

John O'Neill:

Welcome, everybody. Thanks for joining. We're just going to give it one or two more minutes for a few more folks to trickle in.

Okay. Welcome, everybody to the Better Buildings, Better Plants Water Savings Network Introduction webinar. We are really glad to see so many people on the line so hopefully will be able to answer any questions you have about the Water Savings Network and hopefully by the end of this, convince everybody of the importance of joining the network, too. So Jonah, you can go ahead and hit the next slide, please.

My name is John O'Neill. I am a technology manager at the Advanced Manufacturing Office at DOE. I'm going to be sort of the point person for the Water Savings Network on the industrial side with Better Plants. And I will also be joined today by my colleague, Hannah Debelius who was in the building technologies office of DOE and she will be sort of the point of contact for the Better Buildings side. So if partners on the building side have questions, direct those to Hannah.

Okay, so a quick agenda setting for the webinar today. The first thing we're going to do is introduce the Water Saving Network. Tell you guys a little bit about what we expect of partners and what we hope to provide for partners as part of this network. Then we're going to hear a little bit from some of the water goal achievers from the previous Water Savings Initiative that Better Buildings, Better Plants had. Here about their successes and their efforts moving forward. Third on the agenda is we are going to hear from a couple of experts from the national labs to discuss some of the technical assistance resources that are available, particularly for her plans partners in the Water Saving Network. Then we also have a guest speaker from EPA who's going to talk a little bit about EPA's WaterSense program which will be a little bit more relevant to the building sector partners. And then finally we will leave some time for Q&A at the end to make sure everybody has all their questions answered.

On the topic of Q&A, I would like to invite everybody to open up *Slido.com* either in a separate window or on a mobile device and just enter the event code DOE. And we will probably drop that in the chat for your reference so nobody forgets it. But please, instead of using the native chat window in Zoom, please funnel all your questions into the *Slido* because we're going to also use that for some polls later on in the webinar. So we'd just like to have everything in one place. *Slido* also has an option to sort of upload and download questions that you might think are relevant so it just

helps us prioritize what questions are most relevant and are being asked by the most people. So we can go on to the next slide please.

Okay. So what is the Water Savings Network? This is a network of Better Buildings, Better Plants partners who participate in peer exchange activities and get recognized by the Department of Energy for their proven solutions and their successes as they work to save water in their facilities. Partners can work with us at DOE to track a water reduction goal across their entire portfolio or a portion of their portfolio.

And this brings up the questions of why we all want to focus on water efficiency at the Department of Energy? Why is it such an important effort for us? Water efficiency has a number of benefits for facility managers. In addition to lowering operating costs or direct costs of paying a water bill, water efficiency can increase reliability at your facility and improve water quality. And saving water also saves the energy required to transport, treat it, heat it, cool it, et cetera. And so there's a really close tie in between energy use and water use at your facilities and so it's really important for us, for DOE's broader mission of energy efficiency to tackle water efficiency as well.

And this is particularly concerning because in 2020, on average, over a quarter of the US population experienced conditions ranging from abnormally dry to extreme drought. And this statistic increased almost 40 percent in the second half of the year and continues to intensify in 2021. And so this is an increasing challenge and it's becoming more and more relevant to more and more folks and more and more facilities are really going to have to think about how they use water in their facilities. Next slide.

So what are we asking organizations to commit to as part of the Water Savings Network? First off, participants are strongly encouraged to set a specific water use intensity goal for all of their portfolio or potentially a portion of their portfolio which, for example, could be those facilities of theirs that are located in water stressed regions. And we also expect partners to contribute in one or more of the following ways: partners can track and share their progress towards a water savings goal, so provide some data on their progress. Partners can also publish a case study on the Better Buildings Solutions Center to share a little bit about the challenges they faced and a solution that they found to share that with other partners. We also invite partners to share their best practices and lessons learned through other formats of peer exchange. So it could be calls or webinars, for example. And then finally, we encourage

the partners to document the ways water efficiency impacts other priority areas for their organizations such as energy reduction, resilience, equity and workforce development.

Okay. And now for this portion of the presentation, I'm going to hand it over to Hannah.

Hannah Debelius: All right, thanks so much, John. I have the wonderful pleasure of talking a little bit more about how far we've come *[audio garbled]* partners in the work that you are our *[audio garbled]* for water efforts and Better Buildings.

For those of you who have been with us working on water for a couple of years, you know that our main focus has been goal setting and data tracking. And this is something that still going to remain a priority for us but we're really excited to be able to expand what we're doing and bring in more partners to really increase the value of our peer exchanges and dedicate more resources to this as we continue to build on progress.

