

Interviewer1: Thanks again, this is very exciting for us. So I guess we wanted to kick things off by asking you about the role you play at your institution which is Weber State as the Sustainability Coordinator?

JB: Yeah so WSU has two sustainability offices. One is under academic affairs and is our sustainability practices and research center. Focuses more on the curriculum development research side of things. And then my position as sustainability manager is located under administrative services and facilities management. And so my role is primarily overseeing campus operations and the implementation of our climate action plan, reporting on our greenhouse gas emissions and updating the climate action plan as necessary. And then I also work with our SPARK office on both on and off campus engagement.

I1: Gotcha, so when was Weber State's current climate action plan developed or first implemented?

JB: So our very first climate action plan was adopted in 2009. We signed on to the American College and University Presidents Climate Commitment in 2007. And then **over this past fiscal year 2020 is when we engaged in the update process.** And just finished up our last round of subcommittee meetings in January of this year. And so now I'm in the process of actually writing up all of the results from all of those different subcommittee meetings over the course of the year to create our new updated climate action plan.

I: Gotcha. What is the, so from 2002 until this year were you guys... did you guys have benchmarks laid out until 2020 or 2021? Or did you go a couple years without updating it? I'm just curious?

JB: Oh from you said 2002? We didn't have a climate action plan in 2002.

I: Did you say 2007? I misspoke, sorry, whenever it was first developed?

JB: Yeah it was first developed in 2009. And then so 2020 is the first time that we updated that climate action plan. But within the 2009 climate action plan yes we had a goal to be carbon neutral by 2050 and then we had interim goals and targets for carbon emission reduction within that plan.

II: Okay gotcha, sorry about that!

JB: No worries, I want to make sure I am answering correctly.

II: So do you feel like the climate action plan has thus far been successful in hitting the benchmarks that it was set out to? And that you guys are well positioned to do so with this next one?

JB: Yes absolutely. We, so that's one of the other things I do is report annually on how close we are to meeting those benchmarks that we set out in that climate action plan. Every year thus far we have... you know met or exceeded our scope one and scope emissions benchmarks.

II: Wow!

JB: Scope 3 we've struggled with, as many universities do. Um, and so we have not met the benchmark on scope 3. So a lot of the focus in our climate action plan update process is really honing in on our scope 3 emissions and what our strategies were to be to make significant reductions. The good news is is on the scope 1 and scope 2 route we had a very clear path, again because we had been meeting and sometimes exceeding those benchmarks to actually improving and reducing our carbon neutral deadline date.

So in this updated plan we're going to be moving from being carbon neutral in 2050 to carbon neutral in 2040. And we have a capital improvement plan laid out that shows exactly

how we're going to be transitioning our infrastructure over to actually meet that 2040 goal.

I1: Wow. Can you give words just briefly to what scope 1, 2 and 3 means? I was a little...

4:57

JB: Yes scope 1 emissions are often referred to as direct emissions, on campus emissions. In terms of university and how it applies to WSU, the types of items that fall into scope 1 emissions are the natural gas emissions associated with campus heating. We have boilers. We have a central heat plant and boilers on campus right? And we're combusting natural gas to provide heat to our buildings as well as water heating. Or the campus fleet falls under scope 1 for example. So it's directly controlled emissions.

Scope 2 emissions are electricity based emissions. So we purchase our power from Rocky Mountain Power. Those emissions are happening obviously offsite but we're purchasing them for the electricity for the campus. So scope 3 are indirect emissions and primarily travel and commuting based although solid waste related emissions also fall into scope 3. So airline travel, over the road travel for any sporting events, club events, etc. and then just basic commuting travel for the faculty staff and students coming to and from university's different campuses are part of those scope emissions.

I1: Gotcha.

I2: I am from Utah, and you mentioned Rocky Mountain Power. I know that they're a pretty big power source back home. Are you like trying to invest in like renewable energy and all that?

JB: Yes we are. So I mean the first way we started investing in renewable energy if you're familiar with Rocky Mountain Power they have their Blue Sky program and their subscriber solar programs so there were some of the first initial steps. The second step has been actually

building our own on site renewable energy. So we for example built a nearly 2 megawatt solar array on our Davis campus which in Layton UT. And that solar array provides all of the energy needed for that entire campus. And then on the Ogden campus we just, we have several small arrays on the Ogden campus. And then our largest array was just installed, was a 500 KW array. And we did solar covered parking. And then we have plans to some additional solar covered parking on various parking lots.

