daylighted and feed down.
00:48:15 --> 00:48:18: That is a brilliant design from someone that's 21 years
00:48:18 --> 00:48:18: old.
00:48:18 --> 00:48:20: And that's the one design we're pushing instead of more
00:48:21 --> 00:48:21: pavement.
00:48:21 --> 00:48:24: And then of course, we saw the Vine Street Expressway
00:48:24 --> 00:48:26: where the guy did the backflip, right?
00:48:26 --> 00:48:29: And some of the anecdotes to that or what's being
00:48:29 --> 00:48:34: done along the Schuylkill River, the green approach, nature
based
00:48:34 --> 00:48:35: solutions.
00:48:35 --> 00:48:37: So what's old is new.
00:48:38 --> 00:48:42: This is the green country town down by Society Hill
00:48:42 --> 00:48:43: Historic area.
00:48:43 --> 00:48:46: You can see the squares where it's fortunate.
00:48:47 --> 00:48:50: We're talking about this in Philadelphia because William
Penn willed
00:48:50 --> 00:48:53: the money to build the first municipal water system in
00:48:53 --> 00:48:55: the growing United States down at the Art Museum, right
00:48:55 --> 00:48:57: at the end of his life.
00:48:57 --> 00:49:01: His successors built Fairmount Park to protect the water
supply.
00:49:01 --> 00:49:04: And that's the largest miscible water public park system in
00:49:04 --> 00:49:06: the United States of America.
00:49:06 --> 00:49:08: And you know, William Penn did name the streets after
00:49:08 --> 00:49:09: trees.
00:49:09 --> 00:49:13: I used to know them, but it's spruce, walnut, chestnut,
00:49:13 --> 00:49:14: something like that.
00:49:15 --> 00:49:19: So arguing about the green approach, not the engineering
approach
00:49:19 --> 00:49:21: to address the climate resilience problem.
00:49:22 --> 00:49:26: And fortunately, though, the administration got it through
Congress, the
00:49:26 --> 00:49:30: Bipartisan Infrastructure Act, the Inflation Reduction Act.
00:49:31 --> 00:49:32: That's kind of an unfortunate name.
00:49:33 --> 00:49:35: When I think of that, you know, my mother's from
00:49:35 --> 00:49:36: Northern Ireland.
00:49:37 --> 00:49:39: She would talk about the Irish Republican Army.
00:49:39 --> 00:49:39: OK.
00:49:40 --> 00:49:42: And thankfully, there's peace there.

00:49:42 --> 00:49:43: It's been a Good Friday record.

00:49:43 --> 00:49:47: It's very personal in my family where I come from,

00:49:47 --> 00:49:49: but it's the Inflation Reduction Act.

00:49:49 --> 00:49:54: And in there, there plus the Bipartisan Infrastructure Act, there

00:49:54 --> 00:49:57: is enough money for almost the 3/4 of the federal

00:49:57 --> 00:50:01: budget, which is about \$800 billion normally for discretionary funding

00:50:01 --> 00:50:03: that is filtering down.

00:50:03 --> 00:50:07: And I can tell you, you know this, they're racing,

00:50:07 --> 00:50:11: that's the those articles that were just published, the administration's

00:50:11 --> 00:50:15: racing to get the money out by November and January

00:50:15 --> 00:50:16: for political reasons.

00:50:17 --> 00:50:19: So the money's there to do this.

00:50:19 --> 00:50:24: And there's environmental justice plans that the president put forward.

00:50:24 --> 00:50:26: We're trying to get an EPA grant, Karen and I,

00:50:26 --> 00:50:28: to do the work that we'd like to do with

00:50:28 --> 00:50:30: the flood resistance park.

00:50:32 --> 00:50:34: From all this being said, it sounds like it's a

00:50:34 --> 00:50:37: perfect use of the environmental justice funds.

00:50:37 --> 00:50:38: So we're hoping for that.

00:50:40 --> 00:50:44: Things like forest captures carbon significantly started to the United

00:50:44 --> 00:50:45: States.

00:50:45 --> 00:50:47: So more trees on Agate St.

00:50:47 --> 00:50:52: for instance, cropland regenerative agriculture.

00:50:53 --> 00:50:56: Woody Harrelson Harrison from Cheers he was in that he

00:50:56 --> 00:50:59: said that you know the soil captures the carbon and

00:50:59 --> 00:51:02: when it gets plowed it releases the carbon.

00:51:03 --> 00:51:08: So regenerative agriculture, cover crops, urban farms all do its

00:51:08 --> 00:51:11: part to store the store the carbon.

00:51:11 --> 00:51:15: So nature based solutions is what I'm touting and others

00:51:15 --> 00:51:20: have touted here as the solutions to our climate emergency.

00:51:20 --> 00:51:23: And one last thing, what can be done?

00:51:24 --> 00:51:27: I mean, I've said it, I've had the audience.

00:51:27 --> 00:51:30: The president should declare a climate emergency because it is

00:51:30 --> 00:51:33: a climate emergency that would bring the full resources of

00:51:33 --> 00:51:35: the federal government to address this urgent problem.

00:51:35 --> 00:51:37: That's every bit as emergency as other national solutions.

00:51:37 --> 00:51:40: So thanks for your time today and I look forward

00:51:40 --> 00:51:42: to the rest of the the event here this afternoon.

00:51:51 --> 00:51:55: Hey, good afternoon, everyone.

00:51:55 --> 00:51:57: So great to be here.

00:51:57 --> 00:51:58: I'm Lindsay Bruegger.

00:51:58 --> 00:52:02: I'm Vice President of ULI's Urban Resilience Program, which helps

00:52:02 --> 00:52:06: buildings, cities and communities be better prepared for the impacts

00:52:06 --> 00:52:07: of climate change.

00:52:08 --> 00:52:11: So we work with our wonderful ULI members and partners,

00:52:11 --> 00:52:15: basically everybody in this room to accomplish the three goals

00:52:15 --> 00:52:16: that you see here.

00:52:17 --> 00:52:20: And we work on a wide range of resilience topics,

00:52:20 --> 00:52:23: extreme heat, of course, being one of them.

00:52:25 --> 00:52:30: We've worked with Boston, NY, Houston, Nashville, San Diego, Dallas,

00:52:30 --> 00:52:35: many other cities on technical assistance and on thought leadership

00:52:35 --> 00:52:39: to help advance the built environment when it comes to

00:52:39 --> 00:52:41: managing extreme heat.

00:52:42 --> 00:52:44: So today I'm going to talk a little bit about

00:52:44 --> 00:52:47: some of the themes we've seen across this work with

00:52:47 --> 00:52:50: a heavy emphasis on policy since we've already had some

00:52:50 --> 00:52:52: discussion on finance and design strategies.

00:52:54 --> 00:52:54: Good question.

00:52:54 --> 00:52:56: Do we have any policy makers in the room?

00:52:59 --> 00:53:00: Got one.

00:53:00 --> 00:53:00: OK.

00:53:00 --> 00:53:03: Do we have anybody who engages with policy?

00:53:03 --> 00:53:05: Everybody's hand goes up.

00:53:05 --> 00:53:06: OK, this is my test.

00:53:06 --> 00:53:07: Make sure you're awake.

00:53:07 --> 00:53:08: Thank you very much.

00:53:09 --> 00:53:13: So first I want to say there are so many

00:53:13 --> 00:53:17: policies that can help to cool our cities.

00:53:18 --> 00:53:22: And really when we think about what Glenn was talking

00:53:22 --> 00:53:26: about and just how significant extreme heat can be, every

00:53:26 --> 00:53:31: built environment policy could and arguably should be an extreme

00:53:31 --> 00:53:32: heat policy.

00:53:33 --> 00:53:35: That's not to say that extreme heat is the only

00:53:36 --> 00:53:37: thing a given policy should address.