So we are evolving this program as John mentioned and added a couple of those key things in order to showcase additional leadership and really increase that engagement. But we are building on a great foundation so I'd like to thank our 50+ partners from all different sectors across the commercial and industrial side of things who have really contributed a lot of over the years, including more than 40 water-related solutions which you can find on our Solution Center. And then collectively saved 10.2 billion gallons of water.

With that, I'm really glad to welcome some of those partners on the phone with us today who can share a little bit more about the journey they've had with water, some of the success they've been able to highlight with Better Buildings or what comes next. So with that, I'm going to start with Cummins. So Nichole, if you are able to hop on audio, we'd love to hear a little bit more from you all.

Nichole Morris: Hi, sure. Can you hear me?

Hannah Debelius: Sure can. Go for it.

Nichole Morris: Awesome. Well, we started back on water gosh, like in 2012 and we started working with the DOT when the Better Plants program came out. And our original goal was to reduce our water consumption from our 2010 baseline by 33 percent. And we started

working on that, we started working on a combination of facilities and ops improvements as well as community projects to restore water. And we were able to – and that was for our 2020 goal, by the way. We were able to meet that goal early. So we changed our goal from 33 percent to 50 percent reduction goal. And we were working with several priority plants and working on reuse opportunities as well as reduction opportunities, equipment deficiencies in those kinds of things. And we were able to reduce annually the first three years, about 12 percent and then after that we were able to reduce around 4 percent or 5 percent because we were getting into more difficult projects to implement.

And in 2020, we were able to achieve a 53 percent reduction goal and our reduction was based on water intensity which is a measure of gallons per hour worked. And we've recently set a new goal for 2030 and we have transitioned from an intensity goal measure to an absolute reduction. So our new goal for 2030 is to reduce our absolute consumption from our 2018 baseline to reduce it by 30 percent. And while doing that, when we first started, we were using about 1.1 billion gallons a year. So we've been able to reduce that quite a bit with that 53 percent reduction target. And we're looking at an additional reduction with the 2030 goal to somewhere around 300 million gallons a year with that program.

In addition to our operations and efficiency measures, we also set a goal for neutrality within our community and we were able to achieve water neutrality at 16 Cummins locations all located in water-stressed regions and all that used more than a million gallons of water a year. We were actually able to offset our water consumption in our community and a volume that is larger than Cummins' global water consumption annually. So we are very proud of that and we are moving on to a larger, impactful goal for that with our new Water Works program.

So just a little bit about us and if you guys have any questions, I'll be glad to answer.

Hannah Debelius: Thanks so much, Nichole. I really appreciate that. And congratulations on the incredible success you all have had and the ambition that you are bringing to the table for your second goal of water neutrality. That's really excellent.

I'd like to invite Bob Baird of General Motors to hop on if you want to turn on your video and audio, we'd love to hear from you.

Bob Baird:

Yes. Good afternoon. I'm Bob Baird with General Motors. And we have had a pretty extensive relationship with the Department of Energy and the EPA with Better Plants and Challenge for Industry and working on mainly energy programs but we've also learned from that and tried to integrate or adapt the water programs as well. And so we integrated water management actually into each plant's business plans. And so they are given a targeted improvement. We track their performance as it relates to the consumption. And then we look at that on an intensity basis and also on a total basis.

And as we've moved through that process, we are including water opportunities in our on-site efforts, whether this is funded through a corporate savings program or through performance contracts. But we've also incorporated the water parts of what we are doing in our treasure hunts. And because of COVID, we've switched those to virtual. And we look at water and energy at the same time because we find many of the same people are involved and things that save on water also typically save on energy and vice versa. So we are working along in those directions to get the water message to become more public, more presentable to the plants in the organization.

And each plant is tasked with coming up with a sufficiency plan to identify what they are going to do this year to meet the budgeted reductions that we anticipate or developed in the previous year. So we are using that tool to monitor what ideas are out there so we can share the ideas but also make sure that the plants are making reasonable progress on their reductions. And out of that, we have water leak identification and repairs that we're encouraging in the plants to talk about. We're looking at nonproductive periods, how to make sure that the water is shut off and not left running and that could include automation where we might put sensors in that would sense when a part is present and if it isn't, that the water gets shut off. And we also have been cascading water from a high-quality operation to a lower quality one so that we can reduce the amount of water just by having the internal recycle and reprocessing, so to speak, to try and minimize flows. We are looking at our cooling towers. Have we optimized the cycles of concentration, making sure we are running the tires as efficiently as we can? And how do we improve the blow down of solids and what not to get the towers to really truly work correctly, maximizing the differential temperatures while minimizing water drift and carry out from the cooling towers.