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And then now we're actually negotiating schedule 32 arrangement with Rocky Mountain Power to purchase offsite solar through a power purchase agreement. So yeah we've been looking very heavily at you know how we're going to source our renewable energy. Oh and we also have two ground source well fields on our Ogden campus and we're in the middle of installing a 3<sup>rd</sup> ground source well field.

I2: Very cool. How has that transition away from Rocky Mountain Power been? Because I've heard of institutions that have kind of been having, like been struggling with that?

JB: Well and I think that's where we've been successful in that we are not transitioning away from Rocky Mountain Power. We're still a Rocky Mountain Power customer and we will be. We are just demanding as a customer that our energy is sourced from renewable sources instead of from fossil fuels. So even with the schedule 32 offsite arrangement, we'll still be a Rocky Mountain Power customer, obviously purchasing it from a 3<sup>rd</sup> party. And even with the renewables that we build on campus our substation is still through Rocky Mountain Power. So we're still a customer.

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I2: I was just curious about that.

JB: You're right that it's difficult.

I2: Sorry Dominic you can keep going!

I1: No problem, that's interesting. So I kind of want to circle back real quick and just ask how you guys and your climate action plan specifically is measuring the scope 1, 2 and 3 reductions or greenhouse gas emissions? How are you measuring the success there and by what metrics are you seeing reductions in consumption? Does that make sense?

JB: So in terms of the tool tht we've always used, we have always used carbon calculator and now it has developed into SIMAP that's run out of University of New Hampshire. It's a tool we utilize to enter all of our data. That data that goes into that tool for calculating the greenhouse gas emissions comes from a million different sources right? Like it's a substantial effort every year to gather all the data, whether it be from utility bills or from the state of Utah. For example when it comes to our fleet vehicles we have to figure out how many gallons of diesel or gas or CNG we purchased over the year. And we have to get those records from the State of Utah and their fleet management system. So I have... a... nice long list of people and departments that I have to contact on an annual basis and reports that they have to run for me that get collects this data every single year to get entered into SIMAP.

**10:52**

I1: Gotcha. So what are some of the specific areas or strategies that you guys have looked at or implemented to try and hit those benchmarks for reducing greenhouse gas and electric and things like that?

JB: So the approach we've taken, we call it our 4 point plan. Um, it's kind of a 4 pronged approach to reducing emissions. There are universities who have chosen to purchase carbon offsets for example and declare themselves carbon neutral. As an institution we decided we wanted to try to reduce our own emissions, our own direct emissions as much as we possible can.

In doing so we obviously focused first and foremost on conservation and energy efficiency projects. And conducted an investment grade audit a couple of times along the way to identify a whole suite of energy efficiency projects with good returns on investment that we wanted to tackle. And then those projects will continue on and on and on into the future right.

You can always keep working on making your facilities more efficient.

The second piece or second step that we've really focused our efforts on is electrification. So when you think electrification, you obviously think vehicles and equipment. Which we have done that, right, we are transitioning our fleet over to hybrid electric or all electric vehicles over the course of time. As well as all of our landscape equipment and mowers right, we're going to be transitioning all of that.

But we're also transitioning our buildings entirely over to all electric heat pump based buildings. So that's what I am talking about when I talking about the capital improvement plan that we have, is that we have a plan for every single time we are renovating a building or building a new building, it's being built to be what we call carbon neutral capable. It's being built so that it is an all electric building, so that all we have to do is implement step 3 which is source our energy from a renewable source and then that building is carbon neutral.

And then I think the 4<sup>th</sup> step that has been the key to our success was we created in the very, very beginning a revolving loan fund. \$5M revolving loan fund and WSU was actually one of the first public institutions that implemented one of those revolving loan funds back in 2008, 2009 to finance all of these projects. So we borrow from the fund, we invest in these projects, we save money on our utility bills. We pay off that debt with 3% interest to the university and then we reinvest in our next suite of projects for the year.

And so over and over and over we're able to reinvest those dollars. Save the university

money on their utility bills and with those savings pay off that debt. So from the time that we started working on these projects back in 2009 until now we have saved the university over \$15M in utility costs.

II: Wow.

JB: So that's the amount of money that we pulled out, paid off and reinvested with all of the savings that we've had. So that's the four steps, efficiency, electrification, renewable sourcing and then reinvestment in projects until at some point in time the entire infrastructure is completely turned over and it's carbon neutral. And then it will be a question of now what do you do with all the savings, which hopefully we can reinvest in academic endeavors at that point in time.

