Jeffrey Cook: Hello, everybody. I see we've got a good set of folks that are already joining us in the session, which is great. We'll give folks a few moments or so to get themselves into the program today, but ultimately we've got a jam-packed schedule and I'm really excited to have everybody here that's already gotten into the session, and of course that will be joining us today. So it's been a great conference overall, and really excited to be bringing us home a little bit here with the session we have currently focused on tenant benefits in the multifamily segment.

Ultimately, I want to welcome you all though of course to the 2021 Better Buildings Summit. Of course, I'm your moderator, Jeff Cook. I'm a renewable energy policy analyst here at the National Renewable Energy Laboratory. And again, I want to thank you for joining the workshop today. Again, we are going to be focused on a very specific topic that some of you have probably been hearing a bit about this week, and that is community solar, and not just community solar but in the context of multifamily housing. So we've got a really great session today and I'm really excited to get us started.

But before doing that, let's address a few housekeeping items so we can move to the next slide on this one. So first and foremost, for today's session is going to be recorded and of course archived on the Better Buildings Solution Center webpage. And so you'll be able to access that and the slides there. And as attendees, you each have the option to share your video as well as unmute yourself. Ultimately well ask you to likely participate in our breakout sessions at the end. So you're welcome to put your video on if you're interested, or of course make sure to continue to mute yourself though to avoid any background noise.

And so far it sounds pretty good, and so hopefully we can keep it going that way going forward. If you have any challenges with the audio or visual pieces of the session today, please do go ahead and throw your question in the chat in the Zoom platform and we can go through that – or we can solve that with our tech team that's waiting on the line to help you should you have any issues. So ultimately, as I mentioned before, we're going to have a few breakout rooms today, and so to make that functionally easier for us to help organize the breakout rooms, we ask that each of you go ahead – or excuse me, as I mentioned, we want to spread attendees out into those breakout rooms relatively equally, and we also want to do that based on the type of role or organization for which you participate in or for which you are representing. So here we've provided an example of the types of categories of roles.

They're not perfect categories. But please do in your name go ahead and change and tweak that a little bit so that you can put next to your name, of course, the role that most relates to you, and then we can use that to sort the attendees. So just to change that in Zoom, if you all could pay a little bit more attention here, to change your name in Zoom what we'd like you to do is click on the participants button at the top of the Zoom window, and then next you want to hover your mouse over your own name, and then click on the rename function when you select those three little periods, and then you can tweak it to add a role, which I am now doing to my own. So now it'll say Jeff Cook NREL-government.

And so ultimately I really would appreciate if folks on the call would do that, and then we can help to divide you all into our breakout sessions based upon who ultimately ends up showing up. And so again, we'll ask you to do this role again, but if you have questions about how to do that let us know. But again, you'll go to the participant panel, you'll hover over your own person. There can either be those three little dots where you can rename yourself. In renaming yourself you would add one of the roles on the left, and that'll help us to organize you into one of the relevant rooms that we'll have set up.

Again, should you have questions about any of that please do follow up with us in the chat. Alright. I'm going to go ahead and move off of that one and we can go onto the next action item before we get started in our session today. So ultimately we'll be using Slido right at the outset, so I encourage you all to go to Slido right now if you could at www.slido.com, and then ultimately you can do that on your mobile device or on your computer or desktop, wherever, in a Chrome window.

If you go to Slido, you enter the event code #DOE, like the Department of Energy, and then ultimately you'll want to select our session title from that dropdown that you'll see there. And the dropdown will say Balancing the Benefits of Community Solar and Multifamily Housing. Of course, that's the name of the workshop today. If that isn't the workshop you meant to be in, of course you'll want to gracefully leave or just stay with us. We'd love your perspective either way.

Of course, if you'd like to ask any questions of the panelists please also put those into Slido as well such that we can answer those questions to the extent we have time. And if we don't have time, we will ultimately answer those questions via email after the fact.

So ultimately I'm going to give you another few moments to open up Slido – again that's at the link you see here – and enter the code #DOE, and then ultimately select Balancing the Benefits of Community Solar in Multifamily Housing from the dropdown. For those who have just joined us, I also am asking every member of this to go ahead and rename yourself by the participant's panel and selecting the rename function from the dropdown, and ultimately specifying your role, whether you are a housing provider, a government entity, a solar contractor, a utility or other. Please specify that. We are doing some breakout rooms at the end of the session and will be using that to help make sure our room is balanced.