We also are trying to see how we might utilize water reuse. In addition to the internal cascading in the machines, how could we use stormwater that we collect on site and put it back into our processes? Maybe in a cooling tower or some other operation. How might we use blow down from an RO water or water purification system, again, in an operation that maybe doesn't need as high a quality to try and truly move toward less being discharged, less water being needed.

And we been utilizing are trying to develop along with the Department of Energy's Plant Water Profiler tool that looks at the true cost of water and realizing in most of the United States, the cost of water is pretty economical and it makes it pretty hard to cost justify doing things. But if you include the cost of the chemicals or any energy that might be trapped in it that is being discharged, like the heat and condensate from steam, we're trying to see how all of those things will dovetail to help us go forward in minimizing the water.

And one other one that we are doing that's outside of General Motors is we are also talking to our suppliers and trying to help them with treasure hunts that include energy and water as well. So we are expanding our water horizon not just to our own facilities but also looking at the supply base. And again, if there are questions at the end, I'll be happy to see what we can do to address them.

Hannah Debelius: Yeah, thanks so much, Bob. I appreciate you highlighting some of those specifics of what's on the horizon for you all and of course, also calling attention to the water energy nexus. As Bob mentioned, you can also ask questions from the panelists and the best way to do that is to either click the link in the chat for this or go to *Slido.com* with event code DOE. I see a couple questions coming in already for that. Great.

Now I'd like to invite Hakon from one of our commercial Institute partners, Anthem. Wanted to mention a couple words about your water initiatives.

Hakon Mattson: Great. Hello, everyone. Happy to be here. Thanks, Hannahh and thanks Better Buildings for putting this together. It is extremely important right now. I was just looking at the World Economic Forum risk factors for 2021 and water is not included in 2021. It was one of the top five in 2020. So this is an extremely important topic and glad to be part of it.

So Anthem. So we're health services/health benefits so don't necessarily have the same water footprint as a Cummins or GM. But we still operate large offices across the US and internationally, large data centers. We have over 85,000 employees, serve over 44 million members through our insurance offerings. And so there is opportunity.

And as I say our journey really started in 2014. Prior to that, candidly, we weren't doing a whole lot in the space of water. 2014 we started benchmarking our usage and we started tracking our usage. I believe, Hannah, it was 2017 or 2018 where we joined Better Buildings and found a lot of value in that, being part of kind of a larger external initiative as well as capitalizing on resources and tools that are available. But even just the peer-to-peer sharing has been of tremendous value.

Our *[audio skips]* has helped with, it's focused on six different areas. So the first is the leadership commitment. *[Audio skips]* which has really helped *[audio skips]* across the US. So the benchmarking has been a challenge but it's something that we been able to put in place over the years. The third is setting a goal which I see Better Buildings and this project, this partnership being a great opportunity and medium for setting that goal.

The fourth is identifying and prioritizing projects. And this one is interesting because when we got into this part of the strategy, we found that there was opportunity in California which at the time was facing record drought and still is facing drought today. And so I think that piece of the strategy is key, focusing in on your sites that may be facing water insecurity type issues or droughts.

The next piece was dedicated budget. We found that within our facilities capital planning, lots of money is spent on aesthetics and landscaping and other things but not necessarily – and energy efficiency as well but not necessarily the water efficiency just because of the low cost of water, how undervalued water truly is. And so I think that was a key component as well, actually allocating capital as part of our five-year plan towards water projects.

And then the last piece is just measuring and reporting and reporting internally as well as externally. And I think Better Buildings, once again, it's been a value to report not only our commitment but our progress over the years to our stakeholders via Better Buildings. And we've capitalized on the white paper and the case studies and all of that as part of our partner profile.

The last thing I'll say is the projects that we've done over the years, we've had major projects in California, we saved about 40 million gallons of water annually which once again, not manufacturing, not industry, it's pretty substantial. And that equates to about \$300,000 or \$400,000 a year just based on the program that we put in place. So definitely a big fan of Better Buildings and once again, thank you all so much for putting this together.

Hannah Debelius: Awesome. Thank you much, Hakon. It was really interesting those six specific areas laid out like that and we are hoping to only increase our peer review for this. So that's great.

The last goal achiever that we will hear from today is Magda from the Tenderloin Neighborhood Development Corporation. So Magda is able to turn on your audio and video, we'd love to hear from you.

Magda Szymanska: Yes. I believe I am in. Good morning and good afternoon, everyone. So Tenderloin Neighborhood Development Corporation provides – it's a low-income housing. We provide housing for the extremely low-income citizens and residents of San Francisco.

We achieved our first water saving goal in 2019 for 2018 and we started in 2013. It was 20 percent savings. Immediately after we achieved this savings, we set another goal which is another 20 percent savings in the next 10 years.