II: Is Ogden or does Weber have a lot of older infrastructure? Has that been a place where you guys have been able to see a lot of improvement is by revamping the infrastructure? I know at MSU we have a lot of very old infrastructure and there's really just not a lot of interest investing in updates where it's not really necessary. So part of the problem we continue to run into is how to make these very old and inefficient buildings at least to some degree efficient?

**15:40**

JB: Yeah we do. I mean every university faces this problem right, you have an older building. But here's the deal and this is I think the way we've been successful is these older buildings, you either make a choice to tear them down and build a new one right. Or you're making a choice to every so many years you have to replace the entire mechanical system, right. And your facilities management folks are budgeting for that eventual mechanical system replacement. So what we do is we created a capital improvement plan where we know in

year 2025 this building is going to need a total mechanical upgrade. In year 2027 this building will. In year 2030 that building will, right. Every institution had that plan, or they should have a plan of when these retrofits or entire building replacements are going to have to take place.

And then you're a public institution right like we are? So you're having to go to your state legislature to ask for funds for those eventual upgrades and improvements. We do the same thing. What we had to do in the beginning though was when we were replacing those mechanical systems, instead of choosing to replace the mechanical system with yet another boiler chiller system, we chose to at that point in time replace the mechanical system with what's basically a variable refrigerant flow VRF heat pump system. So you are going to have to replace your mechanical system any way. Why not utilize that opportunity to replace it with a carbon neutral capable system. You're going to have to budget for it. You're going to have to pay for it. Back in the day, a decade ago it used to cost us a little bit more to pay for the heat pump system versus a traditional boiler chiller system. And so our revolving loan fund would pay that gap or that difference in cost, right, so that we could get the system we wanted.

Nowadays the technology is pretty wide spread and so well adopted that the prices are pretty equivalent. So why wouldn't you choose you know an all electric system and get yourself ready to go on the carbon neutral front. Financially it's equivalent so there's no reason not to do it even in old buildings.

11: Right, interesting. Where, could you point your finger to any particular place where you guys have been the most successful in reducing greenhouse gas emissions or electricity consumption? Where have you guys been? Where has the plan been most successful in



reducing the impact WSU has had on climate change?

JB: So far it's been a deep focus on our buildings. And one, implementing all of those efficiency projects. We have a very aggressive LED light retrofit program right. Insulation. We focused a lot... a lot of campuses have central steam and chilled water lines and they're in tunnels and insulating those steam and chilled water lines made a huge difference for us. But it's also been where we've seen drastic cuts beyond efficiency has been in the transition of our buildings over to these heat pump system buildings and then tying them into the ground source fields that we have on our campus. So that we can pre-heat and pre-cool essentially for free. Significantly has reduced, so like our natural gas and our electricity consumption have dropped by... electricity has been by over 50% at this point.

II: Wow.

JB: And natural gas was over a third just in consumption.

II: Wow.

JB: In fact in the early days, the first 2-3 years that we started implementing our efficiency projects pretty aggressively, Rocky Mountain Power actually called the University and said they wanted to come check our meter because they didn't believe that we were using that significantly less electricity than we were. And they checked it multiple times (laughs) and unfortunately for them we aren't using near as much electricity as we used to. Because we've just been really aggressive.

We've also been aggressive on going after all the rebate money. So we not only implement all of these efficiency projects but we process every rebate with the utility. And then use that money as well to finance a lot of the positions in our office. And also help pay for some additional projects.

I1: Gotcha, that is pretty amazing! Wow. Let's see here. So it sounds like... by many, most metrics you guys have been pretty successful in implementing your climate action plan. We would be curious to know though where you guys have hit any hiccups with implementing it?

20:55

JB: Scope 3 all the way. That is the beast. Because the university doesn't have direct control over all of the individuals, the thousands of individuals making their choices in how they come to and from the university. Lots of campuses have and we're one of them, we pay for what's called UTA is our transportation company system here. **And we pay for a pass for every single one of our faculty, students and staff, right, it's totally free for them to ride public transit.** And that really still hasn't made a dent in our transit ridership numbers.

**With that said we do have a new public transportation project that's getting built. It just broke ground this last month. And it will run from our central front runner station downtown and front runner runs all the way up and down the Wasatch Front.** It's the train that runs up and down the Wasatch Front. Megan you know, right?!