So if you haven't done that or done Slido yet please do so now. With that, we can move to the agenda. And actually, if possible, Marissa and the team, if you can show the Slido link in the chat and help folks to sign up to that, that would be great. I would appreciate it. Alright. So we've got a lot to get through today on the agenda. So first, we're going to start with a welcome from Nicole Steele, and I'll introduce her in a second, to introduce us to the whole panel and the National Community Solar Partnership for which is really helping organize and lead a lot of these efforts in this space.

We're also going to have a roundtable discussion with a variety of multifamily affordable housing providers to get their perspective on how they've been able to distribute tenant benefits to their residents that live in their buildings. And then we want to hear from you all. This is a workshop, so we have a breakout session component, and we want to hear how you have done this in your own context or issues that you see and how we can serve this market going forward, et cetera, and then we'll wrap up at the end of the session.

And so with that, we can move to the next slide. And I'm very excited to introduce Nicole Steele to deliver an introduction to our roundtable. So Nicole, we are lucky to have her. She is a nationally-recognized leader and expert, of course, in clean energy, and she has a strong focus on frontline communities and workforce development. She has 20 years of experience working to develop and implement inclusive clean energy policies and programs. She is currently advising the Solar Energy Technologies Office within the US Department of Energy on equity, workforce, and workforce issues.

Really exciting for us is that she is leading the National Community Solar Partnership. And so with that, I welcome you, Nicole.

Nicole Steele: Thanks so much, Jeff. We definitely have an exciting conversation ahead of us today, and I think for the participants that have joined us we're very excited to have you and really better understanding how this sort of fits into that larger conversation of better buildings, and really where we're taking this today is not only sort of the deployment of solar and community solar specifically, but how does that deployment and how do those benefits really affect people? You know, as Jeff said, I'm at the Department Energy now in the Solar Energy Technologies office, and I only recently came to DOE, at the end of January, and I'm incredibly excited to be part of the new momentum behind deployment of clean energy and really diving in deep to unlock barriers and seeing where we can ensure that benefits are incredibly meaningful and benefitting those who need it most.

So for those of you who are not familiar with the National Community Solar Partnership, it was officially launched back in 2015 under the Obama administration, and really took off in 2019 and really has this structure that's led by its stakeholders. And so one of the really cool things about it is that we have nearly 600 individual stakeholders and organizations that are part of this partnership. And so really NCSP right now is broken into three areas, supporting the deployment of community solar that ensures that it's affordable and accessible. And it starts out with this online community. And if our folks here, our team here can put in the chat how to actually join the National Community Solar Partnership, it's a very simple application process, but what this does is really unlocks a community of individuals that are interested in community solar, how to deploy community solar, how to ensure that people are receiving the benefits of community solar and really taking it a step further to utilize community solar in wealth-building opportunities and business development opportunities.

Folks share resources and we create resources and really create this well now virtual online community, but once things start to go back to normal we'll start to do things in person as well. And so it's just really important to be creating community and ensuring an atmosphere that we can help solve each other's challenges. The next big piece of the National Community Solar Partnership is really the direct technical assistance, and this is where folks who are members of NCSP can directly apply to us and we can help any

of your problems from we need to create an RFP to get a solar developer to install solar or we need to sort of look at our portfolio and understand best where solar can go or we need to create a proforma to ensure that we can make the numbers work. That is what NCSP does, and we provide direct technical assistance for our members.

The other sort of exciting thing, and this is where the multifamily affordable housing collaborative and why we're here today has sort of – this has come out of that, is we have two collaboratives right now. We have municipal utility collaborative and the multifamily affordable housing collaborative, and it's really the likeminded stakeholders coming together and diving deep into the weeks on solving very specific challenges that affect those stakeholders. And so I think this conversation of direct tenant benefits is a really important one, because we need to ensure that we're thinking about deploying community solar and multifamily affordable housing, but how do we ensure that these benefits are tying directly to the tenants? And those benefits could be through credits or build reductions or more esoteric, like childcare or transportation or something along those lines.

