

# Adapting to Climate Change\_ Ex...imate Resilience with Battelle

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## SPEAKERS

Justin Sanchez, Doug Parsons, John Conger, Katie MacDonald

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### **D** Doug Parsons 00:00

Hi everyone this is America adapts the climate change podcast Hey adapters Welcome back to an exciting episode. In this pod. We're exploring America's role in climate resilience and adaptation. I'm partnering with Battelle leading up to their innovations and climate resilience conference or ICR 24 April 22 to 24th in Washington, DC, I see our 24 is attended by environmental professionals, scientists, researchers, students and leaders from the White House Department of Energy, national labs, department, defense, industry and academia. All sorts of folks are going to be there. Now kicking off this episode is Justin Sanchez, a technical Fellow at Battelle, Justin will ground us in Battelle's approach to resilience and some of their early work doing climate adaptation, then he'll provide a preview of ICR 24. Then John Conger of Congress strategies joins us to explain the role of the public sector in climate resilience through his extensive experience working in Congress and his senior leadership positions at the Department of Defense. Finally, Katie McDonald of the group tailwind shares how the private sector is ramping up its efforts in the adaptation space regarding the private sector. It's been a long time coming, but lots of encouraging news on that front and Katie will share some of her experiences. America has been a leader in climate adaptation and will continue to be my three guests will energize you on all the amazing things happening out there. And we'll continue that conversation at ICR 24. For more information on this event, please check out the show notes for links. Hopefully, we'll see you in DC. Okay, let's learn how America is leading on adaptation. Hey, adapters Joining me is Dr. Justin Sanchez, technical Fellow at Battelle. Hi, Justin, welcome back to the podcast.

### **J** Justin Sanchez 01:43

Doug. It's really wonderful to be here. Love your podcast, I always hear such great things about it. And it's a real pleasure and an honor to be hearing and chat a little bit about climate tech and what we're trying to do with that. Justin, you had been on before. And I have this fantastic partnership with Battelle. It's been an honor to work with you guys. But for my listeners who haven't listened to those episodes, and I encourage them to go back and listen to those. What

is Battelle? Yes, a Battelle is a world's largest, not for profit, applied science and technology organization. And that sounds like a lot of words. But it really boils down to is our charter is to do science and technology for the betterment of humanity. We're a company that's been around for about 90 years, it was formed through the will of Gordon Battelle and his mother, that they wanted to leave all of their the funds that they've built throughout their lives to science and technology. And we've continued that mission forward. We work in health, national security, and environment and infrastructure. And we work on the world's hardest problem when a lot of people, the government, the commercial sector, or even academia are trying to solve a really hard problem. And they don't know how to do it, they often call us and we have over 3000 scientists as a part of the main core part of the tau that work on that we consider ourselves an advanced developer. And what that means is that we are that kind of the bridge between the fundamental science and then trying to take that science and technology out into the world. So it becomes a real thing. It could be a real product, or it could be a real kind of use of certain kinds of technology. We don't necessarily do the manufacturing or any of those parts. We work with others on that. But we can mature the technology from a really cool and interesting idea and into something that is tangible that the world can use. And we've been, again been doing that for 90 years, we plan to do it for another 90 years and all of the people in the side of the teller just so passionate about that vision of science and technology for humanity. Before we jump into what we're really here to talk about isn't the innovations and climate resilience conference. What do you do there at Battelle? Yes, I'm a fellow. And what that means is that I helped to develop strategy across all those three areas that I mentioned how was national security and environment infrastructure. I'm a bio technologist by training. And I've spent a lot of my career I was a university professor for about a decade, I spent some time in government with a director of the biotech office over at DARPA, the Defense Advanced Research Projects Agency, and now the tell a work in our nonprofit organization on these really hard problems and really leveraging all of my experience from the past, and especially in biotechnology. And as it relates to climate and climate Tech, I tried to bring that perspective of systems and integration and new really cutting edge technologies, and applying them in a way in which they can be sustainable and impact the most people again, that gets back to our advanced development. So, strategists, technologists, I've worked at every level of the organization from the folks that are at the lab bench and are just starting off on a project and work with them and then all the way up through our senior leadership. It's a really fun, rewarding and stimulating role that I have in the Oregon affection and love meeting people as a part of all that and love trying to help others be successful in all their scientific endeavors.

D

Doug Parsons 05:07

I can't believe it's been a year since we did our first interview. And we were prepping for ICR 23. And I'm going to be calling innovation and climate resilience ICR just for keeping it simple. If I want to start there, Justin is that ICR 23 occurred back in Columbus, Ohio. And it's been a bit of time and now we're prepping for ICR 24. Before we start talking about the themes that you're hoping to accomplish it I see are 24. Let's talk a bit about 23. What happened there? Can you tell us about some of the key takeaways that you had?

J

Justin Sanchez 05:36

Yeah, one of the aspects that we find makes our conference really interesting. And this is not just me saying this is through feedback that we get from government officials or from people in industry or people in academia is that our event blends together big picture ideas from leading

visionaries can that could be government officials, there could be leader for the industry or just a futurist technologists, for example. And we marry that together with really hard technical work that folks are doing at the last ditch. And we have a way for people to submit abstracts to our conference. And then we also have a way for people to become keynotes and serve on panels and things like that. And it's the blend of the big picture vision with the hard science that delivers real results. That's the part that gets everybody who attends our event. So excited. And as we have progressed through the years, right, this will be the third year coming up. We started with first innovations. Right. That's that was part of the naming of this conference and not just doing the same kind of traditional climate work, which is finding innovations and putting them in play to change the game on how we think about resilience. That was kind of the first part, the second meeting last year was about applying it in real world and trying to get real results out of that. And we focus on it. And we saw a lot of the things that the community is doing. And then this year, it's all about scale. Yeah, I share this progression with the audience. Because we're not just saying this just to kind of make a splash or just to capture people's imagination, we have a real interest in growing the progression of technology, doing it in a way that's thoughtful doing it in a way that actually makes a difference in the world. And our series of events is a real testament to that.

**D** Doug Parsons 07:34

Any memories from the actual conference that stood out for you?

