

Senator Maria Cantwell

WSU Roundtable Transcript

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(15:04) CANTWELL: We know from supercomputing capacity we have we to know what's going to happen. So you can see, now not that nature, but in general you can see a trend line. You can see where we're going.

PARTICIPANT: Yes part of the Washington's interesting with this, in that we get droughts frequently enough to be a real problem, but they don't happen every year. And these are the capital investments requirements to make. So it's in some ways, it's almost the most challenging circumstance where they happen frequently. And they can be a real pain in the back for farms, but infrequently enough that it's difficult to make this huge title investment in technology. And then we may not have a 2015 drought for some years. And so parts of California, you can make those investments easy, you're going to get your water cut off some part of the year, every year, it's certainly, you know, the return on investment.

For a lot of Washington growers it's very tricky, middle ground, while the additional fiscal will pay off the investments if we have a drought next year or two of the next four years, but we may not. That's not certain. So it's an investment decisions especially for a lot of our smaller farms and agri-products who are especially interested in how do you get these to work for not just the biggest farms but for farms of different sizes. Those capital investments and the financing? That helps.

CANTWELL: [Can't hear question]

PARTICIPANT: Yeah, there's a lot of actual centers, combined with computer systems often that don't have a satellite imagery.

CANTWELL: Vying for all this with an awful first strategy. So how do we get this? I mean, this is where - so we authorized funding for a provision to recharge aquifers. I was in a meeting with some a food researcher he's just right outside...well he's in Seattle.

Anyway, he said to me a few years ago, you need to recharge these aquifers. You're going to have wetter and warmer conditions, you're not going to have snowpack but you're going to have water. So where are you going to put it? Recharge the aquifers. Okay, brilliant. And at the time, people were talking about the desalinization, pretty sure recharging aquifers is way smarter. And smarter, I should say cheaper.

And so we now have a program, we just want somebody to use it. We keep saying somewhere over here is like the best example of recharging an aquifer. And we want somebody to test out the strategy. Okay, so now, if you really did have soil, and we also have on the satellite capacity that's giving us all this information. So why can't we - you know, some of the challenges that we're facing on fires is because people didn't understand how dry the soil really was. And so this becomes like just a whole new layer of data.

So we want to progress on the success of the Yakima Basin Project and it even of itself was successful. I don't know if you saw the New York Times piece on it. But the point is really that the Yakima Basin was a holistic approach, right? Holistic. And that's what we're trying to do here, right? What is the best science and data we can use to deal with what we know is a changing dynamic and a big cost.

So what kind of data and information will we give people so that you can come up with whatever the strategy is for that? But we do think one of the premises is if you're just going to be warmer and wetter, you're going to have water. So what are you going to do with it? Let's store it somewhere and let's store it and recharge it. We're just talking to somebody at a fish hatchery yesterday and they're like "yeah, absolutely. If we can recharge the aquifer up here, we'd be in great shape." So why aren't we doing it and we're going to just have flooding we're going to have flooding or drought, flooding or drought. Pretty sure we should figure this out.

PARTICIPANT: For the research community the challenge is often a combination of technology used by individual farms, Irrigation District, Department of Ecology, Office of the Columbia River, then in the center, you have the legal structure which is water rights. And that is often the most, the biggest challenges.

CANTWELL: Well, that's why you need – I mean listen nobody agreed in Yakima at the beginning. I mean, these people have been fighting each other for it and everything else. That's what's so remarkable about it. Okay. People came to the table who disagree? What did they agree on? Science. And then basically implemented, you know, what is now a very, we think a lot. That's why we worked so hard to get it implemented. I was like, o, my gosh, we're doing this. And we're putting pedal to the metal, because this is a model and we need to show that.

This is about five years before that, I had to chair a hearing on the San Joaquin fight. And I was like, Okay, this is like, oh my god, they had been at it for 20 years. Okay, this is not going to resolve anything. So, the fact that our region is a little more collaborative, definitely a little more science based, that people who disagree, farmers, and tribes, and fishermen, and environmentalists, all came together and said, "Okay, we're willing to do this."

But again, the science says this is how many square feet of water capacity we're going to get it really helped, right? And how we're going to do it. But now let's take this, "why not?" Why not be the expert on water? I don't know who else is per se, I know everybody else is immensely concerned about it. But I don't know that anybody's putting the science to it. I didn't even know you guys were doing the science. And I had never thought about water AI. I love it. I love it. I love it. It was great idea.

PARTICIPANT: We have all this data [unintelligible].

CANTWELL: So that New Mexico situation was about that they didn't know how to dry the soil was. Okay, well, let's see, that seems to be like a sound investment. And plus, we're going to have to make, as you said, more strategic decisions about what to do. And this is just more data. **(22:06)**

[...]