And that's what our conversation today will be about. So I'll just mention again, if you're not already a member of the National Community Solar Partnership please do click on the link in the chat and join today, and we would love to help you directly get involved with the deployment of community solar. And then just very lastly before I turn it back over to Jeff, I really just want to put in a plug that we are evolving NCSP right now to really come online to meet the goals that this new administration has set forth for us all around clean energy deployment, and so we'll have some exciting announcements over the next couple months, but really what's going to help inform those announcements is through a request for information that we launched two weeks ago through DOE and Solar Energy Technologies office on specifically equitable deployment of community solar.

And so I'll also put that link in that chat. And so any perspective or information that you would provide on how we could better support the deployment of community solar, we'd love to hear from you. So with that I'll turn it back over to Jeff.

Jeffrey Cook: Thanks so much, Nicole, and excited to kick off our session and to be working with you going forward. Certainly the partnership is in great hands. And so ultimately we are going to move over to a set of poll questions. So for those of you that have already gone onto

Slido.com please do so and please answer this question. Have you heard of the National Community Solar Partnership before? And of course that's before Nicole gave us a great rundown of what you've all – or what the partnership is all about.

So I'm going to give you all a few moments to do that, and I'm going to ask Marissa and the technical team if you wouldn't mind putting into the chat the role we're asking folks to put behind their name and for how they are able to do that. I'm seeing a lot of folks still that haven't put a role next to their name for us to help sort them into our upcoming breakout session. So again, if folks could go to www.slido.com and be able to get in there and answer our poll question, it's #DOE, and then ultimately you're looking for the Balancing the Benefits of Community Solar Multifamily Housing.

So of course, if you have questions as well we encourage you to put those into Slido too so that you are able to see them all there as well. So ultimately, I'm going to go ahead and move us to the next question. Don't feel bad if you're still getting registered. There's plenty of question to go. So please do get yourself up on Slido at the links you see here. So it looks like we've got about 50/50 split here of folks that have heard of the partnership before, so that's good to know for you all.

So let's move to the next question, Becca, and we can address this one. So for those of you that are involved today, my question for you is how much experience or knowledge do you have about solar? So if you've heard about the Community Solar Partnership before you may already have a little bit of experience in solar. So let me know if you've got a little, a lot, have you done projects, have you never – I hope you've heard about solar before, but ultimately if you've never done a solar project or at least if you haven't been a subscriber or anything like that, you could go ahead and flag that for us to be aware of as well.

And so about what I suspected, we got quite a few folks with some experience, some with a lot of experience. And so ultimately we are focusing in an area today where we'll do a little bit of some detailed dives into the market of multifamily affordable housing, so it's good to know though what the audience looks like today. For those of you without experience, no worries. You're going to learn a lot today and leave the session with a good understanding of the market area that we're talking about.

Alright. And so this is just about experience or knowledge of solar. So let's go to the next question. Have you been involved in a solar

project before? Meaning have you developed your own project, have you been a subscriber to a project, have you constructed a project, have you helped build a project, do you currently have solar on your house? Just kind of curious to get a sense of what your involvement is with an actual solar project.

And the expectation of course, from a multifamily perspective, is that a lot of the folks on the call today are going to be talking about how they've not only gotten through solar projects but actually how they've been able to resolve some of the issues that they've faced. Alright. And so let's keep moving along. For this next question we're actually asking affordable housing providers. So if you are a housing provider, please do answer this question, or if you're a contractor that's worked with a housing provider to deliver solar-related benefits to your residents.

So again, yeah, if you aren't you can just put N/A or you can just skip it. But ultimately, yeah, we're looking to see a lot – quite a few folks, housing providers in this context have done projects and they've delivered benefits to their residents. That's great news to hear. And I see there's some that are housing providers but have not provided benefits to residents. And so I'm really excited to hear from all of you on these topics, and that is because it is a key area.

How do we get benefits to tenants in particular? Alright. And so now we can move to the next question, and that is for those of you who have done solar projects, how have you delivered benefit to residents? So you'll hear us talk a lot today about direct benefit, which is on-bill savings, versus indirect benefits, which are basically everything else that could be a benefit to a tenant, things like improved operation and maintenance of facilities, new property amenities, other after-school programs, a variety of other things.