00:53:37 --> 00:53:42: Ideally, our policies create Co benefits and offer multiple solutions

00:53:42 --> 00:53:45: to the many challenges that we have when it comes

00:53:45 --> 00:53:46: to climate.

00:53:47 --> 00:53:49: And of course there is no silver bullet when it

00:53:49 --> 00:53:52: comes to extreme heat or really any of our climate

00:53:52 --> 00:53:52: challenges.

00:53:53 --> 00:53:56: So it's important to try to bundle these into a

00:53:56 --> 00:53:59: multi pronged more a holistic approach.

00:54:01 --> 00:54:04: So shade, that's probably one of the first things that

00:54:04 --> 00:54:06: you think about when you think about extreme heat.

00:54:06 --> 00:54:11: And many cities are working to create shade by protecting

00:54:11 --> 00:54:14: and enhancing their urban tree canopies.

00:54:15 --> 00:54:19: They're also thinking about specific places within our belt

00:54:19 --> 00:54:23: realm

00:54:19 --> 00:54:23: that can particularly benefit from shade, like parking lots, the

00:54:23 --> 00:54:26: public realm, so things like sidewalks.

00:54:26 --> 00:54:30: And then also thinking about our disinvested communities

00:54:30 --> 00:54:33: and the

00:54:30 --> 00:54:33: public transit routes that they might use to get to

00:54:33 --> 00:54:35: work or to other places and making sure that those

00:54:36 --> 00:54:39: two are shaded and more comfortable during these extreme

00:54:39 --> 00:54:39: heat

00:54:39 --> 00:54:39: events.

00:54:42 --> 00:54:46: Cities are also mandating the use of cool surfaces and

00:54:46 --> 00:54:47: green roofs.

00:54:47 --> 00:54:52: Often that looks like mandating or encouraging green roofs

00:54:52 --> 00:54:56: and

00:54:52 --> 00:54:56: cool roofs during the new construction process.

00:54:57 --> 00:55:01: But that can also look like requiring cool or green

00:55:01 --> 00:55:04: roofs during a roof replacement, right?

00:55:04 --> 00:55:07: Because the architects in the room, the owners in the

00:55:07 --> 00:55:10: room, you know that a roof probably won't last as

00:55:10 --> 00:55:11: long as the building.

00:55:11 --> 00:55:14: So this is a wonderful opportunity to make your roof

00:55:14 --> 00:55:17: work a little bit harder for you when it comes

00:55:17 --> 00:55:18: to extreme heat.

00:55:21 --> 00:55:24: I mentioned some Co benefits earlier and the importance of

00:55:24 --> 00:55:27: Co benefits when it comes to thinking about policy and

00:55:27 --> 00:55:30: what those policies are encouraging in terms of our built

00:55:30 --> 00:55:32: environment and downsizing.

00:55:32 --> 00:55:36: Parking and roads are really a great example of this

00:55:36 --> 00:55:38: multi benefit approach.

00:55:39 --> 00:55:42: A lot of cities are trading their parking minimums for
00:55:42 --> 00:55:47: parking maximums or they're even reducing or eliminating
their minimum
00:55:47 --> 00:55:50: parking requirements altogether.
00:55:50 --> 00:55:54: This of course helps with things like traffic and pollution
00:55:54 --> 00:55:57: and even managing runoff from storm water, but it also
00:55:57 --> 00:56:01: has Co benefits for extreme heat because there is less
00:56:01 --> 00:56:05: asphalt in our cities, making them warmer and contributing to
00:56:05 --> 00:56:07: that urban heat island effect.
00:56:11 --> 00:56:15: Nature is another example of a Co benefit, right?
00:56:15 --> 00:56:16: Think about nature based solutions.
00:56:17 --> 00:56:19: Of course, those can help to cool our cities as
00:56:20 --> 00:56:22: well as help with things like flooding.
00:56:23 --> 00:56:27: And zoning can be a really valuable tool for both
00:56:27 --> 00:56:29: greening and cooling our cities.
00:56:31 --> 00:56:34: And one of the things I think is particularly valuable
00:56:34 --> 00:56:37: about zoning is it can be really valuable and viable
00:56:37 --> 00:56:41: alternative when we think about our building codes and the
00:56:41 --> 00:56:44: fact that sometimes a city is not allowed to have
00:56:44 --> 00:56:47: a more stringent energy code than what the state code
00:56:47 --> 00:56:48: already implements.
00:56:50 --> 00:56:53: Zoning also has the added benefit of being able to
00:56:53 --> 00:56:57: provide incentives like density bonuses for cool roofs.
00:57:01 --> 00:57:04: Zooming in on buildings for a moment here, many cold
00:57:04 --> 00:57:08: weather cities, Philadelphia, DC, Boston, etcetera.
00:57:08 --> 00:57:13: We're familiar with the minimum indoor temperature
requirements, right?
00:57:14 --> 00:57:16: And landlord has to provide heating in the winter.
00:57:16 --> 00:57:20: We don't want our residents to freeze, but until recently,
00:57:20 --> 00:57:24: there weren't a lot of requirements around a maximum
temperature
00:57:24 --> 00:57:28: setting because now as our summers are getting hotter and
00:57:28 --> 00:57:32: longer, that protection that our residents need is protection
from
00:57:32 --> 00:57:35: the heat rather than protection for the cold.
00:57:39 --> 00:57:41: And then I also want to uplift building codes as
00:57:41 --> 00:57:45: an opportunity to create systemic change in our built
environment
00:57:45 --> 00:57:47: and create more comfortable indoor environments.
00:57:48 --> 00:57:53: In particular, building codes are very valuable because they
are
00:57:53 --> 00:57:58: updated more frequently than energy codes and
unfortunately only some
00:57:58 --> 00:58:00: cities have a green code.

00:58:05 --> 00:58:07: And of course not one of these things is going
00:58:07 --> 00:58:08: to work on its own.
00:58:09 --> 00:58:11: I mentioned before the need to have a multi pronged
00:58:11 --> 00:58:12: approach.
00:58:12 --> 00:58:15: This is just one example of that from New York
00:58:15 --> 00:58:19: City, which has a program called Cool Neighborhoods NYC
00:58:19 --> 00:58:24: that
00:58:19 --> 00:58:24: does incorporate some of the built environment approaches
00:58:24 --> 00:58:28: that I've
00:58:24 --> 00:58:28: mentioned earlier, but it also pairs that with public education
00:58:28 --> 00:58:31: and outreach as well as data collection and monitoring.
00:58:33 --> 00:58:37: As these extreme heat policies become more complex and
00:58:37 --> 00:58:42: these
00:58:37 --> 00:58:42: programs become more layered and holistic, innovations in
00:58:42 --> 00:58:43: governance is
00:58:42 --> 00:58:43: also needed.
00:58:44 --> 00:58:47: And we're starting to see that really in cities across
00:58:47 --> 00:58:50: the world, for example, the chief heat officers that are
00:58:50 --> 00:58:54: being appointed to run some of these programs and ensure
00:58:54 --> 00:58:55: their success.
00:58:55 --> 00:59:00: Sometimes city departments are also established to really
00:58:55 --> 00:59:00: focus in
00:59:00 --> 00:59:04: on extreme heat and what's needed to cool that city.
00:59:05 --> 00:59:08: And then some cities are even beginning to weave in
00:59:08 --> 00:59:12: climate into their budgeting decision making process.
00:59:12 --> 00:59:16: This really started from a climate mitigation approach and
00:59:12 --> 00:59:16: thinking
00:59:16 --> 00:59:17: about decarbonization goals.
00:59:17 --> 00:59:21: But there's also an opportunity to expand this climate
00:59:17 --> 00:59:21: budgeting
00:59:21 --> 00:59:24: approach to some of the climate impacts that we're seeing,
00:59:24 --> 00:59:25: like extreme heat.
00:59:28 --> 00:59:30: And I will just leave this last slide for you,
00:59:30 --> 00:59:33: a few resources because as we think about extreme heat
00:59:34 --> 00:59:37: governance, as we think about extreme heat policy and
00:59:34 --> 00:59:37: action
00:59:37 --> 00:59:40: that we take in response to that policy, it's our
00:59:40 --> 00:59:44: obligation to engage in the governance, engage in the policy,
00:59:44 --> 00:59:46: and do what we can to help cool our cities.
00:59:46 --> 00:59:49: It's not just the responsibility of a chief heat officer
00:59:49 --> 00:59:51: or a single department.
00:59:51 --> 00:59:53: So I hope these resources can be helpful to you.
00:59:53 --> 00:59:55: There's lots more in these slides.
00:59:55 --> 00:59:58: I didn't want to inundate you so Christina can send