**J** Justin Sanchez 07:38

Yeah, one of my favorite parts of all that it was we had Tandy VA, who was a one of the leaders in the fusion experiments that were really happening around that time, and they were making some huge achievements, and to have that representation at the meeting. And to see and understand her perspective and her team's perspective about how that technology fits into what our energy future might look like. It was just really phenomenal. It was kind of one of those moments where you feel that history is happening in front of us, the person who's really squarely involved in that is there and everybody had a chance to interact with her and kind of learn about that tech. It was just it was really phenomenal. Again, that's one of many different interactions that we had that were really interesting. Let me share just one more, I had the privilege and the opportunity to host one of the panels. And it was about climate resilience tech and the tagline. The discussion was Fact or Fiction. And what we did on that panel was we asked different questions about different climate tech. And after we asked the question, who said Fact or Fiction, we gave the audience a chance to chime in on whether they thought that statement was factor fiction. And it was wonderful, just kind of feeling the participation in the room and having people like shout out, Hey, you see their factories a conviction, and then having the people that were on the panel have a discussion about, okay, here's what the perception is, here's what the real tech is, here's what the real policy is, and how all of those things fit together and share these two elements with your audience is such a dynamic event that we have in now, every year for the last couple of years. And come and join us. It'll be really fun. And we dive into the issues and a really interesting way and you can meet some of the brightest minds that are out there making a difference than in climate.

**D** Doug Parsons 09:36

Yeah, it was a fantastic event for me too, because I was figuring out what you guys do. And it was a real surprise of all the work that the national labs are up to and how the science that they're generating is informing a lot of resilience planning out there. And I had no clue and a lot of folks that I know, had no clue and it's nice to kind of get the word out and I was glad to share that through the podcast and I just like to add to you guys put on a classy event and the food was spectacular. It was like The best conference we had I've ever had. But that's not why people are going to these things. But I just had to add that let's pivot over to ICR 24. This is this upcoming year, you guys are prepping for this. And let's start off at the macro level, we're gonna get into the details and logistics and partners in a little bit here. But the whole theme is solutions for scaling change. Why is that your theme for scaling

J Justin Sanchez 10:21

change is so important to us. Because if we took a step back, and if you were to ask, let's say a person that is not involved in climate tech, or is not involved in necessarily solving the problems that we have at hand, so yeah, do you really care about climate attack? Or does it affect you in any way? And I think most people would say, no, they either have no mechanism of dealing with climate change, or climate effects. Or they might feel powerless for managing or dealing with those kinds of situations. So solutions that can scale change, has underlying inside of it, making sure that climate technology affects every person, not only in the US, but across the globe, and in a way that each person can see and feel and experience a meaningful change in all of that. Yeah, I talk to a lot of people that work in this space. And a lot of us know that once the general population can embrace these kinds of solutions and these kinds of technologies in a meaningful way. That's really when I think we're going to make the biggest difference in the biggest impact. And moreover, if you can get to scalable kinds of solutions, the economics of all of it starts to make a whole lot more sense to and it can be come sustainable, and can just become part of everyday life, but a change in everyday life that we work on climate change sets that we've become more resilient to scale. I think it's a wonderful part of all of this, not just one off solutions. It's about the scale of those solutions, and how it impacts people across the globe.

D Doug Parsons 12:07

And can you give us a sneak peek of potential keynote speakers?

J Justin Sanchez 12:11

Yes. And Doug, we're working on a lot of really interesting high profile keynotes, we will share those formally as those details come in. But I can share with the audience, we have some invitations out to the highest levels of our government. So think executive levels in our government. And we're very optimistic and hopeful that some of the officials will join us. And we also have leaders that from an industry that we've invited to keep your eye out for those invitee for your audience, you can also take a look at our previous years, and see the speakers that have joined us at those events that have been some of the most phenomenal leaders in climate resilience work that are out there and guaranteed it's going to be a fun event. And there's going to be people that you won't be able to meet anywhere else.

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Doug Parsons 13:00

Then leading up to the conference. I'm partnering with you guys. And when I hear information to I will share with on the podcast when you guys give me the go ahead to do those things. I'm excited to see who's showing up in those roles. Another big move between ICR 23. And this next one coming up is that you've changed locations. And that also reflects who you're partnering with, can you give us background on that?

J

Justin Sanchez 13:20

Yeah, this year, we're so excited to move the event to Washington, DC. And, you know, a lot of people might be wondering, well, why are you going to Washington, DC, FG, you've been in the Midwest and Colombia for the last couple of years? Well, I think it's it's time to join government officials and the place that they work right. This is where a lot of the decisions are made about where climate policy and supporting decisions ultimately occur. And that statement leads to our new partnering and this event, we're continuing to partner with the National Labs as we have in the last two years. But the our new partner that fear in the Wilson Center, and the Wilson Center in one of the leading policy shops in our country that helps to shape a lot of different issues. Climate is a really important one for them. And there'll be joining us in this next event, we're really excited to have a new partner and think about policy and its intersection with technology, such that we can get the best out of both in order to have those solutions for scaling change.

D

Doug Parsons 14:27

We talked about the overall theme of the conference, but there are three programs themes. What are those?

J

Justin Sanchez 14:33

Yes, we have three really big buckets of adaptation, mitigation and sustainability. I know your audience is very focused on adaptation. And we'll discuss a little bit about some of the elements in that bucket. But here's the other part of the kind of thinking here. We intersect with a lot of different people in the community. And by focusing on adaptation, mitigation, sustainability, we feel that we can bring in those Leaders from the different facets of how we think about climate solutions and climate resilience. When I say this is a very open kind of a community, like we welcome all who have perspectives on this. And from our role of the telogen, being a big not for profit and our mission being to do science for this sake of society, we don't have a dog in the fight necessarily, in terms of the like, what is the best way, like, we want the solution that makes the difference to come into play. And we tried to be a facilitator and a convener of people in each one of those areas. And if we can find intersection of amongst them much, even better, much more, the better, right?