I2: Yeah.

JB: And then you get off of front runner and you will now be able to ride what's called the bus rapid transit transit system directly up the university and then over to the hospital. The two major employers up here. So people will be able to get onto public transit and get to the places we need to go much more conveniently. So we're hoping with the completion of that project we'll see an increase in our ridership.

Um, **the other thing we've been playing with this year is the idea of putting a carbon tax on our parking permits.** Which during the time of Covid is not popular. So it's not happening now, and it's probably not going to happen next year. **But when we see economic recovery I**

think we will definitely implement a tax on our parking permits to pay for all the carbon offsets we're going to have to purchase to offset all those commuting emissions.

We're a commuter campus and so we have two choices. We can build a lot more housing close to campus, or invest in that. And become less of a commuter campus. We have worked on putting a lot more electric vehicle charging stations on campus. And I really feel like as electric vehicles become more widely adopted we'll see a good reduction in emissions there. Particularly as those vehicles are plugged into renewable sources of energy.

You know who knows, even with like self-driving cars and things of that nature, this problem might start taking care of itself a little bit as well. But yeah that one is the tricky one. And I think most campuses struggle with it. Unless they're very highly residential campus where most of their students live on or very close to campus.

II: So the strategy you guys have used to try to encourage people to move away from that is just making these public transportation systems easily available?

JB: We have more. We've outlined kind of like our top 10 strategies. I am going to forget some of them. In one sense Covid has helped us as well because I think even coming out of the pandemic, our staff advisory committee is working on a policy now to make tele-working a permanent thing that's permitted on campus to kind of help reduce those emissions. So there's some kind of those policy changes that we're going to maybe be making to let people work from home a little bit more.

We already taught a lot of online and virtual classes even before the pandemic. And so that helps quite a bit there. But then yeah it's kind of beefing up the infrastructure, whether it's the BRT or whether it's you know more pedestrian friendly, bike friendly, micro transit, scooters and electric bikes and stuff friendly. And then after that it's probably going to be...

carbon taxes to pay for the offsets.

25:15

II: Gotcha. Moving right along I guess it sounds like you guys have not had too many issues with funding, but that is something we're curious about. I think from who we've spoken to thus far that seems to be like one of the larger barriers to success is just actually finding money for these projects so we'd be curious to know how that has shaken out for you guys at Weber State and if that's proven to be a barrier to success?

JB: No, we have no issues with funding. And the reason why we don't is because we created that revolving loan fund from the very beginning. And this is another kind of one of those points in time right, where we're in an economic recovery. We created our revolving loan fund out of the 2008 financial crisis, right, when everything kind of hit the fan at that point in time. Everybody's investments went down significantly in value.

So that was happening alongside the fact that we just finished our first very large investment grade audit. And we were trying to figure out how do we finance these projects right? Like you said all these campuses are like what do we do. And a lot of times it's kind of project by project basis, or let's go after some grants or you know whatever. We decided at that point in time. And to me this was the most critical decision that set us up for success was saying we're going to create a loan fund where we invest in ourselves. So university and a lot of public universities and I think private universities are in the same boat. They have accounts that are more liquid than other accounts in the sense that they need to keep that money liquid in case of an emergency. But they're still investing that money in more shorter term stuff. But because they're investing that money in shorter term stuff it gets a smaller return. Like 1, 1.5%, something in that range.

And then when the economic crisis hit it was a much lower return rate that folks were getting. At WSU it's called our cash management pool of money, right that kind of emergency operations money that's set aside. So the university decided to create our \$5M revolving loan fund, take a chunk out of that cash management pool, and we pay them 3% interest. So they actually earn more interest on the loan that we have. So it's the university investing in itself, paying itself interest, but paying itself interest at a higher rate than it would've achieved on the market. And so no we don't have any problems with financing these projects because we borrow from this fund. We invest in the projects. We save money on the utility bills...

Now that's the other key thing, right, is we sat down with our financial department and our accountants and we had to all agree on the way we were going to document those savings and how that was going to be acceptable to everybody. A lot of times in energy management you do what's called weather normalization, right, to kind of account for the changes in weather. We don't weather normalize our data, because for our accountants they wanted to know at the end of the fiscal year, they don't understand what a normalization. So when you tell you saved \$1M this year in avoided utility costs. And you weather normalize that data, they're going to sit there and look at their account. And they're going to say but there's not \$1M sitting in my bank account. You're like but I did save that money. It was a really cold year this year, we had to use more natural gas. They don't understand that, right.