00:59:58 --> 01:00:00: them out or they'll be available on UL Ice Knowledge
01:00:00 --> 01:00:01: Finder.
01:00:09 --> 01:00:10: Right.
01:00:10 --> 01:00:16: You can see that there's progress being made, their ideas,
01:00:16 --> 01:00:21: there is some money coming down the Pike, and so
01:00:21 --> 01:00:23: it's a good combination.
01:00:25 --> 01:00:29: One thing that just occurred to me, Lindsay was talking
01:00:29 --> 01:00:31: about the parking.
01:00:33 --> 01:00:39: My concept is that any large open parking lot should
01:00:40 --> 01:00:47: be required to have solar canopies that not only would
01:00:47 --> 01:00:54: provide energy but also shade for all of those cars
01:00:54 --> 01:00:57: and much of that area.
01:00:57 --> 01:01:01: And so instead of, let's say, being able to get
01:01:01 --> 01:01:05: rid of parking lots, maybe we can put them into
01:01:06 --> 01:01:08: use or thoughts about that?
01:01:12 --> 01:01:14: I would say that's a both and approach, right.
01:01:14 --> 01:01:17: We, we want to make sure that we think about
01:01:17 --> 01:01:20: how we can encourage transit rich environments that provide
01:01:20 --> 01:01:23: public
01:01:23 --> 01:01:25: transit as well as parking and that helps our health,
01:01:25 --> 01:01:27: that helps our built environment.
01:01:27 --> 01:01:30: But we know that our cities were designed for cars.
01:01:30 --> 01:01:31: So let's make those parking lots work in as many
01:01:31 --> 01:01:33: ways as we can.
01:01:33 --> 01:01:35: Anybody have a problem with that?
01:01:36 --> 01:01:37: Would anybody be against that?
01:01:40 --> 01:02:19: OK, that's well that would be a great solution.
01:02:20 --> 01:02:23: So far it's not economically feasible.
01:02:24 --> 01:02:25: They've tried.
01:02:25 --> 01:02:29: There's been all, there's all kind of research being done
01:02:29 --> 01:02:31: on it and eventually it it'll happen.
01:02:36 --> 01:02:42: It's a good well, everything is going to be more
01:02:42 --> 01:02:47: economic and feasible in the future.
01:02:47 --> 01:02:51: Who would have imagined all those years ago that we
01:02:51 --> 01:02:56: would have supercomputers in the pocket of every human on
01:02:56 --> 01:02:58: earth, just the back?
01:02:59 --> 01:03:04: And and the one thing that occurs to me about
01:03:04 --> 01:03:11: these magnificent computers is that the wealthiest person in
01:03:11 --> 01:03:17: the
01:03:17 --> 01:03:17: world has the same product that the rest of us
01:03:19 --> 01:03:22: have.
01:03:19 --> 01:03:22: This is all equality in a way.

01:03:24 --> 01:03:28: The technology that will be available 20 years from now.
01:03:29 --> 01:03:30: We have.
01:03:30 --> 01:03:32: We have no idea how good it's going to be,
01:03:32 --> 01:03:35: how efficient it's going to be, how much it's going
01:03:35 --> 01:03:36: to cost.
01:03:36 --> 01:03:45: And so capturing the carbon is an important goal and
01:03:45 --> 01:03:48: it would be great.
01:03:49 --> 01:03:56: So far, we're not there, but there are people, industries,
01:03:56 --> 01:04:02: universities studying it and working toward it.
01:04:03 --> 01:04:08: And 20 years from now, we may have some great,
01:04:08 --> 01:04:15: efficient ways to turn seawater into drinking water, for
example.
01:04:15 --> 01:04:19: There's so many different technologies that we can't even
imagine
01:04:20 --> 01:04:20: now.
01:04:22 --> 01:04:32: That's a thing that I'm looking forward to what's happening
01:04:32 --> 01:04:34: right now.
01:04:35 --> 01:04:36: Our industry uses it to pump.
01:04:36 --> 01:04:37: More oil.
01:04:37 --> 01:04:58: What we have is provided synthesis.
01:05:33 --> 01:05:33: Next.
01:05:35 --> 01:05:36: Yeah, that's a great point.
01:05:36 --> 01:05:40: And you know, maybe it's a good jumping up opportunity
01:05:40 --> 01:05:44: to explore, you know, in our work how nature is
01:05:44 --> 01:05:47: playing a role in helping to bring down heat and
01:05:47 --> 01:05:49: address flooding.
01:05:49 --> 01:05:51: Chris, maybe do you want to start with what you
01:05:51 --> 01:05:51: found?
01:05:53 --> 01:05:54: Yeah, sure.
01:05:54 --> 01:05:57: To to the point that was being made nature based
01:05:57 --> 01:05:58: solutions.
01:05:58 --> 01:06:02: But because they offer opportunities for, you know,
sequestration of
01:06:02 --> 01:06:05: of of carbon and greenhouse gases, I mean they're just
01:06:05 --> 01:06:08: so critical in that regard, they can't solve the problem
01:06:08 --> 01:06:09: in its own.
01:06:09 --> 01:06:12: But again, it gets back to scaling the actions and
01:06:12 --> 01:06:17: really, you know, really multiplying them across the region.
01:06:17 --> 01:06:19: And there's a lot of great programs out there, but
01:06:19 --> 01:06:21: we know we have to do so much more with
01:06:21 --> 01:06:24: our management of our natural landscapes in our forestry to
01:06:24 --> 01:06:25: make those reductions meaningful.
01:06:26 --> 01:06:28: But they also do to the points we're talking about

01:06:28 --> 01:06:31: today, they do double duty because they're a huge benefit
01:06:31 --> 01:06:31: to resilience.
01:06:32 --> 01:06:35: Lindsay, of course, was highlighting them about extreme
heat, especially
01:06:35 --> 01:06:36: in urban environments.
01:06:36 --> 01:06:40: And there's such an important strategy for, for, for, for
01:06:40 --> 01:06:40: cooling.
01:06:41 --> 01:06:43: But even there, you know, I know the city's really
01:06:43 --> 01:06:45: trying to do a lot with for community forestry right
01:06:45 --> 01:06:46: now.
01:06:46 --> 01:06:49: We work with a lot of communities on community forestry
01:06:49 --> 01:06:49: plans.
01:06:51 --> 01:06:51: It's great.
01:06:51 --> 01:06:52: We have to do it.
01:06:53 --> 01:06:56: There's obstacles to achieving it, and we have to break
01:06:56 --> 01:06:58: them down and and and and implement that at scale.
01:06:58 --> 01:06:59: Yeah.
01:06:59 --> 01:07:03: And Speaking of of obstacles, if any of you run
01:07:03 --> 01:07:07: into some pushback from either the public or other people
01:07:08 --> 01:07:11: and what you're trying to do, talk about some of
01:07:12 --> 01:07:12: that.
01:07:14 --> 01:07:18: Well, yeah, broadly across the spectrum, there's a push back
01:07:18 --> 01:07:21: in a lot of different sectors, You know, certainly just
01:07:21 --> 01:07:25: to keep it on our focus scale, urban forestry, urban
01:07:25 --> 01:07:28: greening and urban areas, there's always a lot of community
01:07:28 --> 01:07:32: push back because of problems with the maintenance of
existing
01:07:32 --> 01:07:35: tree cover, that people see them as hazards.
01:07:36 --> 01:07:40: They're often responsible for the damage trees create to their
01:07:40 --> 01:07:45: sidewalks or their underground infrastructure, or they just see
them
01:07:45 --> 01:07:46: as a nuisance.
01:07:47 --> 01:07:49: So, you know, a lot of times you do have
01:07:49 --> 01:07:52: community and neighborhood push back even to something
that, you
01:07:52 --> 01:07:54: know, we think is such a no brainer like urban
01:07:54 --> 01:07:55: greening.
01:07:55 --> 01:07:59: But even that underscores the need for communities to
maintain
01:07:59 --> 01:08:02: their infrastructure and take some of that liability off of
01:08:02 --> 01:08:03: individuals.
01:08:04 --> 01:08:07: And then also, you know, lead by example in your
01:08:07 --> 01:08:09: own public parks and and and grounds.