D

Doug Parsons 15:43

I'm actually excited that you have these three tracks, because you're gonna get areas that are

kind of working in their own lanes, and they're coming together. And I think there's a lot of confusion sometimes between those different tracks. And if they're talking over coffee hours and lunches, the mitigation folks, I think, will kind of understand what the adaptation folks are doing that sustainability folks will like, look for that overlap with the adaptation, folks, because adaptation is this emerging area. And it looks like it's gonna be a fantastic opportunity for each of those areas to kind of learn what the other really is. I'm excited for that possibility.

**J** Justin Sanchez 16:14

And we are to and again, in thank you for being kind of the spokesperson for viewing these different aspects and helping to get that message out to the community. It's so important to think about that in this really big way.

**D** Doug Parsons 16:28

Well, thank you appreciate that. Right now, COP 28 is happening. We just saw the release of the fifth version of the National Climate Assessment, the President has released a national resilience framework in the last few months, there's a lot of good timing going on for ICR 24, who should attend this,

**J** Justin Sanchez 16:44

we should absolutely have representation from government, again, the highest levels of the government that those individuals as well as their organizations can be a conduit for communicating the mission of our government and how that intersects not only in the US, but also internationally, we are trying to create a platform for the government to do that. We're encouraging all major government officials to attend the event as well as participate as keynote speakers. The second part of it is though, we want leaders from industry to be a part of the conversation too and attend the event. Because as the government creates new policies and puts new funding and programs in place, in order to make the intent of our country become a reality, we need somebody to work on that right industry, I think is a critical part where you can meet government officials. And you can also meet with others to learn how to implement this in a way that is sustainable and makes a whole lot of sense. And then the third group is the scientists or the people from either academia or applied science groups around our country and across the globe, that community should join us too, because those are the folks that also know the intricacies of what new work needs to be done in order to take an idea and turn it into a new solution or a new product or new variant of something that we have out there. All three of these groups need to work together in order to get these solutions into play. And we welcome everybody to be a part of that. Throw one additional group that we don't necessarily talk about a lot, but it's really important. And we did this last year, the Telus committed part of our not for profit status to STEM education. And we had a competition, a stem competition that went across the country in which we had young folks that are interested in this and generate some ideas about what the next solutions might be. And it was really wonderful, interacting with the next generation of people that are going to help to solve our climate change challenges. So yeah, that's in addition to the three birds I just described, it's there are people that are reportedly kind of educated, I'm thinking about that, like, join us, too, you're more than welcome to attend the event.

**D** Doug Parsons 19:01

I'm going to put my own plug in, I encourage environmental educators and even people in the media that you need to get more educated on the subject. There's such little awareness, especially in the issues of adaptation out there in the general public coming together and seeing some of the cutting edge work on this. That's my plug that you really have to understand what these things are going on. Because it's right now it's so wonky. It's in the realm of like policy, folks, and it really needs to get out more. That's who I'm plugging hope shows up. Right?

**J** Justin Sanchez 19:29

Yeah. Let's bring those folks to and when we have those deep conversations and complete understanding, it helps us collectively.

**D** Doug Parsons 19:36

Justin, I'm going to let you go but can you just give us a reminder about the conference? When is it and then one final appeal before we let you go?

**J** Justin Sanchez 19:44

Yeah, Cr 24 innovations and climate resilient. April 22 through 24th 2020 for Ronald Reagan Building International Trade Center in Washington, DC. We are thrilled to see everybody join us it's gonna be a spectacular

**D** Doug Parsons 20:00

Well, I'm looking forward to it. DC is a fantastic town. I used to live there a lot of great restaurants. And yes, definitely look it up. And I'll have all the links in my show notes for this episode. Thanks, Justin, for coming on.

**J** Justin Sanchez 20:10

Thank you so much for having me.

**D** Doug Parsons 20:16

Hey, adapters joining me is John congar. John is the president of Congress strategies and solutions. Hi, John, welcome back to the podcast.

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**J** John Conger 20:22  
Hey, how are you?

**D** Doug Parsons 20:24  
John, you've been on several times. Now. It's always a pleasure to have you on but for those new listeners who haven't listened to those episodes before, what do you do there at Congress strategies.

**J** John Conger 20:33  
So I help folks out, help them understand DOD, help them understand Washington in the context of national security, energy environment, military installations and climate change.

**D** Doug Parsons 20:45  
Speaking of DOD, you have an extensive history with the Department of Defense kind of give us a sampling of that. So people understand how you know, it's so well,

**J** John Conger 20:54  
I used to run the office in the Pentagon that manages energy installations and environment, I had about a trillion dollars worth of real estate I was responsible for, I manage all of the DoD energy and environmental policy to include climate policy. And after that, oh, by the way, and I see it as an afterthought, because it's less of a climate focus thing. But I was the deputy Comptroller of the Defense Department, which means I was the number two money guy over there, too.

**D** Doug Parsons 21:22  
Excellent. So this episode is about big picture thinking about adaptation. And so I want you to think about how US policy and resilience and adaptation can make a difference on the global stage regarding climate change. And I know that's a broad question. But what are we doing here that could actually make a difference at the global stage,

**J** John Conger 21:38  
as we think about adaptation, and as we think about what happens in the US, let's start there. And then we'll broaden the scope a little bit. I think the challenge is that we have so much infrastructure that was built over many, many years, many, many decades, that is not the easiest thing in the world, to shift it to make it more prepared to deal with climate change, it was ready for the equilibrium that existed. And now climate change has thrown that equilibrium off. And so we're going to have unanticipated environmental challenges for the infrastructure



we have around the world. We have programs where we certainly have military footprint around the world. But I think more importantly, as we look at how do we help our partners and allies deal with the challenges of climate change? How do we help them adjust their infrastructure, adjust their processes, to be able to deal with an uncertain future when they don't necessarily have all the capabilities in the United States? I think that's a very important role.

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Doug Parsons 22:42

This conference on Patel is always talking about innovations. What role do you envision government agencies and specifically the Department of Finance, playing in driving innovations for Climate Resilience really, at that larger scale? Because we hear a lot about adaptation at the micro scale. But what are the opportunities here for driving innovation?