So we chose to go with an approach where our office takes the risk for those changes in weather, right. But they take the risk for any time they're adding square footage to the campus, they have to increase our utility budget. Those sorts of things, they have to actually increase the utility budget so the savings are still there if that makes sense?

So no, I mean frankly they've asked us if we want to borrow more money because they're getting such a good return on their investment. But we are moving our projects so fast that we can't... As you know when you're building a new building or renovating a building you're displacing people on campus. **So we can only move so fast without completely displacing classes.** And we are moving as fast as we possibly can to transition our infrastructure without completely upending the university and what it's trying to do which is educate a bunch of students, right. So financing has not been a problem for us at all. And it's because we set up that financing at the front end and created a sustainable... right you got to be sustainable in terms of your financing as well.

**30:23**

II: That's pretty amazing. Hopefully we next year can take a page out of that book. So I think I only have one more question for you here. Which is I am sure you've heard of the STARS system. I am just wondering if that's been a major influence on your plan? And how it's been written and designed, and if you feel like what STARS prioritizes in ways generally aligns with what needs to happen on your campus?

JB: **Yeah we've been engaged with STARS since 2010 and submitted our first report in 2011. Our most recent report was 2019 so we're due to produce another one here in 2022. Right now we're STARS silver. And our next report we're hoping to shoot for STARS gold.** I think that it does line up pretty darn well, especially in terms of you know looking not just at operations but it's helped us really improve our academics as well and our curriculum and really pushing for that change across campus.

In fact it was really kind of STARS and how we were struggling at the bronze rating in STARS that really got us to the point where we got the administration to approve the creation

of our academic sister office, the sustainability practices and research center. So STARS helped us with that.

STARS as you also know really focuses on diversity equity and inclusion, which has helped us move some of those social justice efforts forward more recently. Combined with just the general national climate, that's helped a lot. I think we kind of have stayed at the silver level a little more so than maybe some of our sister institutions like the University of Utah, just because we have definitely invested a lot of our time and effort in our energy management program. Probably to the expense of some of these other... items that you work on in STARS. And focused on operations really heavily because it has such a high return on investment. And kind of the logic there was that if we invested in energy management and water conservation and things like that that kind of had a better return on investment we would get to a point where we then could invest the extra dollars in some of these other things that end up being... that end up costing money rather than having a pay back.

So that's kind of the approach that we've taken and we finally reached kind of the point now after doing this for about 9, 10 years that we have extra cash to start infusing into these things that cost money rather than provide a return. So now we're finally to the point now where I see a pathway to STARS gold and platinum for us. But one that was financially sustainable, right?

I1: Right. Well thank you. Megan do you have any last questions?

I2: That was great. All these answers have been amazing. Everything that you're doing at Weber is incredible!

JB: Thank you. Yeah I mean they were much more brilliant minds than mine that kind of created the whole financing mechanism that has truly made us successful. But also I think the

heat pump ground source technologies that we've deployed have been a real game changer for us as well. And you know if you guys decide you want to go down that road in terms of the revolving loan fund and how to set that up and how to baseline your utility data and we're happy to share all of the accounting tools and mechanisms that we've used to put that in place.

I2: That'd be great, thank you!

JB: So how many universities are you guys interviewing, if you don't mind me asking?

I2: We're just looking at 4, right?

I1: Yeah.

I2: Looking at Weber State, and Utah State, CSU, and then UM.

JB: Nice. Are you planning on publishing a report of some kind? Would it be possible to get a copy of that when you guys are done?

I2: Yeah I think we're going to write a report at the end of the semester, right?

I1: Yeah I am not sure if it's going to be published anywhere but I am sure we could send a copy to you guys. So we tried to choose four universities that have pretty similar indicators to MSU as far as endowment, climate, student population, stuff like that. So we have enough in common that hopefully what made sense for Weber for example might make sense for us in Montana.

I2: Our sustainability coordinator is a really big fan of yours too. I know she brings you guys up all the time and all the things you're doing!

JB: That's funny! It's so funny because even in the State of Utah WSU people are like what?! Utah State University and University of Utah obviously always get all of street cred. But we've had some pretty key folks who are pretty brilliant who set up I think something that a lot of people could take and run with and be very successful with for what it's worth!



I1: Thank you so much for taking the time to talk to us. Like Megan said it's been very helpful!

**36:42**