01:08:12 --> 01:08:15: You know, you can put, you can put solar and
01:08:15 --> 01:08:17: then green roofs on the same building half and half
01:08:17 --> 01:08:18: just to get started.
01:08:19 --> 01:08:21: And that we're doing that in Newcastle County.
01:08:22 --> 01:08:25: But yeah, we've gotten some scraps with some of the
01:08:25 --> 01:08:28: big industries like Amazon, Amazon with the big buildings,
the
01:08:28 --> 01:08:32: warehouses they're building and, you know, trying to work
with
01:08:32 --> 01:08:32: them.
01:08:32 --> 01:08:35: And then finally we landed and now we're starting to
01:08:35 --> 01:08:38: put the solar panels on the top in the county
01:08:38 --> 01:08:38: code.
01:08:38 --> 01:08:40: So that was, that's an example we could do some
01:08:40 --> 01:08:41: things.
01:08:41 --> 01:08:44: For me, I think the ultimate solution is, is greenways,
01:08:45 --> 01:08:47: terms of flooding greenways, these were old concepts.
01:08:48 --> 01:08:50: I worked in a loop for five years in Chicago
01:08:50 --> 01:08:53: and that was the City Beautiful movement.
01:08:53 --> 01:08:55: If you've been there at the Chicago River, they reverse
01:08:55 --> 01:08:56: the flow of the river.
01:08:57 --> 01:08:59: You know, they did that away from the Great Lakes.
01:08:59 --> 01:09:02: But these beautiful greenways like we have now in the
01:09:02 --> 01:09:06: Schuylkill, like William, like Ben Franklin's successors build
up in
01:09:06 --> 01:09:07: Fairmont Park.
01:09:07 --> 01:09:08: I think that's the ultimate solution.
01:09:09 --> 01:09:13: And so I, I was around when they started Penn,
01:09:13 --> 01:09:17: started the Penn Penn Treaty Park N up to Brydsburg
01:09:17 --> 01:09:19: of all places in Tacony.
01:09:19 --> 01:09:22: That's beautiful because if you take all the development out
01:09:22 --> 01:09:25: of the floodplain, that Mother Nature can absorb the flood
01:09:25 --> 01:09:25: water.
01:09:25 --> 01:09:28: More greenways, less warehouse buildings.
01:09:33 --> 01:09:35: I was going to actually just take this a little
01:09:35 --> 01:09:36: bit from a development standpoint.
01:09:37 --> 01:09:40: And internationally in Europe, we're seeing a much more, I
01:09:40 --> 01:09:45: guess I'll say stronger push towards biodiversity than what
we're
01:09:45 --> 01:09:48: seeing in this country for exactly many of the reasons
01:09:48 --> 01:09:49: that you bring up.
01:09:49 --> 01:09:52: And I would say that I think that that'll be
01:09:52 --> 01:09:54: a trend that we start to see here as well.

01:09:54 --> 01:09:57: Many of you Ally members are expressing more and more
01:09:57 --> 01:10:02: interest in nature positive development and really integrating
biodiversity and
01:10:02 --> 01:10:06: regeneration into their developments because of the many
benefits that
01:10:06 --> 01:10:07: nature can bring.
01:10:11 --> 01:10:12: I was just going to respond to your comment about
01:10:12 --> 01:10:13: greenways.
01:10:13 --> 01:10:17: Jerry love greenways, but even here they're, you know,
they're
01:10:17 --> 01:10:20: challenges again and push back even the you know, we've
01:10:21 --> 01:10:24: seen just the imperative of economic development.
01:10:24 --> 01:10:26: A lot of our former industrial areas along riverfronts have
01:10:26 --> 01:10:29: seen a lot of development and that's a great thing
01:10:29 --> 01:10:31: from community revitalization and economic development.
01:10:31 --> 01:10:34: But a lot of these things places have been built
01:10:34 --> 01:10:37: in some flood prone or vulnerable areas and, and floodplains,
01:10:37 --> 01:10:40: no doubt they've been designed with resilience in mind.
01:10:40 --> 01:10:42: But when you develop in a vulnerable location, you can
01:10:42 --> 01:10:43: have unintended consequences.
01:10:43 --> 01:10:46: And it also sort of, you know, works a little
01:10:46 --> 01:10:48: bit odds of really trying to create these, you know,
01:10:48 --> 01:10:50: robust green Carters sometimes.
01:10:50 --> 01:10:54: So there's, you know, conflict there and greenways are great,
01:10:54 --> 01:10:57: but you know, for existing development it's, it's hard to
01:10:57 --> 01:11:01: move it, it's there, you know, so you really have
01:11:01 --> 01:11:03: to deal with other strategies in that.
01:11:03 --> 01:11:07: Yes, I could just imagine, you know, as I'm driving
01:11:07 --> 01:11:09: along Delaware Ave.
01:11:09 --> 01:11:14: and seeing these condos on the water, those people on
01:11:14 --> 01:11:19: the 1st floor have any idea what's going to happen
01:11:19 --> 01:11:24: one day when you're talking about the the roofs and
01:11:24 --> 01:11:25: the businesses.
01:11:25 --> 01:11:32: I interviewed the CEO of the company called Scrub Daddy
01:11:32 --> 01:11:34: local booming success.
01:11:35 --> 01:11:42: They moved their headquarters from the Philadelphia area
over to
01:11:42 --> 01:11:48: New Jersey because of specific tax breaks that they got.
01:11:50 --> 01:11:54: And I was at their place and it it probably
01:11:55 --> 01:12:00: covers the this whole block with a flat roof, solar
01:12:01 --> 01:12:05: panels throughout the roof structure.
01:12:07 --> 01:12:11: They have charging stations so that all their employees can
01:12:11 --> 01:12:16: charge their electric cars, which of course they encourage for

01:12:16 --> 01:12:18: free during the day.

01:12:19 --> 01:12:26: They use efficient technology inside the building to reduce their

01:12:26 --> 01:12:29: carbon footprint even more.

01:12:30 --> 01:12:34: And they create so much energy that they then sell

01:12:34 --> 01:12:37: it back to the utility company.

01:12:38 --> 01:12:44: So industries can potentially be a part of this and

01:12:45 --> 01:12:47: can even profit from it.

01:12:48 --> 01:12:51: And I'll tell you anybody that calls up and talks

01:12:51 --> 01:12:52: to this guy, he'll be convinced.

01:12:53 --> 01:12:55: And he was convinced.

01:12:55 --> 01:12:59: But why did he have to move his factory across

01:12:59 --> 01:13:00: the river?