J

John Conger 23:00

So I think that as we think about what the federal government can do, it has an incredibly important role in that innovation space. And what I mean by that is that there's a lot that's going to take sheer force of will and dollars and a lot of other pieces of the puzzle to move what our current situation is, that's fine. But it's really hard, it is hard to allocate dollars and to move them from places where they're already allocated. But what will change the equation, and what will change, the math of the problems we're looking at, is that innovation that will change the choices that we have, whether it makes existing adaptation routes cheaper, or it makes it easier to adjust infrastructure that we have today, and be able to deal with the changing climate. I think what we're looking at in that context is innovation is the game changer. It is the thing that changes the choices we have in front of us. And that's why it's so important. Most of the funding for research and development into these types of things comes from federal government. And so if the federal government isn't all in, then we're going to have much bigger challenges.

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Doug Parsons 24:12

The word innovation can be considered a buzzword, but it's obviously very important too. So when you think about the federal government, you have the DoD experience, but you also know what else is going on there. So how can it be more of a driver doing innovative adaptation? Because right now, I think there's maybe some stagnation a bit in the adaptation space.

J

John Conger 24:31

There's two pieces of that. One is, as you consider the money that's going to be spent on infrastructure going forward, as you consider how do we actually adapt to the changing climate that takes a long time. You can conceive of projects that will be going through the planning stage and then the trying to get funding and once they finally get funding going through contracting and then finally execution, it could take 10 years to exit. At any given project, and so you can't necessarily experiment in the same way, when you're dealing with infrastructure

that you can in other spaces. I think that the innovation that we have the opportunity to do here involves modeling, testing things out before you actually execute. It involves trying to figure out how the natural world is going to react to the different things we're going to do in using green infrastructure as an adaptation. But it also includes and I talk a lot about infrastructure, it also includes things like agricultural research, finding crops that will be able to deal with changing climates better in involves a whole host of things. And it really, we could take this down any number of different paths, I don't need to list them all out for you. But the fact of the matter is, is that when the federal government is able to provide the resources to figure that out, you don't have to make mistakes that you're stuck with for a long time, right? You don't have to take that 10 years and go, oops, the climate change or the situation change in a way that I didn't anticipate, or was too sloppy to anticipate, what we have to do is sort of change that landscape in advance so that people can make the right choices and build infrastructure or make investments that have already adapted to the future that's coming down the road.

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Doug Parsons 26:24

These Battelle resilient conferences, it's really multisector. And so I want you to think and pivoting a little here is that in the context of national security, what emerging threats do you foresee as a result of climate change? And I know there are a lot, but just kind of give us a little grounding in that and then how can the conference potentially contribute to some of these solutions?

J

John Conger 26:41

There are a lot. And as I think about it, one of the ones that sticks out to me is the threat of wildfire here in the United States. What was once wildfire season is now all year round, and and a commitment to have to fight wildfire through the west at any given time of the year. That means there's less of a rest period for the folks who are committed to go out and deal with those problems, whether that be the National Guard, or other firefighters there, as I look at that problem that has a range of implications for homes for energy infrastructure for how we think about doing things differently through the region, how we manage the forest in the first place. And so you can take the investments that Patel or anybody else is making the national labs are making in how you manage energy, and say, well, here's my new situation, though long energy lines are vulnerable. And so how do I manage energy completely differently in the future world where I don't subject those lines to the possible threat of wildfire, which I just have to assume may hit my one frontlines thinking about reimagining energy infrastructure comes from the climate threat that they have to adapt to, and the threats of their infrastructure that's growing this

D

Doug Parsons 27:58

conferences bring professionals from various sectors together. Can you think of specific examples where collaboration has led to successful innovations and climate resilience for in the implications for national security?



**J** John Conger 28:10

You mean, there are certainly research programs throughout the federal government where researchers from different federal agencies collaborate, and they collaborate with folks from universities and so on and so forth. And it's fairly normal I institution that is, I don't know how often that is because money is allocated in silos. Right. And so teams may apply for grants. But the money doesn't necessarily doesn't always come through multiple agencies of approvals, because it's it's allocated to the one federal agency. And each one is, I would think about, how do you coordinate more than anything else, but the silos exist, and you're not going to get around that the federal government is set up in silos. And it's not all that uncommon, even within federal agencies. I mean, getting the Army, Navy and Air Force to work together is not a simple thing. Right. And so I think that's also worth thinking about, does everybody do their stuff on their own as well? I know, the question was about people partnering in that happens, but you can't assume it, and you can't act like it's easy.

**D** Doug Parsons 29:16

Well, you can take it anywhere you want, John, so we're gonna cross pollinate a little bit here because it was just such an interesting event. You and I both attended and you need to help me out with these acronyms. I don't have it at my disposal. But cert up is a department defense research arm and they had a conference and we were both there. Can you just give us a bit of a sampling because we talked there and we were able to do a recording around some of the there there's this research arm and they are really focusing on resilience. But to me, that's a very encouraging sign and I think they're learning a lot about what the demand is out there. Do you see that potentially plugging in with what Battelle is trying to encourage with his conference?

**J** John Conger 29:52

Yeah, no, of course it will end so syrup. And I'll help you with the acronym is that your Dzedzic environmental A research and development program, it is DoD environmental r&d program. And they have a bunch of different things they do to include climate resilience. One of the interesting things about that conference and the climate resilience folks that we were visiting with is that they are taking a look at how to innovate processes within the bureaucracy and dealing with federal government, you have to deal with bureaucracy, and it can be awfully cumbersome. What they're trying to do is short circuit some of the processes that they do have, where it might take several years to execute and get an answer to a question, to try and be more responsive with the research and be more responsive by connecting researchers and experts, with the policymakers and managers who have the question in the first place. So that maybe you don't need to take 567 years to get an answer to a policymaker that is based in science, but rather, to develop networks of experts and people who need their expertise to short circuit that process. And to be able to have better informed policy and better informed management and adaptation management in real time, or in a closer to real time than they have right now.