We are trying to save water in two-tier, I would say. The first is we are running water savings projects that are focused on water savings and then we see indirect water savings from other projects. So of course, we are changing the toilets. We are exchanging showerheads. But also, we are looking at metered faucets. So several of our properties we have multiple common area bathrooms. So it is common knowledge we cannot use metered showers but we are exploring the opportunity for metered faucets.

And also, we are looking at the occupancy sensor. So this is something new. We never did it before. We didn't know actually anybody did it before but this is our goal for the next five years to really look at the water savings opportunities and the new technology in these fields, especially 100 percent of our properties are master metered for water. So we don't have much influence over tenants' behaviors and the COVID situation did not help us at all in this matter. Not only that 100 percent of our people were

staying home but also there is a lot of additional cleaning that was happening constantly in our properties.

But even with this, we see some reduction in 2020 versus 2019. Portfolio-wide, we reduced water by 3 percent. This is not the number we were hoping for but at the same time, I was positively surprised that with the pandemic hitting us, we still see some good results.

And a couple other projects that we are running and see good numbers for water is from the energy savings package, actually. So we do a couple of heat pumps exchange or installment of a couple of other properties. And what is coming with this is often we are fixing across other repairs. So this is giving us some savings here. And also, we are installing better circulation pumps so it's helping with availability of hot water for daily needs so people are not wasting cold water while waiting till they receive the warm water.

And other project that we have done is we have stormwater capacity of one of our property but rain amounts in San Francisco is not giving us a lot of water supply from the source. So we are looking at this about repeating this project in other properties makes sense or not so much.

And with this, we are moving forward. Next year and a couple of following years, that will definitely water- saving oriented projects for TNDC. Water is life and we are aware of it and we will be working on it and we are very happy to be part of Water Achievers and we hope to reach our new goal, also. Thank you all so much.

Hannah Debelius: Excellent. Thank you so much, Magda. It's really great to hear about those initiatives and also from the multifamily space type which is a little bit different than some of our other sectors so I appreciate that.

A big congratulations again to all of our goal achievers we've had for the Water Pilot , yeah we can go to the next slide. It's been such a pleasure partnering with you all and we are excited to continue to build on that, as I mentioned.

So just a couple of key highlights about if you've been a partner with us, some things are changing. You will continue to have a priority around goal setting however, you're going to have some additional options which is that now partners can set a goal for just a portion of their portfolio and we encourage that to be around a potentially water stressed region.

You will also have more opportunities for peer exchanges as we also increase the size of our network from this network. And there will also be an option to instead be a solutions-based partner with us. Setting a water goal right now for all of your portfolio isn't possible. And finally, we will have a high level of technical assistance, the resource sharing and development which will also be built in conjunction with you all. So with that, I know we are all eager to hear from our experts so I will turn it back over to John to continue.

John O'Neill:

Great. Thanks, Hannahh. So I hope what people got from that last slide in part at least is that we are really trying to make this network as responsive as possible and we want to solicit as much feedback as possible from our partners to make sure that we're providing resources and assistance that's most valuable to you. So I would, in that spirit, I would encourage everybody to head over to the *Slido* at the moment. In addition to the Q&A, at the top, there's a polls tab. So if you go ahead and click over to that, we just want to ask a few questions of our attendees today to see some of the challenges you guys are facing and what types of resources you feel like you really need. So go ahead and fill that out and we will monitor the responses as they come in.

[Pause]

This is great. It looks like so far monitoring and tracking water data is a challenge for a lot of our attendees on the call today. That's good news. I know that we already have several resources and again, you'll hear in a few minutes from some of our experts. We already have some resources that can help you track and monitor your water data and really understand the way it's being used in your facility. And so that's great to know. Some other challenges look like optimizing systems and integrating new technology and financing; also things that we can help with and continue to tailor our resources on those moving forward. Okay.

So maybe we can head to the next poll question. I think we've got three total. Okay. Next would be what type of resource would be most valuable for your organization? Do you want to see solutions from other partners? Do you want to have peer exchanges? More webinars like this one? More technical assistance? What is it that you guys are looking for from us?

[Pause]

Okay. I see that technical assistance is a high priority item. That's great, we have a really, really knowledgeable team of experts that can help with that. And it looks like number two is solutions from other Better Buildings and Better Plants partners. As Hannah mentioned, the peer-to-peer learning and peer to peer exchange is really something we're going to focus on in the large savings network that may be a stronger priority than it was for the Water Savings Initiative. So that's great to hear. I'm glad that that's going to be well received. And then some peer exchanges and webinars as well.

And for those of you who wrote other, maybe if you want to drop something in the *Slido* Q&A about that, if you have any particular challenges that you'd like to hear about or particular resources you'd like to have access to.