01:13:00 --> 01:13:00: What?

01:13:00 --> 01:13:06: What is it in Philadelphia that is holding back some

01:13:06 --> 01:13:07: of this?

01:13:10 --> 01:13:10: OK.

01:13:13 --> 01:13:15: I I think it's just supply and demand.

01:13:15 --> 01:13:16: It's the supply and demand curve.

01:13:16 --> 01:13:19: You have the competitors like Jersey, they want to get

01:13:19 --> 01:13:22: the Sixers now, but the governor and you know, it

01:13:22 --> 01:13:24: just creates this, this kind of betting mark that you

01:13:25 --> 01:13:27: can prove what a supply and demand curve.

01:13:28 --> 01:13:31: And so I think that's, that's what it's all about.

01:13:31 --> 01:13:34: But, you know, you have the Delaware River uniting the

01:13:34 --> 01:13:35: three states.

01:13:35 --> 01:13:37: It's one of the few things that unites the three

01:13:37 --> 01:13:37: states.

01:13:38 --> 01:13:41: And so the Delaware River is the ultimate asset that

01:13:41 --> 01:13:44: ties the states together cooperatively.

01:13:44 --> 01:13:47: So, you know, Philadelphia has a lot going for it

01:13:48 --> 01:13:51: because you have a housing stock that you describe the

01:13:51 --> 01:13:52: row houses.

01:13:53 --> 01:13:55: You know, if you, I've lived in one and I

01:13:55 --> 01:13:59: go back to see them, you know, marble steps, circular

01:13:59 --> 01:14:00: staircases, right?

01:14:00 --> 01:14:02: And they're they're going to last forever.

01:14:02 --> 01:14:05: So you have this housing stock in the industrial base.

01:14:05 --> 01:14:08: I mean, in the late 19th century, the economy changed

01:14:08 --> 01:14:10: here because I studied this in my dissertation from an

01:14:11 --> 01:14:12: industrial economy.

01:14:12 --> 01:14:17: They're making Pullman, you know, trains and Baldman

steam locomotives

01:14:17 --> 01:14:21: right over here, the world's largest sugar refineries because they

01:14:21 --> 01:14:25: would ship the sugar cane up from Miami to a

01:14:25 --> 01:14:28: med's and ed's economy, which is clean and technology.

01:14:29 --> 01:14:31: So, Glenn, you mentioned the economy can change.

01:14:31 --> 01:14:33: It can change actually relatively rapidly.

01:14:35 --> 01:14:36: That's what Philadelphia has going for it.

01:14:36 --> 01:14:37: Oh, somebody.

01:14:42 --> 01:14:43: Oh, OK, go ahead.

01:14:43 --> 01:14:43: Yeah.

01:14:43 --> 01:14:46: So I think we've heard an e-mail that the federal

01:14:46 --> 01:14:47: spending after you've.

01:14:48 --> 01:14:54: Thought the better guarantee, but you know, I think we

01:14:55 --> 01:14:56: see a lot of.

01:14:56 --> 01:14:57: Planning projects.

01:14:58 --> 01:14:58: A lot.

01:14:59 --> 01:14:59: Of, you know, design.

01:15:00 --> 01:15:00: Thank you.

01:15:01 --> 01:15:04: You know implementation even being funded by some of these

01:15:04 --> 01:15:07: sources, but I think a challenge locally and for many

01:15:07 --> 01:15:10: small jurisdictions or large jurisdictions is operation and maintenance.

01:15:11 --> 01:15:13: So I'm wondering if you can speak to regionally some

01:15:14 --> 01:15:17: success stories or maybe even the opportunity for advocacy for

01:15:17 --> 01:15:20: different funding types that you've seen any three of you

01:15:20 --> 01:15:21: in your work.

01:15:23 --> 01:15:27: Just a clarification on operation and maintenance and what regard.

01:15:38 --> 01:15:40: Yeah, I'll, I'll start out some microphone.

01:15:40 --> 01:15:42: Yeah, that's a, that's a great question.

01:15:42 --> 01:15:45: You know, an operation and maintenance of any type of infrastructure project and intervention is, is key.

01:15:45 --> 01:15:49: And you know, we talked about scaling up and you

01:15:49 --> 01:15:52: know, I think with resilience a lot of what we

01:15:52 --> 01:15:55: we want to see and what's most effective is, is

01:15:55 --> 01:15:58: distributed solutions like urban GSI or just like improved community

01:15:58 --> 01:16:02: urban forestry.

01:16:02 --> 01:16:03: urban forestry.

01:16:04 --> 01:16:08: It's not one big infrastructure project, but all these things

01:16:09 --> 01:16:12: you have to be maintained to work properly and to

01:16:12 --> 01:16:17: continue to have public support and also achieve their their

01:16:17 --> 01:16:18: Co benefits.

01:16:18 --> 01:16:20: So yeah, I'm sort of staying the obvious, but yeah,

01:16:20 --> 01:16:21: how do we do that?

01:16:21 --> 01:16:23: We need to have more resources.

01:16:23 --> 01:16:26: We need to understand that point and then to devote

01:16:26 --> 01:16:27: the resources accordingly.

01:16:27 --> 01:16:28: It's hard.

01:16:28 --> 01:16:33: A lot of the federal funding that's coming through doesn't

01:16:33 --> 01:16:37: necessarily support that kind of aspect of this.

01:16:38 --> 01:16:41: So that's, you know, really where local governments come in,

01:16:41 --> 01:16:44: but there's a lack of capacity there too.

01:16:44 --> 01:16:46: So, you know, it's, it's one of the inherent, it's

01:16:46 --> 01:16:47: an inherent challenge.

01:16:47 --> 01:16:48: I don't know.

01:16:48 --> 01:16:53: If anyone has a solution with the federal contributions that

01:16:53 --> 01:16:54: are coming.

01:16:54 --> 01:16:56: Yeah, I can just add an example.

01:16:56 --> 01:17:02: Charlotte Methenburg has established kind of a regional

01:17:02 --> 01:17:03: stormwater fee

01:17:03 --> 01:17:05: program.

01:17:05 --> 01:17:08: Some of you might be familiar with it because it

01:17:08 --> 01:17:10: has done phenomenal things for their buyout program, but

01:17:10 --> 01:17:14: it's

01:17:14 --> 01:17:17: also used for stormwater management projects.

01:17:17 --> 01:17:20: And something like that could be adapted to address exactly

01:17:20 --> 01:17:22: what you're talking about, which is so, so important and

01:17:22 --> 01:17:26: so challenging on pretty much everything we design and

01:17:26 --> 01:17:29: build.

01:17:29 --> 01:17:31: So thank you for asking that question.

01:17:31 --> 01:17:33: I think I maybe saw a 5 minute warning question.

01:17:33 --> 01:17:35: OK.

01:17:35 --> 01:17:37: We're also going to do a, we're going to alternate

01:17:37 --> 01:17:41: with questions that you submitted via the QR code before

01:17:41 --> 01:17:44: we go back to the ones in the room.

01:17:44 --> 01:17:46: So I'm going to ask one question from the QR

01:17:46 --> 01:17:49: code and then we'll do one more in the room.

01:17:49 --> 01:17:53: What are promising carbon capture solutions?

01:17:53 --> 01:17:55: What was the question?

01:17:55 --> 01:17:58: What are promising carbon capture?

01:17:58 --> 01:18:01: Solutions.

01:18:01 --> 01:18:04: Well, I'll start, you know, have the big you have

01:18:04 --> 01:18:07: the big proposals to, you know, sweep the wind and

01:17:56 --> 01:17:57: pump it into the ground.

01:17:58 --> 01:18:04: But trees and agriculture are huge carbon capture solutions that

01:18:04 --> 01:18:06: are are growing.