**D** Doug Parsons 31:12

I'm curious, there are more adaptation, resilience conferences popping up. And I think that's a good thing. And just seeing seeing different people from different sectors, people doing ESG

good thing. And yet, you're seeing different people from different sectors, people doing ESG. And they're doing sustainability. But of course, there's some overlap with adaptation. But they're not the same thing. And I'm going to get a question here eventually. But recently, they released the fifth edition of the National Climate Assessment. And to me, I did an episode on this and it was Jesse Keenan came on and just looked at what's in the assessment. And I see that there's value of having a common language and sort of a common understanding. But a lot of times people don't really dig into it. It's a giant report. And do you see value add of all these different sectors? Do you even use it within your consultancy? Is this National Climate Assessment useful to you,

**J** John Conger 31:56

I certainly am familiar with and leverage it as necessary. But the reason I think the National Climate Assessment is important, is it becomes the baseline for the federal government's climate knowledge. And so I'll give you an example from when I was in the department, I had a group come in and visit with me when I was at DOD, and say, climate change is all wrong. And you should use our science that says that all this is fake, and just ignore it and keep going off in this other direction. And I was able to turn to them and say, Look, I'm not going to argue science with you being not being a scientist. But I will argue policy with you and say that the federal government already has climate science that we all follow. And so if you want to make an argument that somebody shouldn't use it, you need to go to those folks, and have peer reviewed research, and actually, sort of make the case in the cross inter governmental process and into the the National Climate Assessment in order to get somebody to have your opinion or a different opinion. But that way, you can't pick people off. If that makes sense. You can't have subjective science, or different federal agencies having different opinions on it this way everybody was brought together to have a baseline. And I think that is incredibly important. From a policy perspective, it may be important from a science perspective, too. But it is incredibly important from, from a policy perspective, and from a management perspective, to have that common language,

**D** Doug Parsons 33:27

It should expand out even to the private sector. And there's even state government and local governments that there needs to be that comments language in the assessment. And I think they try and they came on the podcast, but just getting the word out, and what's in there and how it can be a resource, can you give us a sneak peek of some of the things that you're going to talk about at ICR 24.

**J** John Conger 33:44

I'm hoping to have or to host a conversation with representatives from the Defense Department from the different military services and to get a sense of what they feel like they have gotten done over the last few years. And more importantly, what they expect to get done over the next year. Because I think we have what might be fairly called as an inflection point coming up elections are introduces uncertainty. And so the question really becomes one of what are you going to do this year to prepare for whether you have either zero or four more years left at the end of the year? Are you going to walk in progress? How are you going to lock in progress? What is most important for you to get done now in the context of possibly this being your last

bite at the apple? And I know that's a little bit tough for some political appointees to answer. But I think it's so important that they don't have to be afraid of hitting save game, and walking in progress that they've made so far, with a period of uncertainty coming up. And so I think that's, that is my hope to focus in on that piece of the puzzle.

**D** Doug Parsons 34:54

Excellent. Well, it's always a pleasure to have you on the podcast, John, and I will see you at ICR 24. Absolutely, I'm

**J** John Conger 35:00

looking forward to it.

**D** Doug Parsons 35:04

Hey adapters joining me is Katie McDonald. Katie is co founder of tailwind. Hi, Katie. Welcome to the podcast.

**K** Katie MacDonald 35:12

Thanks, Doug. Thanks for having me. Excited to be here.

**D** Doug Parsons 35:14

We're having this Patel episode around ICR 24. But first off just very brief, what is tailwind?

**K** Katie MacDonald 35:21

We are a new innovation firm. And our mission is to accelerate the development and deployment of adaptation and resilience solutions.

**D** Doug Parsons 35:30

Tell us a little bit. You're a small firm, who's your partner there.

**K** Katie MacDonald 35:34

So my co founders, Emilie Mazzacurati, who is a seasoned entrepreneur and climate risk expert who sold a company in the climate risk space a few years ago, but he's been working on climate her whole career. And I myself have been working on climate since I was a teenager,

now on the adaptation and resilience side, but for the whole previous part of my career, so about 13 to 15 years, working on climate tech, specifically solutions that can help lower greenhouse gas emissions.

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Doug Parsons 36:02

Well, welcome to the adaptation family, it's great to have you, you talked a little bit about your background, but I want to hear a bit more. So you've been doing a lot, you've been raising funds for companies and such, give us some more detail there about your own personal background.

K

Katie MacDonald 36:14

So basically, I have been working in climate tech my whole career. And really what that means is that I've been working at the intersection of the public space and the private space to essentially make sure that society has the climate solutions that it needs to reach all the net zero goals out there. In the beginning my career, I worked for clean tech open, which is a global accelerator that's working to promote those solutions. I then moved over to green town Labs, which is North America's largest climate tech incubator, and most recently, I was leading tech to market for New York's Energy Department NYSERDA. But of course, as a human living on this planet, in this day and age, Doug, it's become abundantly clear to me as it became in 2022, that the impacts of climate change are here today. And so that's there was really an awareness of those impacts that led me to seek out Emilie and then led us to found tailwind together.

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Doug Parsons 37:07

We're going to talk about tailwind and some of these things that have happened in the private sector. But let's just ground my listeners a bit. So what are some of these adaptation solutions give us an overview of that.

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Katie MacDonald 37:16

So adaptation and resilience solutions to a tailwind. We define those as products and services that predict, prevent, mitigate and enable recovery from climate impacts, like floods, heatwaves, storms, and wildfires. But at a high level, this could be anything from those sustainable concrete that's being used for a seawall, it could be a solution that's harvesting water out of the air, it could even be a new vaccine that's helping us cope with infectious disease, it's spreading faster due to climate change. So those are super broad universe of solutions that fall underneath this bucket,

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Doug Parsons 37:52

we're gonna go back in and dig in more about what you're doing there at tail wind. And so really your mission. And let's talk about those kinds of things that you're doing.