Okay, great. Why don't we had to the final question then. All righty. What peer exchange topic would be of the most interest to your organization? Is it linking water and energy efficiency efforts? Prioritizing water efficiency in water stressed regions? Monitoring and tracking usage data? Implementing water reuse systems or strategies for installing water efficient equipment and technologies?

[Pause]

Okay. Looks like this one is a little bit more of a mixed bag. But it seems that pairing water and energy efficiency efforts is a pretty high priority for a lot of folks. That's definitely something that we have resources to help you with. And I know for a fact that a couple of our experts are going to speak to that on the Better Plants side in particular later. Strategies for installing efficient equipment and technologies, that's good to know. And implementing water reuse systems. Excellent. Thank you all for the feedback on that. We really appreciate it.

This information, one, it's helpful to know that we are sort of on the right track already in the resources that we have developed and are continuing to develop. But it's also really helpful for us moving forward to shape this program to be as impactful as possible as it can be for you guys. We want to make sure that you guys are getting as much out of this as you can. So thanks so much. That's really going to inform our efforts.

All righty. So the next person of the webinar is a little bit of some expert feedback. We're going to hear from Prakash Rao and Kiran

Thirumaran on the technical assistance resources that are available to Better Plants partners. So this portion is going to be a little bit more geared towards our industrial partners and then at the end we will have a little bit more directed at our Better Buildings partners. So bear with us if you are in that boat. But without further ado, I would like to introduce Dr. Prakash Rao. He is the research scientist within the buildings and industrial applications department at Lawrence Berkley National Lab in Berkeley, California. Dr. Rao conducts research and analysis into the potential for reducing the energy consumption and water use impacts of the US manufacturing sector while maintaining its productivity. Dr. Rao also conducts analysis of large-scale desalination, focusing on its energy implications and reduction opportunities. He received his doctorate in mechanical and aerospace engineering from Rutgers University and his bachelor's in mechanical engineering from Carnegie Mellon University.

Kiran Thirumaran is a research staff at Oak Ridge National Laboratory with a focus on industrial energy and water efficiency, thermal process intensification, industrial decarbonization and statistical analysis. His research works to develop the next generation of energy efficient technologies and strategies. Mr. Thirumaran is also a technical account manager for the Better Plants program, assisting partner companies to achieve their energy, water and carbon reduction targets by analyzing energy consumption, identifying gaps in energy management practices and supporting the implementation of relevant strategies and impacts. He's also the engineering lead for the programs water efficiency efforts and he conducts water efficiency workshops and trainings for industrial facilities. So I'm going to pass it over now to Prakash Rao. Thanks so much for joining us.

Prakash Rao:

Thank you, John. I'll talk a little bit about the technical assistance resources along with Kiran, as John mentioned. Go to the next slide, please.

So a really broad level overview. What TA resources are available to partners of the Water Savings Network. So one of the things you'll get is expert technical assistance. For example, this could be ask an expert sessions on water efficiency at the Better Buildings summit. It could be your TAM, someone like Kiran or others who, your technical account managers are knowledgeable at water efficiency. So it's kind of like a phone a friend for your water efforts. You'll be able to tap into a network of National Lab and other experts on water efficiency to get you going in the right direction.

INPLT trainings, Kiran's going to talk in more depth about that but these are great opportunities to understand – actually have a water assessment conducted at your plant to understand your opportunities. Have others from neighboring plants or your other facilities join in so that they can then look at their own plans to see if similar opportunities exist to actually realize real savings and real opportunity identification. And again, software tools are something Kiran will be getting into detail. So I'll save that for him.

Fact sheets, presentations, best practices and other guidance, written literature that you can just review at your own pace and as needed to understand things like some of the things from the poll questions, what other partners are doing, how can you save water and energy together, where do you need to look out for when if you are saving energy or maybe you are increasing water. Those are some of the unintended consequences as well. It's just better understanding your water management and water conservation at your facilities. And learning from others. What are others doing?

And in that vein, case studies are something big that's always offered to the Better Plants network, Water Savings Network. Showcase projects, implementation models for example are things I think partners are familiar with and we have ones from Nissan and Harbec on things like water reuse and rainwater harvesting so some really advanced topics that you can understand how other facilities implemented it and what benefits they realized.

And as this is moving forward and into its next era, so the water saving initiative seeks to expand upon these TA offerings. So there's always a constantly evolving resource library of more of everything you see above, I think, coming from this network as informed and as demanded but I guess by the partners.

Increased opportunities for peer-to-peer networking facilitated by DOE. This could be at summits or other opportunities to hear from your colleagues about what they are doing. And this is one of those things I think is very important in water as water management and water efficiency is quite a bit newer than energy management and energy efficiency conceptually. And so it's really great to hear what are others doing as we are all kind of endeavoring on this – some of us newly endeavoring upon this.