01:18:06 --> 01:18:11: So the bipartisan Infrastructure Act funneled billions to the USDA

01:18:11 --> 01:18:14: for farmers just simply to do what they've always done.

01:18:15 --> 01:18:19: And many farmers are great environmentalists, cover crops and no

01:18:19 --> 01:18:23: till farming, very inexpensive per acre, a lot of benefit.

01:18:23 --> 01:18:25: That's that's what we're advocating in Delaware.

01:18:28 --> 01:18:32: The technology is, as I was saying earlier, that it

01:18:32 --> 01:18:36: is evolving and at some point it will become cost

01:18:37 --> 01:18:41: effective for actual businesses to do this on a large

01:18:41 --> 01:18:46: scale and some company is going to make a fortune

01:18:46 --> 01:18:48: once they figure it out.

01:18:52 --> 01:18:55: I'm a Passive House consultant, one of the first since

01:18:55 --> 01:18:55: 2009.

01:18:56 --> 01:19:00: I also do expert witness work on our rotting city

01:19:00 --> 01:19:04: where people can't even build to code or design to

01:19:04 --> 01:19:05: code.

01:19:05 --> 01:19:09: So we need training and we need a stretch code,

01:19:09 --> 01:19:14: which is what Boston has, which is really powered the

01:19:14 --> 01:19:17: Passive House explosion of building there.

01:19:18 --> 01:19:24: And so policies that that train people and get money

01:19:24 --> 01:19:28: for that enforcement and then stretch.

01:19:28 --> 01:19:28: Codes.

01:19:32 --> 01:19:32: Amen.

01:19:32 --> 01:19:36: That excellent point and the federal funding question.

01:19:36 --> 01:19:40: There is some federal funding available to help cities pay

01:19:40 --> 01:19:42: for that workforce and train that workforce.

01:19:43 --> 01:19:45: FEMA is doing some really great work to help not

01:19:45 --> 01:19:48: just advance building codes, but enforce them.

01:20:02 --> 01:20:05: Just very quickly about the question about maintenance too, is

01:20:05 --> 01:20:08: the what's promising is the growth of the nonprofit sector.

01:20:09 --> 01:20:11: So in policy, we used to talk about the private

01:20:11 --> 01:20:14: sector, you know, over the Business School and the public

01:20:14 --> 01:20:16: sector in the public policy school.

01:20:16 --> 01:20:19: But the growth of the nonprofit sector, you know, a

01:20:19 --> 01:20:21: lot of you is really a good way to build

01:20:21 --> 01:20:25: in operation maintenance because you need governance to maintain the

01:20:25 --> 01:20:26: facilities.

01:20:26 --> 01:20:29: And by and large, the nonprofit sector is doing a

01:20:29 --> 01:20:31: lot of that to good effect, in my belief.

01:20:32 --> 01:20:34: All right, we're going to go back to the Slido

01:20:34 --> 01:20:35: question again.

01:20:36 --> 01:20:37: This one's for Chris.

01:20:37 --> 01:20:42: How are DVRP CS infrastructure investments serving to mitigate against

01:20:42 --> 01:20:43: or adapt to climate?

01:20:43 --> 01:20:43: Change.

01:20:45 --> 01:20:48: Yes, that's a great, that's a great question.

01:20:48 --> 01:20:49: And so it's a two-part question.

01:20:49 --> 01:20:53: I think, you know, it's about reducing the greenhouse gas footprint of the of the transportation sector and then also

01:20:53 --> 01:20:56: making it more resilient or adapt to to climate impacts.

01:20:56 --> 01:21:00:

01:21:01 --> 01:21:04: There is a lot of work going on right now

01:21:04 --> 01:21:08: with regard to how we program and plan and fund

01:21:08 --> 01:21:13: our transportation projects to have an increased focus on, on

01:21:13 --> 01:21:14: reducing emissions.

01:21:16 --> 01:21:17: You know, I'd say two things.

01:21:17 --> 01:21:20: You know, that that's sort of like always been part

01:21:20 --> 01:21:23: of what we do and trying to promote good conditions,

01:21:23 --> 01:21:27: you know, improve the transit system, create good conditions from

01:21:27 --> 01:21:31: multimodal bicycle and pedestrian and land use supportive environments for

01:21:31 --> 01:21:34: that, for those transportation options.

01:21:34 --> 01:21:37: But you know, it's changed in the last five years.

01:21:37 --> 01:21:42: We're specifically where greenhouse gas is becoming, you know, emerging

01:21:42 --> 01:21:45: as a important criteria for evaluating our projects.

01:21:46 --> 01:21:51: There's there was a performance standard being promulgated that we

01:21:52 --> 01:21:57: have to set targets and show progress towards reducing emissions

01:21:57 --> 01:22:01: in the transportation sector still evolving.

01:22:01 --> 01:22:04: There's and there's just a ton of planning work going

01:22:04 --> 01:22:07: on and a lot of strategies both, you know, from

01:22:07 --> 01:22:10: the transportation angle and really from the greenhouse gas mitigation

01:22:10 --> 01:22:11: angle.

01:22:11 --> 01:22:16: Obviously electric vehicles in a supported infrastructure can make a

01:22:16 --> 01:22:18: huge progress in that realm.

01:22:21 --> 01:22:26: So on the resilience, on the resilience side, yeah, there's
01:22:26 --> 01:22:29: also, you know, I, I J funding for both our
01:22:29 --> 01:22:36: Dots and competitive funding for projects to specifically
address vulnerabilities
01:22:36 --> 01:22:38: of the transportation sector.
01:22:38 --> 01:22:42: DVRPC and, and the Dots have been working on identifying
01:22:42 --> 01:22:45: those vulnerabilities for a long time and now building on
01:22:45 --> 01:22:49: that work with new funding opportunities to, you know,
identify
01:22:49 --> 01:22:53: specific projects that will be competitive or really makes
sense
01:22:53 --> 01:22:57: to implement to address critical vulnerable flooding spots and
areas
01:22:57 --> 01:23:01: where, you know, repeated storm water flooding, flooding are
a
01:23:01 --> 01:23:04: problem and also, you know, the effects of extreme heat
01:23:04 --> 01:23:08: on all the materials and the transportation infrastructures.
01:23:08 --> 01:23:12: That's an engineering and design level challenge, but it's
happening
01:23:12 --> 01:23:15: at that angle, you know, and also at the planning
01:23:15 --> 01:23:16: and the funding.
01:23:16 --> 01:23:18: So a lot going on there, more than I can
01:23:18 --> 01:23:21: talk about right now, but you're happy to follow up
01:23:21 --> 01:23:21: more after.
01:23:24 --> 01:23:26: OK, we'll do another online question.
01:23:27 --> 01:23:35: How are we prioritizing children in EJ communities from the
01:23:35 --> 01:23:43: excess heat, the privilege of having the microphone?
01:23:44 --> 01:23:47: So I think, you know, one thing I talked about
01:23:47 --> 01:23:51: and Lindsay touched on and, and, and Glenn really touched
01:23:52 --> 01:23:56: on is the vulnerability of certain groups, especially to extreme
01:23:56 --> 01:23:57: heat.
01:23:57 --> 01:24:01: Glenn focused on the the elderly and certainly that needs
01:24:01 --> 01:24:02: to be addressed.
01:24:02 --> 01:24:06: But I think the question was about children also a
01:24:06 --> 01:24:10: more vulnerable group and not maybe just in terms of
01:24:10 --> 01:24:15: death, but in terms of discomfort and developmental issues
and
01:24:15 --> 01:24:19: not being able to work as well in school.
01:24:20 --> 01:24:24: You know, and I think throughout this work is identifying
01:24:24 --> 01:24:29: those vulnerable populations and identifying projects to to, I
don't
01:24:29 --> 01:24:32: know, mitigate those those vulnerabilities.
01:24:33 --> 01:24:36: But I think especially in the city, this in, in
01:24:36 --> 01:24:40: urban areas and disadvantaged areas, you know, this gets