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Katie MacDonald 37:59

Basically, when Emilie and I got together, we actually we met at an event, as many great co founders do. And at that point, I've been working on mitigation my whole career, Emily had been in the resilience and climate risk space. And we just started a conversation and we're comparing notes about some of the high level trends in the resilience space that I had taken interest in. And that of course, she'd been working on for years. And we kept around some general FAQ. A lot of these FAQ are very familiar to people that work on resilience, they're important to consider, especially in tailwinds work. The first one was that UNEP estimates that we need at least \$330 billion to address resilience and adaptation needs by 2030. And we're tracking only like 63 billion worth of investment annually. So broadly speaking, we know we're super behind on the investments that we need to address resilience and adaptation as core areas that can protect lives and livelihoods. And one thing we got to talking about is just the fact that when you look at the figures down at the innovation level where companies are forming, to participate in the adaptation and resilience market, things are even more dire. We go from only 5% of climate finance globally going into these sorts of solutions to less than 1% of climate tech venture capital going into adaptation and resilience. So that was number one. We said, Wow, it really is looking like there's a capital gap in this space. What can we do about that? The second thing we started talking about after we met was the fact that globally speaking over the last few years, we've seen not to be ironic, but quite the tailwind when it comes to governments and corporations taking action on their own physical climate risks. So we've seen 15 out of 50 US states right adaptation into their climate policies. We've seen over 170 countries globally develop their own national adaptation plans. And there are over now 4000 organizations reporting and through the task force for climate related disclosure. So basically, all of these groups represent, in theory, really big customers for adaptation and resilience solutions. But what we noticed is that we're just not seeing the demand signal. So the clear articulation of the need for solutions in the adaptation and resilience space from these potential customers. So we think the demand is latent, it's there, but that they're not quite communicating it. So demand signal was really the second gap that we identified. And then finally, and this is, of course, a big part of the world that I come from. But when you look across the climate tech innovation ecosystem, there are about 40 Different accelerator and incubator programs that are helping researchers and early stage entrepreneurs commercialize their products within the greenhouse gas reduction space. When you look at how many of those programs, Doug are actually doing anything on adaptation and resilience, it's like four of them, we kind of saw this third gap being kind of ecosystem support, there really isn't the kind of know how or support for scientists or entrepreneurs that are aspiring to get to market with new ideas that's needed to really prop up a new ecosystem. And so with that in mind, the two big things that we're tackling with tailwind are as follows. Number one, we are making some small investments, and we plan to raise a fund to deploy a starting next year. So we're trying to fill that capital gap with our own capital. And we'll continue to do that. We're undertaking what we call field building activities. And these are activities that we know need to happen in order to make sure that more startups and more innovation exists from the private sector in this space. That means looking at some of those gaps I mentioned before, it means helping capital providers understand where they can place their dollars within this space, what kind of what universe of opportunities exists across the adaptation and resilience solutions continuum. And we're working on a really exciting taxonomy that we'll be able to release soon to that effect that will help guide those investors. We're also working on creative partnerships with some of the ecosystem organizations that have been supporting climate innovation for years, but

helping them get towards more of this adaptation and resilience work. And then of course, we're working with intrepid and excited first customers, folks that want to go out on a limb and start soliciting for new solutions in this space just to get that supply demand continuum going,

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Doug Parsons 42:27

what are some of the major barriers to scaling adaptation?

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Katie MacDonald 42:32

First and foremost, you can't scale a company if you can't find funding for it. This is a really, really tough predicament for a lot of entrepreneurs that a lot of the solutions that are going to be needed for adaptation and resilience, they will be deployed in the private sector. But many of those same solutions will also be needed in the public sector right within the government sector. And where that's concerned, we still have we do not see adequate funding on the private side, less than 1% of VC. But we also do not see adequate innovation funding. on the public side. Obviously, in your 200th episode, we got some really great updates from the DoD on all the amazing work that they're doing their third startup and this TCP to inject some of that capital on the public side. We've also seen some good progress from the the EPA Greenhouse Gas Reduction Fund, the Department of Commerce and NOAA launched a really cool ocean based climate resilience accelerator for \$60 million last year. So we're seeing some bright spots trickling in within the inflation reduction act within the infrastructure investment and jobs act and through some of these government agencies at the federal level, but we're seeing very few funding opportunities at the at the sub national level within local governments and state governments for the kind of innovation we think we need to see in this space. So that remains a really big challenge. Number two, it's challenging for startups in this space to reach customers, many of the customers that exist in the adaptation and resilience world. They will be different than the traditional customers that climate tech companies need to access who are reducing emissions. We're talking about customers that are anywhere from organizations trying to preserve terrestrial and coastal ecosystems, to the DOD to health care and medical facilities, to water utilities to agriculture, different firms that are managing energy and housing infrastructure cities, there's such a broad continuum of entities within the private and public sector that requires support to ensure that their assets and the people they steward are protected from climate impacts. And that's a really complex world for entrepreneurs to to negotiate and understand, especially if they're just coming out and starting a company.

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Doug Parsons 44:58

Let's say the private sectors really just jumping into adaptation? How can they help us make progress? What are some of the major elements of the private sectors role in all this,

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Katie MacDonald 45:06

there are a few areas where the private sector is really, really excellent across these five areas. The first one is innovation and technology. So private companies are often at the forefront of technological innovation, they are able to develop and implement new technologies, they're



capable of bringing things to scale through mass manufacturing, they're able to achieve distribution needed to get those products to people. So this is the kind of economy of scale that is afforded to us when the private sector steps in with new innovations with new products, investment and funding is the second area. There are a lot of really good reasons for businesses and financial sector actors to be concerned about adaptation and resilience. As one example, there have been studies from the World Economic Forum, that if you look at the 215 largest firms in the world over the next five years, they have over a trillion dollars of assets at risk, that is super serious, right? So loss aversion and asset protection are a massive incentive for the private sector to inject funding with into this market. There's also the upside of creating new products of answering the call to make our societies and our world more resilient. And where that's concerned, the private sector is going to have really, really important financial assets to bring to bear. Number three, risk management and insurance, the insurance and risk management companies are going to play a very, very large role in making sure that we can recover more quickly from climate related disasters and reduce the total economic impact of those disasters. In the US alone. Last year, we saw, I believe, \$28 billion disasters, wherein 492 people were killed. That's obviously incredibly shocking. And we know that those numbers are only going to get more bleak from here. So it's it's really those leaders within the insurance and risk management space that are going to have to work with folks in the public sector to ensure that we're resilient to those risks. And finally, the private sector has a really exciting role to play with the public sector to ensure that communities and people have the right solutions. In particular, I'm referring to the private sectors ability to work with local government and to work with communities and to be accountable to them to create products and services they actually need. So you could imagine if a community is a really high risk from coastal flooding, and there are unique aspects of that coastal flooding that are impacting that community, the private sector is likely going to be the sector that comes in with the actual tangible solution that's finance to perhaps enable a seawall to be developed or a barrier, or a berm. Within that context, there's that hand in hand, kind of we have a problem, you have a solution type partnership that can lead to upside and benefits for both the public and private sector, but must requires essentially the private sector to step in and provide some kind of solution.