Now, the next two things are not exclusive to Better Plants partners but or Better Buildings water savings partners. But there is a

benefit to being part of the program where you kind of leverage these two items and maybe a more impactful manner in your facilities. So what is technology implementation support? And specifically here as an example, the Department of Energy's launched its Industrial Technologies Validation program where you as the facility are partnering with the vendor of a new or emerging technology that can save water or energy. And maybe you are not too sure. Maybe you are implementing at one process line, one facility. You want to make sure it's going to deliver or what you think it's going to deliver that the performance claims are what they are before you implement more broadly across your portfolio, plants and processes.

What the ITV program can help you do is apply through the Department of Energy and the Department of Energy will pick up the bill on the measurement verification conducted through National Lab experts so you can get third-party confidence that that technology is delivering the water savings as promised before you roll it out more broadly. And here, I think those in the Water Savings Initiative, your setting goals, your tracking progress to goals, you're looking at your data and you're looking for opportunities. These sort of opportunities to – are these technologies really going to pay off? I think that kind of gains more interest as you sort of look at the Water Savings Initiative and work through it, the value of these programs might be more, might be increased.

Similarly, connections to early-stage research. So recently the Department of Energy, I guess it's not too recently now but it has kicked off its National Alliance for Water Innovation (NAWI) which is looking at, there's a large consortium of universities and national labs headquarters at Lawrence Berkley National Laboratory where it's looking at early-stage research and water treatment. So understanding what's new on the horizon, what are the challenges? What's going on sort of in the next gen of water treatment question mark that's where now we can kind of help you. And I think be connected to the Water Savings Initiative, you'll be just more aware of some of the happenings that's going on. And again, ITV program, NAWI, they are successful to all but being in the Water Savings Initiative kinda gives you that inside scoop.

And as a short little anecdote of how partners can kind of play a little ping-pong and bounce off of these to everyone's benefit, really. We had one large steel mill use an INPLT training as Kiran's going to talk about to identify where their water loss is and where there are some opportunities are use NAWI to further

investigate those and think about technologies that they might be able to implement. And are now in the ITV program with one of those technologies to see if it's going to work. So they're sort of bouncing around here and kind of leveraging all these opportunities to really save water at their plant. And we are excited for them. We think it's a great story.

And the last is, a lot of these improvements will be informed by you. I think that as we hear from you guys, what's the reality on the ground and what's really needed, we can then think okay, what tools can we develop to help you? What guidance documents or webinars can be put on to help you guys achieve your goals? Next slide please.

I just wanted to highlight a couple of things here, the TA resources in addition to the ones Kiran will be highlighting in a bit. What is this water management best practice guide? So this was developed in conjunction with the original cohort of Water Savings Initiative partners on the Better Plants side. We asked, there were seven at the time, all of them, there was questions about their water management practices, how do they finance water improvements, how do they select facilities to focus on, how do they baseline, what opportunities they are implementing. Wrap that all up into a guidebook and published it for folks to kind of benefit from that. And we've heard a lot of people have been able to use this not necessarily to see their water management go through completely but at least get it started. Kind of get step one in and then from step one, two, three and four becomes that much easier and the ball gets rolling. And that was entirely informed by partners and just something that we could share.

And the other opportunity I wanted to highlight before we go to Kiran is webinars and opportunities to hear from each other. So we've, the Department of Energy from the Water Savings Network and Better Plants has hosted a whole slew of webinars with industrial speakers. You heard today from a few but also in the past, Cummins has talked about projects and technologies that save water. They've talked about using energy management systems for water efficiency. Dow Chemical has talked about the new wave of energy water nexus. GM, who you heard from earlier has presented on water and wastewater treatment energy efficiency. Ford has looked at presented on how they leveraged the water pilot. Harbec has talked about water reuse – not water reuse, excuse me. Rainwater collection. Nissan has talked about water reuse just recently at the past summit we held. I think it was GM and Cleveland Clinics and others and municipal wastewater utilities all

got together in one session to talk about that connection between the municipal wastewater and industrial wastewater treatment and what's new on the technology horizon and we really had a great session to kind of connect those two sectors together whether there's technological similarity.

So those are just some of the opportunities. I'll hang on here after the webinar and happy to answer any questions. But before that, I'll kick it over to Kiran. Thank you.

Kiran Thirumaran: Yeah, thank you, Prakash and good afternoon, everyone. So Prakash gave a really good overview of the different kind of technical opportunity for technical assistance opportunity that we have as part of the program especially tailored industrial partners. And I wanted to highlight three of those in a little bit more detail. And a lot of you indicated that data collection and monitoring being a big interest to you guys in the water space. And all three opportunities that I'm going to be talking about have a lot of synergy to that so it's really encouraging to me to kind of like talk about this and kind of like fine tune this kind of like going forward.