back

01:24:40 --> 01:24:43: to the, the housing stock, the conditions in, in which
01:24:43 --> 01:24:47: folks live, the what you were talking about with the
01:24:47 --> 01:24:50: renters and the maximum allowable temperature.
01:24:50 --> 01:24:53: I mean, that's a great policy and a great framing
01:24:54 --> 01:24:58: to ensure that the, the, you know, the conditions that
01:24:58 --> 01:25:03: in which vulnerable in which children live are, are deleterious.
01:25:03 --> 01:25:03: So.
01:25:04 --> 01:25:08: Now, I'm also concerned, you know, when it comes to
01:25:08 --> 01:25:13: children about the schools that don't have air conditioning,
that
01:25:13 --> 01:25:17: have to close when the temperature or the heated index
01:25:18 --> 01:25:21: or the wet bulb or whatever they decide to be,
01:25:21 --> 01:25:23: the criteria gets too high.
01:25:24 --> 01:25:30: And 10 years from now, there may be double or
01:25:30 --> 01:25:35: triple the number of days that hit that category.
01:25:36 --> 01:25:39: So that's part of the planning ahead because you know
01:25:39 --> 01:25:42: it's going to happen and you're not about to get
01:25:42 --> 01:25:45: air conditioning, but the schools will get hotter.
01:25:48 --> 01:25:51: I was going to go back to the maximum temperature
01:25:51 --> 01:25:54: set point, which is I think very valuable from a
01:25:54 --> 01:25:58: residential standpoint, but I think that could be applied to
01:25:58 --> 01:26:01: other occupancy types like schools.
01:26:01 --> 01:26:02: To to your point, Glenn.
01:26:02 --> 01:26:04: And then the other thing I want to bring up
01:26:05 --> 01:26:08: just broadly about extreme heat and vulnerable communities
is the
01:26:08 --> 01:26:11: social connectivity that we saw as being so crucial after
01:26:11 --> 01:26:13: the 1995 Chicago heat wave.
01:26:13 --> 01:26:16: Many of you have probably read Eric Klinenberg's report on
01:26:16 --> 01:26:16: this.
01:26:17 --> 01:26:20: And kind of from a sociological standpoint, and something
that
01:26:20 --> 01:26:23: UI has looked into, and I think all of us
01:26:23 --> 01:26:25: in this room have an opportunity to do, is look
01:26:25 --> 01:26:29: at social infrastructure and how we can create these places
01:26:29 --> 01:26:33: that bring people together, create an activity, and also have
01:26:33 --> 01:26:36: Climate Co benefits because they help our communities be
better
01:26:36 --> 01:26:40: prepared to impact, to respond to the climate impacts when
01:26:40 --> 01:26:40: they do occur.
01:26:43 --> 01:26:47: Just quickly, yeah, more parks again, because for the kids,
01:26:47 --> 01:26:49: when you see them, like I see them at the

01:26:49 --> 01:26:51: spray parks, it's just beautiful.
01:26:51 --> 01:26:52: I mean, it's very simple.
01:26:52 --> 01:26:53: It's safe.
01:26:54 --> 01:26:56: Karen and I are running a situation in Wilmington where
01:26:56 --> 01:26:59: there's somebody, one of the parks directors against it.
01:26:59 --> 01:27:01: But, you know, more green space for parks.
01:27:01 --> 01:27:05: The, I mean, Frederick Homestead, recognize that was
Central Park.
01:27:05 --> 01:27:08: It was the urban refuge for, you know, kids that
01:27:08 --> 01:27:11: were going working before child labour laws for six days
01:27:11 --> 01:27:11: a week.
01:27:12 --> 01:27:14: So more green spaces.
01:27:14 --> 01:27:17: And as Glenn mentioned, you know, you may have to
01:27:17 --> 01:27:20: change the school year to reflect the the the heating
01:27:20 --> 01:27:23: and maybe start school later in the school year, those
01:27:23 --> 01:27:24: type of things.
01:27:24 --> 01:27:27: But no, school should not have air conditioning and all
01:27:27 --> 01:27:31: schools should have grass playgrounds, not asphalt like I
grew
01:27:31 --> 01:27:32: up on.
01:27:38 --> 01:27:41: I just wanted to mention that the Office of Sustainability
01:27:42 --> 01:27:46: published a really terrific community based heat solution to
heat
01:27:46 --> 01:27:47: in neighborhoods called.
01:27:48 --> 01:27:50: Beat the Heat Hunting Park and if you haven't seen
01:27:51 --> 01:27:53: it, it's on the website and it's exactly what you
01:27:53 --> 01:27:54: mentioned, Lindsay.
01:27:54 --> 01:27:58: It's multifaceted, it's multi pronged, and they did not have,
01:27:58 --> 01:28:00: when I last checked, the money to roll that out
01:28:00 --> 01:28:04: across other neighborhoods in the city, but it's a fantastic
01:28:04 --> 01:28:07: template for how to use community resources to battle the
01:28:07 --> 01:28:09: heat problems in vulnerable neighborhoods.
01:28:19 --> 01:28:21: 11 last slide, a question.
01:28:30 --> 01:28:31: Oh, that was a roundabout trip.
01:28:33 --> 01:28:33: Do you?
01:28:33 --> 01:28:36: Do any of you know of any state or county
01:28:36 --> 01:28:39: requiring solar on any of the many warehouses popping up?
01:28:40 --> 01:28:41: Would that be a good idea?
01:28:44 --> 01:28:48: I love the idea it, it's amazing if you, if
01:28:48 --> 01:28:53: you look at some of the other countries in the
01:28:53 --> 01:28:58: world, the way ahead of us in solar and wind,
01:28:58 --> 01:29:04: hydro, nuclear is kind of controversial, but it's not carbon
01:29:04 --> 01:29:06: dioxide coming out.

01:29:08 --> 01:29:14: The more solar it can get in the more places
01:29:14 --> 01:29:15: the better.
01:29:16 --> 01:29:22: And whether it's incentives from the government that is what's
01:29:22 --> 01:29:26: going to take this or some tax write offs that
01:29:26 --> 01:29:31: for example, I just got an bought an electric car
01:29:31 --> 01:29:36: and there was quite an incentive from the government.
01:29:38 --> 01:29:43: The government incentive for the car is for the cars
01:29:43 --> 01:29:47: made overseas or not overseas in the in the US.
01:29:47 --> 01:29:53: But what happened is the other car manufacturers had to
01:29:53 --> 01:29:56: match it in order to compete.
01:29:57 --> 01:30:00: So I I was able to get a a car
01:30:00 --> 01:30:04: with the same discount that it would get if it
01:30:04 --> 01:30:09: was United States because of the competition.
01:30:10 --> 01:30:15: Competition can lead to lower prices too, not just the
01:30:15 --> 01:30:16: government.
01:30:21 --> 01:30:26: Yeah, I'm not aware of any codes that require warehouses
01:30:26 --> 01:30:28: to put solar on them.
01:30:28 --> 01:30:32: But you know, as Glenn was talking about, there's, there's
01:30:32 --> 01:30:36: a lot of incentives and, you know, assistance that local
01:30:36 --> 01:30:40: municipalities or, or governments can provide to, to, to encourage
01:30:40 --> 01:30:41: that.
01:30:41 --> 01:30:43: So I mean, there may be examples out there that
01:30:43 --> 01:30:44: I don't know about, but.
01:30:46 --> 01:30:48: So not specific to warehouses, but Denver does have a
01:30:48 --> 01:30:52: solar requirement for buildings that are over 25,000 square
feet.
01:30:52 --> 01:30:55: And then the other thing I'll say for those of
01:30:55 --> 01:30:59: you who are interested in warehouses and industrial
products, ULI
01:30:59 --> 01:31:01: is going to be coming out with an industrial ESG
01:31:01 --> 01:31:05: report that explores how industrial buildings can contribute to
our
01:31:05 --> 01:31:07: sustainability goals.
01:31:07 --> 01:31:08: So keep an eye out for that.
01:31:13 --> 01:31:15: I think that's all the time we have for formal
01:31:15 --> 01:31:18: Q&A, but I'd love to give everyone maybe if you
01:31:18 --> 01:31:21: have any closing thoughts or or final thoughts, an opportunity
01:31:21 --> 01:31:22: for those.
01:31:24 --> 01:31:26: So I was struck earlier by the lag question, which
01:31:26 --> 01:31:28: I love that you brought up.
01:31:28 --> 01:31:30: And I want to talk about it from a perspective

01:31:30 --> 01:31:35: of why resilience is important because climate mitigation, decarbonization and

01:31:35 --> 01:31:38: reaching our Nets, your goals are absolutely critical to our

01:31:38 --> 01:31:39: long term success.