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Doug Parsons 48:15

This is just I'm looking for more commentary from you is that I've been doing adaptation for a long time. Why has it taken the private sector so long to really get involved with adaptation? And again, as you just described, we're just scratching the surface. But well, I mean, what's the issue?

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Katie MacDonald 48:32

I mean, when we look at the private sectors engagement to date, we do of course, recognize that quite a lot of investment has been missing in this space. There are a lot of great organizations that have been trying to tackle this, whether it's Climate Policy Initiative, or the global adaptation and resilience investor working group. So there have been entities coming together. tcfD is a great example, to try to highlight the opportunity that the private sector has to act here and to compel them to do that, especially on the investment side, to kind of align incentives and get the market moving. In terms of bright spots that I see that are resulting in once again, a little bit of a tailwind for the private sector right now, that did not exist previously. But I think we do see a way larger commentary on adaptation and resilience. We

certainly have seen that within the last two cops. One outcome of that has been an emphasis on private sector engagement that has actually led to more commitments from the private sector. One example being the Prepare program, which is part of the Biden administration's what it's called what's called the President's Emergency Plan for adaptation and resilience, which over the last two cops has brought in over 30 companies, companies like Visa and IBM and Arup, who have signed on to work with developing countries around the world that are really bearing the brunt of course of climate impacts and to help them understand their climate risks to deliver information to them, to help them with financial products and services, and to provide support, whether it's on climate smart food security, or insurance and risk management. So that's a really exciting development. And then, of course, the USA ID and the US State Department to compel some of that activity. But we see that happening. Second of all, we have seen that there are increasing calls from public officials for the private sector to get involved just a few weeks ago, USA ID administrator Samantha Power spoke out about the need for private investment saying that technological innovation is super key to meeting USAA IDs objectives, and further calling upon the private sector to step up. So one really bright spot that I have been hoping to talk about so far. So I hope you don't mind if I slide this in, is honestly some of the organic activity that is coming not from these larger companies or from large financiers. But from the innovation side of the markets, we see the black rocks of the world releasing reports on the importance of investing in this space. And we'll see other large financial institutions step up with similar work alongside some of these corporations that are stepping in globally. But we're also seeing entrepreneurs seize the moment and take advantage of this growing market. And where that's concerned, there is just an absolute vibrant group of emerging innovators that are working in this space, innovators working on wildfire tech. One A good example is convective capital is a new VC that's propped up that's got 11 publicly shared investments within the fire tech space. So there's a ton of interesting work being done there. My favorite company is called metal mark. They're not a convective investment. But they're a really cool woman led company that's focused on advanced commercial air filters that are capturing particle matter from wildfires that are even smaller than 2.5 PM, which is what's kind of standard number two, there's a ton of stuff happening around health tech, we just spoke with an entrepreneur from the UK the other day, with a firm called cryogenics, which is a med tech device, it's kind of equivalent to a defibrillator for heat strokes are really cool, portable heat stroke relief innovation. We also see on the health tech side, companies like icy change, which is a company focused on monitoring climate and weather in real time, and working with communities to make sure that their lived reality during climate hazards and impacts is known to local governments and then co creating solutions around those challenges. The real estate space and the resilient infrastructure space is enormous. It's a place where we at tail end are putting a ton of our energy and we'll put a bunch of our investment Mojo on that front. There's all sorts of interesting nature based solutions. I mentioned eco concrete for seawalls, we've been seeing AI powered recommendations for building retrofits to make the built environment more resilient. There is a very cool company called rhizome, which is pioneering AI powered software to enable the power grid to become as resilient as possible and to be managed with climate risk in mind. And then finally, one last bucket I'll mention where we're seeing increased private sector activity is within the parametric insurance and risk management space. So this is a hot topic for the private sector. And in a place where the private sector is unique in its ability to lead. There are a variety of companies trying to bring data and insights to the insurance space to reduce premiums and enable homes and businesses to weather climate impacts within this category, high tide is one great example. It's an AI powered flood risk engine that's specifically focused on helping homeowners at this moment deal with coastal resilience and flooding, and to secure the solutions they need to ensure that their homes will survive some of those impacts.

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Doug Parsons 53:52

I'm just very excited that these smaller companies are kind of coming up. And that's just signs that the adaptation sector is growing. And I think a lot of us have no clue what's happening out there. I'm glad that you're tracking this, it's going to be really useful. But what are some of the core ways that the public and private sector should be working together because the federal government has gotten pretty active in the last two or three years,