Part 2

(14:12) CANTWELL: Well there's lots of resources on the table. There's lots of resources on the table for STEM for developing the workforce, and scholarship engineering degrees. So you should take a look at that yeah.

PARTICIPANT: We have one that probably will need more help than I don't know. Because in a lot of what we're doing externally, we do that internally, as Steve mentioned with internships. So we have internships, all around the country we just have the open application, right? So we have people all around the country applying for different scholarships like here at WSU, but also in Oregon State University. And so what we had 14 students this past summer, and so they had these amazing experience with experts. In the field, and then we go back to the community because we post the results and all the research that they have done.

But experience is always something that we need to think about, especially when we have grads because they deserve a better experience, because they work super hard. And so I think that our students also disturbed by their payments, and that's when we need more support from different places, right?

CANTWELL: Well, I think this is anyway - carrying on precision agriculture to AI, very natural course. And definitely one of the aspects I think of AI that people are really looking for. They want to know what you're really going to do to drive down cost. And when they look at fuel and fertilizer costs, and people think, what can you do about changing that division?

Obviously, on the automation side, everybody, but that's the million dollar question that Irving has been trying to figure out for some time. And it may be that some of our crops don't, as you say, [unintelligible]. But on the fuel and fertilizer side, I think people want to see what data and information can do to drive down costs. And as you have put it on your three classifications on a grand scale, what do you do to mitigate the impacts to climate? And so I think that's very much right where people are seeing the resources here...

I hope you'll look at the various things and then decide what we can do to be... There's so many resources here and I'm glad this institution that WSU has already got a great NSF relationship. Panch was great, there was like not a day that we didn't call them. We'd call them Saturday, Sundays, holidays, like Panch, you have to explain this, like, how do I explain that. Anyway, so we had many conversations about our state and NSF. Because this really is also transformation for them right? How do you have the basic research mission? And yet do more translational science? How do you do both? And, you know, this notion of tech hubs vs. continuing research.

Anyway, it's, it's, there's a lot of you, you're all familiar with these, this is what you deal with every day, right? And to your point, we just lost our percentage of GDP on research and development, our nation had slipped. And so this was about upping that investment, particularly in an information age, of upping the investment in research and development and then making it more translational.

So I feel like we got a lot of the right resources on the table. And now we need, you know, academia and partners like agriculture to take advantage of that and use the next generation of whether it's AI or, you know, climate intelligent resource management, whatever you want to call it, it's basically using science in the next phase.

PARTICIPANT: So there's a really nice transition, Senator, because the next group we're going to go see is a group that's looking at clean energy, specifically hydrogen, but the questions around fuel cost and fertilizer costs are very closely connected to our ability to manufacture store and use hydrogen.

And that we're going to talk about today, but the floor of this building that we're on focuses exclusively on water, mostly water modeling, or quality, but the questions about aquifer recharge are questions that these guys have been studying very seriously. So water questions are very regional. Yes, I think Mars ours are very different issues to the Midwest.

Our hope, my hope is that one of the things the CHIPS Act can do for us is to help us see opportunities to link these groups that are already working on really big questions, but to link them more effectively through additional resources. We're excited about that. To link the dozen people that we've got that would be exclusively a water to the 15 or so that you're going to see that are they're looking at hydrogen production and storage, to questions around agriculture and AI.

I think there's a lot of really interesting questions at the interfaces between those scientific groups. And finding catalysts through financial resources and funding to bring them together is one of my hopes that I think which this act will allow us to do that.

CANTWELL: So we're very interested, Well we're big fans of Ed Schweitzer and what they do making the grid more secure. I think that's another area that may not be the topic of today, but you should think about is just that we think that there's important broadband smart grid, intelligent work, that needs to continue to be done.

The notion that you build that kind of system that can detect fire on the lines and be able to shut them down, and obviously move around more efficiently. But it's really clear, we need to have better security later. So that's something you guys, you're key in and you should think about that.

The material science side, you should also think about because we feel like there should be a partnership. Obviously, our state is a leader in both transportation, truck transportation, and aviation transportation, so we're going to need lighter materials. But we feel that there is this whole next step of thermal plastic manufacturing that is really driving down the cost of manufacturing that we need to be smarter and more sophisticated about.

So I think I feel like for us, the world's our oyster, like what is it we're going to focus on? And what is it we're going to - I mean, we have so many things we could focus on. So I'm very anxious to hear the hydrogen in our discussion today and hear what they have to say. But it's really – there's great strong R&D institutions are going to help lead the economy of the future. So thank you.

PARTICIPANT: Well, we appreciate your ability, and your support and making it possible for us to have impact in the space. **(22:18)**