01:31:40 --> 01:31:43: And because we have a lag, there are already consequences

01:31:43 --> 01:31:47: that we're facing and they're only going to get worse,

01:31:47 --> 01:31:48: as Glenn had said.

01:31:48 --> 01:31:51: So we need a really strong both and approach.

01:31:51 --> 01:31:52: We can't just mitigate.

01:31:52 --> 01:31:55: We also need to adapt and have resilience.

01:31:55 --> 01:31:56: And I love that all of you are here in

01:31:56 --> 01:31:58: this room to advocate for that.

01:32:01 --> 01:32:03: No, I just, you know, could maybe I'm biased because

01:32:03 --> 01:32:06: I was born here in native Philadelphia by through I

01:32:06 --> 01:32:09: think Philadelphia is the place that you, that could, because

01:32:09 --> 01:32:12: of its location, it's almost necessary to build buildings and

01:32:13 --> 01:32:16: renovate them in accordance with, you know, modern standards.

01:32:16 --> 01:32:20: And if you think about all the great Philadelphia architects,

01:32:20 --> 01:32:23: you can name them and you're you're the descendants of

01:32:23 --> 01:32:24: that.

01:32:24 --> 01:32:26: There's a lot of innovation in this city.

01:32:26 --> 01:32:27: And if it, if it, if it can be done

01:32:27 --> 01:32:29: anywhere, it can be done in Philadelphia.

01:32:35 --> 01:32:38: Yeah, just just broadly, you know, sort of struck by,

01:32:38 --> 01:32:41: you know, there's a good understanding of how how deep

01:32:41 --> 01:32:45: the challenges are need to be overcome to to implement

01:32:45 --> 01:32:47: a lot of the things that we talked about that

01:32:47 --> 01:32:50: are great ideas and why can't they just happen.

01:32:51 --> 01:32:54: But you know, I just think the energy of of

01:32:54 --> 01:32:57: the like people and the folks in this room and

01:32:57 --> 01:33:00: that we're having this forum today.

01:33:01 --> 01:33:03: I mean, you know, and all the initiatives that are

01:33:03 --> 01:33:06: going on out there, there really is a, you know,

01:33:06 --> 01:33:09: great opportunity to start picking up these apart 1 by

01:33:09 --> 01:33:12: 1, you know, and start really building these strategies up

01:33:12 --> 01:33:14: in ways that we haven't done before.

01:33:14 --> 01:33:18: And it's so important, I think because underlying all this,

01:33:18 --> 01:33:22: you know, as Glenn's presentation highlighted, you know, these impacts

01:33:22 --> 01:33:24: aren't going to stop, stop coming.

01:33:25 --> 01:33:28: Yes, the topic of mitigation Cape coming coming up, even

01:33:28 --> 01:33:31: though we're focusing on resilience and it's, you know, it's

01:33:31 --> 01:33:34: hard not to talk about both at the same time
01:33:34 --> 01:33:35: is another observation.
01:33:35 --> 01:33:38: But it's it's Lindsey just said, no matter what we
01:33:38 --> 01:33:40: do, you know, we're going to have to do this,
01:33:40 --> 01:33:41: this work.
01:33:41 --> 01:33:44: And there's, you know, it's so many opportunities for Co
01:33:44 --> 01:33:47: benefits that come through it as well to address other
01:33:47 --> 01:33:49: intersectional challenges.
01:33:50 --> 01:33:56: Now, I just saw a study yesterday that says 59%
01:33:56 --> 01:34:05: of the population believes or accepts the idea that humans
01:34:05 --> 01:34:13: are responsible for the climate change, when 97 to 99%
01:34:13 --> 01:34:18: of climate scientists would say that.
01:34:19 --> 01:34:22: So we've got a gap, and part of it is
01:34:22 --> 01:34:25: unfortunately, political.
01:34:25 --> 01:34:26: Didn't start that way.
01:34:27 --> 01:34:30: I remember back in the turn of the century, Newt
01:34:30 --> 01:34:34: Gingrich and Nancy Pelosi were sat right next to each
01:34:34 --> 01:34:37: other to talk about the climate and the importance of
01:34:37 --> 01:34:37: it.
01:34:38 --> 01:34:42: And, you know, things have changed since then.
01:34:42 --> 01:34:48: But we need to get our local politicians interested in
01:34:48 --> 01:34:55: this and wanting to fight for this and to represent
01:34:55 --> 01:35:01: us as the people who understand what the issues are
01:35:01 --> 01:35:04: and what they're going to be.
01:35:05 --> 01:35:09: And that's how another way that we can contribute to
01:35:09 --> 01:35:11: making a better future.
01:35:13 --> 01:35:14: Fantastic.
01:35:16 --> 01:35:19: Glenn, Lindsay, Gerald, Chris, thank you so much for for
01:35:19 --> 01:35:22: joining us and for this this great conversation.
01:35:27 --> 01:35:30: This was a really a really great conversation that I
01:35:30 --> 01:35:32: think sets the foundation for the rest of the day.
01:35:32 --> 01:35:35: You know, we, we this conversation really focused broadly
01:35:35 --> 01:35:39: on
01:35:39 --> 01:35:40: the kind of regional context that's, that's informing so much
01:35:41 --> 01:35:43: about our built environment.
01:35:43 --> 01:35:46: And as we move through the day, our, our next
01:35:46 --> 01:35:47: panel will will cover similar topics, but more from a
01:35:47 --> 01:35:49: neighborhood perspective.
01:35:49 --> 01:35:52: And then we're excited to round things out with a
01:35:52 --> 01:35:53: few case studies that will really look at this at
01:35:53 --> 01:35:55: the property scale as well.
01:35:53 --> 01:35:55: So we have a really exciting afternoon ahead of us.

01:35:55 --> 01:35:58: Just a little bit of housekeeping before we take a
01:35:58 --> 01:35:58: short break.
01:35:59 --> 01:36:02: If anyone in the room is seeking any continuing education
01:36:02 --> 01:36:05: credits, you can find those at the organizational tables near
01:36:05 --> 01:36:05: the entrance.
01:36:06 --> 01:36:08: So make sure you, you sign up and fill out
01:36:08 --> 01:36:09: that paperwork if if you're seeking that.
01:36:10 --> 01:36:13: And then for anyone who doesn't already have a seat,
01:36:13 --> 01:36:15: I'll just note that there are a few open seats
01:36:15 --> 01:36:17: in the front, should you choose to, to find a
01:36:17 --> 01:36:20: seat as we get as we begin the second panel.
01:36:20 --> 01:36:22: But for now, we're going to take a short break,
01:36:22 --> 01:36:25: about 10 minutes, and then we'll reconvene back for a
01:36:25 --> 01:36:27: prompt, a prompt start of panel too.
01:36:27 --> 01:36:27: So thanks so much.

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