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Katie MacDonald 54:14

I mentioned the importance of those five major areas for market creation standards creation and capital stack development, demand, stimulation education, and convening and policy development. We've seen some real bright spots across the policy development space. So really the public sector stepping in to help design this market with once again public good in mind, which is a critical role that the public sector has. The bright spots we've been seeing specifically are of course, we've had the Inflation Reduction Act passed recently, with 83 billion earmarked for Energy and Climate Change. A lot of that money will enable climate resilient energy infrastructure. So that's a big win. We've already seen some of the funding opportunities come out within that law. As I mentioned, we also saw the Infrastructure Investment and Jobs Act, which has over 50 billion dedicated to infrastructure on the resilient side, whether that's transportation or built environment or water. So all of that is really exciting and great. I'd say that probably the most exciting policy development of last year, in my mind was the Biden Administration's National Climate Resilience framework. So this is really a first of a kind blueprint that the Biden Administration released that outlines the ways in which the nation should become more resilient, and the ways in which both federal agencies and private sector actors and states and local governments can lean in to make that happen. And they actually had a section in that report, which was labeled objective three, it's called mobilized capital investment and innovation to advance climate resilience at scale. So you can even see in this high level blueprint, the third objective is how can we get the private sector off the sidelines and into the game with us to make sure that the public is being protected from these climate impacts. And there were a lot of really great recommendations in there that I won't go into it lanes that are totally worth checking out. And improving upon as the private sector leans into this space, places where I think there's unique opportunity for additional work from the private sector, alongside the public sector, kind of across those five areas of market development, are the following capital stack development and demand stimulation. So where capital is concerned, the government and the private sector have a really cool opportunity to work in concert to deploy capital in synergistic ways. So the goal being in many cases the government is they're the first one in right, they're the least risk averse investor. And many times they're the insurer of last resort. So they understand the risk continuum, but they can come in at an early stage before the private sector is comfortable, and get innovations ready, or get projects ready for the private sector. So designing funding programs that prioritize blending capital between these two sectors, super important prioritizing research and innovation. So a lot of people forget short of the moon landing, which was obviously amazing that the US government from an innovation standpoint has been responsible through their funding for everything from the Tesla to the iPhone to the MRI,

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Doug Parsons 57:25

I just want to go back a little bit with those companies that you had mentioned that are doing some of this really cool work. There's very specific examples of those companies. Do you sense that they're doing climate adaptation work? Or are you just projecting that onto them? Are they taking that on? Are they assuming that persona that they're in the climate adaptation space?

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Katie MacDonald 57:44

Some of the companies I mentioned? Absolutely. They're coming to tailwind? And they're saying we know that we're adaptation resilient solutions, and we're looking for investors, and we're looking for community and where are they? While they may be aware of the benefit of labeling their company as adaptation and resilience? A lot of them have had to raise money and look for customers just based on the need. They're trying to address not based on the label of being an adaptation and resilience solution. So we see companies of all stripes, doing whatever it takes to make it out there given some of the difficulties we discussed. And we're hoping that as our work continues, companies will be able to benefit from really seeing themselves categorizing themselves as what we call a&r solutions, especially as more investors align with that mandate.

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Doug Parsons 58:34

Again, this episode, we're partnering with Battelle, and we're leading up to the innovation in the climate resilience conference, ICR 24, as they call it. And so you're going you're going there to share your story. Tell us a bit about that.

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Katie MacDonald 58:44

Yes, definitely. So I know many folks are aware of Battelle, but it's the largest independent nonprofit research and development institute in the world. And we at tail end are super, super excited not only about Patel's mission to translate scientific discovery and tech into societal benefit, but also all the emphasis that the Talon ICR are putting on resilience this year, especially one of the major event tenants empowering resilience with technology and design. So we'll be at ICR 24. We hope to see folks there we'll be hosting a panel with some investors and in a really cool CEO to talk more about some of the issues we talked about today. And yeah, very excited for them. Can you give us

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Doug Parsons 59:24

some names or just you know, again, maybe a little bit more detail about where you're gonna cover? Yeah, so

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Katie MacDonald 59:28

I won't steal Battelle's thunder right now announcing any of the panelists but we're going to talk a little bit about market opportunities that exist in the sector, especially for maybe reach researchers and scientists that are there. We're going to talk about innovation in the space and

what kind of opportunities that we're seeing for investors. We'll be covering opportunities for public private partnership, Doug, and we'll definitely be speaking more about barriers to commercialization and how we can address those as an industry.

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Doug Parsons 59:59

Okay, fantastic. So if people want to learn more about you and tailwind, what do you recommend? Great.

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Katie MacDonald 1:00:04

Yes, please go to [tailwind climate.com](https://tailwindclimate.com). You can sign up for our newsletter. Follow us on acts or on LinkedIn. And yeah, we look forward to engaging really anyone that's excited to build this innovation ecosystem with us.

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Doug Parsons 1:00:15

Katie, thank you for coming on and I will see you in DC. Great. See you there. Doug. Thanks again. Okay, adapters, that is a wrap. Thanks to Justin Sanchez, John conga. And Katie McDonnell, for joining the podcast. We're just scratching the surface on how America is ramping up its efforts and climate resilience. I had been covering adaptation for a long time and the rate of acceleration in the last few years is dazzling. And I think the reality is we have barely gotten started buckle up adapters. Don't forget to check out the links in the show notes for Battelle's innovation and climate resilience Conference in Washington DC, April 22 through 24th. This year's theme solutions for scaling change that Justin shared captures the urgency and growing need for innovations at scale to meet the monumental task of addressing climate change. I'll be there and hopefully I'll see you there too. I'll be roaming the sessions in the hallways interviewing adaptation experts. please do reach out and introduce yourself if you're there. Beyond all the great content Patel puts on a world class conference. The event in Columbus last year was fantastic. And I imagine that DC location will add some new opportunities. Please join us okay that there's imagine the potential of showcasing your achievements through a widely acclaimed podcast that boasts a large network of climate and adaptation professionals. Yes, I'm talking about America adapts and how it offers your company organization, the perfect platform to tell your adaptation story and spread your message to a diverse and highly influential audience of climate professionals. by sponsoring a whole episode you not only have the chance to share your story with the world but also integrate a podcast episode into your organization's long term communication strategy. It's time to expand beyond the confines of webinars and white papers can often be dry and forgettable. Let's work together to identify the experts who best represent the remarkable work your organization is undertaking and adaptation. Through the power of podcast storytelling. This will not only enable effective communication with your members, board members and funders, but also leave a lasting impact. The value of podcasts lies in their ability to continue promoting your story long after their initial release, ensuring it remains a critical educational resource for years to come. I am humbled to have collaborated with such prestigious partners as Battelle Natural Resources Defense Council, University of Pennsylvania award and World Wildlife Fund UCLA Harvard University that trustees of reservations and many more so let's add your organization to this stainless Yes, we can make a significant difference in the world of climate change

adaptation for learn more about the enduring value of podcasts and how they can benefit your company organization, email me at [Americaadapts@gmail.com](mailto:Americaadapts@gmail.com) Okay, adapters Keep up the great work. I'll see you next time.