So the first opportunity I'm going to be talking about is the water INPLT trainings. So for anyone who is familiar with the Better Plants program, you know INPLT trainings are our flagship, our technical assistance opportunity, right? And the water INPLT training focuses on industrial water efficiency and the fine tune for that. So the water INPLT training is a two and a half to three-day event that we come and do it at your site along with the DOA expert and the water training and specific is trying to do three things that we try to achieve as part of the training. One is to establish a water baseline for your facility. So we are at your site. We try to collect data and try to establish a water baseline on how much water your facility is taking in, how much of it is being used in your different systems, how much is being recycled and all that. And a complete water flow is what we try to build for your facility. So that is one of the goals for the training, establishing a water baseline.

The second goal is to identify the true cost of water. So once we know how much water your different systems are using, we try to find the true cost of water. So the true cost of what you are specifically holistically paying for water use in your different system so that includes the direct cost you are paying to your own municipality and also the other hidden cost aspects of it. Maybe you are treating the water before it's being used in the system so the cost associated with treating that water and the chemicals you

are adding in adds up to the cost of water. So we try to find the holistic costs as part of the INPLT training as well.

And the third thing that we try to determine is again, water savings opportunities. So we found how much water is being used. We found how much you are paying for it and then we try to find, identify water saving opportunities and quantify those opportunities to process.

So those are kind of like three goals that we try to achieve as part of the INPLT training. And of course, we make use of a lot of software and hardware tools to establish to kind of like, to achieve that and I'm going to be talking about that software and hardware tools as part is my next couple of slides.

One thing I do want to highlight here with respect to the INPLT training is of course, with all of the COVID situation, we haven't been able to come to the facility and do it even though we would love to do it in person. So in the last year, we have actually done the same. We took the same resources that we have for the in-person events and we have done it virtually as part of eight different sessions spread across eight weeks. And so we did that during this year. It was a great success. We had a really good turn out and a lot of facilities participated. And all those sessions are available at the link provided for you to take a look at and see what are the things that we covered and make use of the opportunity. So that's with respect to the INPLT training.

One of the tools that we rely upon heavily for the INPLT training is the plant water profiler tool. So this is an Excel based tool that's available on the website for you to make use of. And specifically what it essentially does is it gives you a systematic way to kind of walk through the steps that we spoke about; water baselining, finding the true cost and identifying the opportunities. So the PWP tool streamlines the process and gives you a systematic way to approach these steps. So next.

And essentially, the slide talks about the three steps that I already mentioned on the PWP tool. And another big portion of the tool is it walks you through those three steps and gives you the comprehensive results from that in the form of pie charts, different bar charts and the table.

One specific thing again I wanted to mention with this PWP tool is the benchmarking aspect of it. So I highly encourage you to take a

look at the tool when you get the chance and let us know if you have any questions on that. Next slide please.

Another big portion of or another technical assistance opportunity that we have is the hardware tools and the diagnostic equipment loan program to which you can loan out equipment that we have and make use of it for our purposes. And then we have a couple of tools that are specifically available for the data collection and monitoring in the water systems. So just one of example that I want to talk about is the ultrasonic flow meters that we have available that we make use of extensively during the INPLT trainings but of course you can borrow it even outside of these INPLT trainings for you to make use of it for your purposes. But it gives you a nonintrusive way to measure the flow through any of your water using processes. So this is another great opportunity that is available, the equipment loan program that you can make use of as part of the Water Savings Network.

So that brings me to the end of the slide and I just wanted to, before I pass it on, I just wanted to kind of light echo what Prakash said. So these are opportunities that we have that we have built into the program but we also have all other ad hoc assistance available through the technical account managers that you can always reach out to if you have specific water needs. With that, I would like to pass it on to John.

John O'Neill:

Okay, great, Thanks, Kiran and thanks, Prakash for all that information. I'm going to pivot pretty quickly in the interest of time to our guest speaker, Tara O'Hare. Tara currently serves as the implementation and commercial outreach lead for EPA's WaterSense program. Tara has worked on WaterSense for the past nine years and is responsible for program operations, partner support and outreach to commercial and institution facilities. She has delivered support, trainings and webinars to a wide variety of stakeholders across the commercial building sector. Tara has a bachelor's in business and environmental management from the George Washington University and a master's in environmental science and policy from the Johns Hopkins University. Thanks so much for joining us, Tara.

Tara O'Hare:

Thank you so much. You can go to the next slide. So I wanted to introduce you to the WaterSense program. We are a little bit newer than Energy Star but we are the sister program of Energy Star that was created as a voluntary program back in 2006 and we work to provide simple ways for consumers and businesses to identify water efficient products, practices, programs and homes. The

WaterSense label is the one that you see on the right-hand side of your screen and that is on products that have been independently certified for water efficiency and performance.

Back in the early 1990s when low-flow products came out, they didn't always work as well so each one of our specifications has a performance metric that means that it saves water and actually works.

So WaterSense is found on more than 38,000 product models and a bunch of different categories including all of your restroom fixtures as well as irrigation products such as irrigation controllers and spray sprinkler bodies as well as labelled pumps. Next slide.

We have a whole bunch of resources that have been created over the years and so I just wanted to give you guys the link to all of those. Next slide. We have a bunch of checklists that are available that are easy to print out and use so we have one that's for simple water assessment and then a new one that we just created for the operation and maintenance process at your facility. So you can just print it out. It's good for commercial or it can be used for industrial facility and you can just print it out and go around and find some places to start saving. We also have been working with Energy Start to put water metrics into the Treasure Hunt Guide so you guys can get access to those soon as well. Next slide.

This is just an example of our water savings checklist. It all goes back to wherever you can find water savings in your facility. Next slide.

So our big guidebook is all of the best practices for water saving products and technologies in a commercial building. It doesn't include industrial processes because they are a lot more product complicated but every single kind of water using technology in a commercial building is in here. It includes both the operation and maintenance program technology as well as things to look for when you are going to replace it or retrofit it. Next slide.

We also – I will be remiss if I don't point this out because many buildings have been closed or at reduced occupancy. They do need to be flushed before they are opened again for water safety purposes. So I put a whole bunch of resources in here and the CDC has an excellent toolkit if you're wondering about how water quality and water efficiency come together, you can take a look at this as well. Next slide.

So we also do Water Wednesday webinars with Energy Star and we have several of them that we've done so far this year but we've also got three of them coming up in the next couple of months. So I encourage you guys, if you are interested in learning more about water savings to sign up and take a look. Next slide.

That's it. You can reach me if you have any more questions.

Male: Thanks so much, Tara. And I'd also just like to add that the slides will be made available on the Better Buildings Solution Center along with the recording probably in a few days after this presentation has concluded. So all the links that are in the slides will be made available online.

John O'Neill: Great. Thanks so much. Why don't we – let's see. We are short on time so why don't we take one question here and then we can provide some contact information for some follow-ups later on. So I'm on the *Slido* right now. It looks like one question that has gotten a couple of votes is for Hakon if he still on the line. How are you prioritizing water health and safety as well as savings with offices at lower capacity right now?

Hakon Mattson: Yeah, can you guys hear me?

John O'Neill: Yep.

Hakon Mattson: Perfect. Yeah, one of the big things we are doing is IEQ testing. So we are testing air, acoustics and lighting and both domestic and process water at our offices with the concern of stagnant lines and Legionnaires' disease. So I think the testing is key that you are making these modifications. I think somebody put in the chat that they were concerned with the low-flow fixtures and other potential negative implications of that. And I'm not an engineer and I don't want to give any type of engineering advice but I think the testing has been a best practice across our portfolio.

Tara O'Hare: Yes, and if I could just chime in for a second. We encourage everybody to have both water quality and water quantity program that they are managing to make sure that there are no issues with water quality in the building. But there are a lot of things that you can do to make sure that everything is going well. So don't let that discourage you from low fixtures please because that's not usually an issue.

John O'Neill: Okay, great. Thanks so much for the feedback on that question, guys. I think we're going to have to cut the Q&A a little bit short

but we do have all of these on record so we will try to follow up as much as we can and maybe we can go back to the PowerPoint really quick.

Okay. So just wanted to make a quick plug for another upcoming water webinar called *Glass Half-Full: How Water Reduction Supports Resiliency, Cost Savings and Occupant Health*. That's going to be January 11 from 11:00 AM to noon Eastern time. We will make sure again, that the slides are shared so that you have all these links but we would encourage you to attend that webinar as well. And of course, check out the rest of our Better Buildings webinar series on the Better Buildings Solution Center.

Okay, finally, we will just wrap up. If you are interested in joining, please reach out to your program contact so that's going to be either me or Hannahh or email betterbuildings@ee.doe.gov. Another couple of resources links there and then I think our final slide here will have everybody's – yeah, all of our main moderators' emails and contact information if you're interested in getting in touch with us.

So I wanted to say thanks so much to everybody for attending. We're glad to see so much interest in the Water Savings Network and are looking forward to working with you moving forward. Thank you.

[End of Audio]