And so if you have done any of these please do go ahead and flag them here, for those affordable housing providers, again, who have done these benefits or provided these benefits. And so what's exciting for today's session is I've seen quite a lot of direct financial benefits, which is great. It's often difficult to do that and get those benefits to tenants because of how utility allowance structures or how building utilities are paid, and so I'm really encouraged by the fact that there's a lot of folks that have done direct bill saving, but I'm also seeing a lot of variety in the indirect benefits. So quite often it's common that you do not have the opportunity to provide those direct benefits.

And so today we're going to be talking a little bit about both of those and how you can deliver both and why you need to consider delivering different ones pending what actually happens out at each individual site, because the building characteristics of course are going to determine which one of these approaches is viable. And so I do want to make a plug here again for folks to please join us for the breakout session portion of this, and that is because I would love to hear about the issues and resolutions, solutions that you guys have identified for delivering these benefits, because I'm sure every one of you can attest to the issues that we are seeing with doing this, with delivering to tenants. Alright. And so I know a few more folks may want to answer this poll question.

I think I've delayed long enough *[laughs]* to give a lot of folks opportunity to respond, so we're going to move on, and thanks for doing so. So the second portion of this session is a roundtable where we're going to get a little bit of lessons learned from the field and our collaborative speakers. So ultimately I'm going to kick us off today with a little bit of an overview of what we know from the market broadly. So we can move on to the next slide.

And so as Nicole mentioned at the beginning, I'm Jeff Cook and I've been helping lead the Multifamily Affordable Housing Collaborative with Robin Burton, who is also on the phone today and going to be participating in the session. And so the Multifamily Affordable Housing Collaborative is set up to do a couple of things. First and foremost we know a lot of low and moderate income individuals reside within multifamily housing. So if you're going to expand solar deployment to help support these low and moderate income individuals, you have to meet them where they are, which is in a good proportion in multifamily affordable housing.

So ultimately, we set up the Collaborative to help expand the market in this space and build off the lessons learned and best practices of folks that are in it and have done it, like those of you that have already flagged that you've done solar projects and distributed those benefits. So we currently have 14 members and they're spanning across 30 states. So we have at least one member with a facility in a lot of places, and so we're using their expertise to identify in how to resolve some of the key barriers that we have identified within the multifamily segment, which are partially why we're seeing less deployment in these areas. And so those are things related to the financing challenges of deploying solar when you have set operation and maintenance schedules within a multifamily building in addition to the split incentives.

So oftentimes it doesn't make a lot of sense to provide savings or a solar project to tenants especially when they're paying their own utility bill. Sometimes that's not the case. But ultimately that problem still persists, especially in naturally-occurring affordable housing, for example. And then ultimately there's both a capacity and a time and resources constraint for multifamily affordable housing building providers, which we also need to help resolve. And then finally, just figuring out how to get benefits to tenants, which we've talked about and will talk about quite a lot today.

So we can move to the next slide. Ultimately if you are interested as an affordable housing provider, please do register with the Community Solar Partnership or reach out to me directly at jeff.cook@nrel.gov and we can get you up to speed on where we are with the collaborative and what we've learned so far. So as I mentioned, today we're focusing on tenant benefits, and one of the key issues with tenant benefits is that we know they can benefit from solar. It can help alleviate the disproportionate energy burden that they face.

Unfortunately, it's not always cut and dried to get benefits to tenants, and that can be influenced by the building type, utility allowance, federal subsidy applied, and then the metering at the location. And so this is just a snapshot of some examples of building types and the different utility metering structures and allowance structures that can influence whether or not you can do a direct or indirect savings or benefit to that community. So ultimately, we know it's challenging. So if we move forward though we know also that there has been a variety of ways that we have improved or delivered benefits and savings.

So we can move to the next slide and I can show you a little bit about that. So ultimately, there's the direct route, which I've said is bill savings approaches. And so here's a couple of examples where we've delivered saving, direct savings, to low and moderate income households either in the single family context or a multifamily context. Ultimately here you can see a particular business model, where a project developer both manages and operates the project and manages subscriptions for those residents within the building itself or other buildings that would qualify. So there are business models to do this, and I'm excited to hear more about not only our panelists but others.

So if we move to the next slide, you can also see that here we have a variety of indirect tenant benefits that can also be provided. And

so I've got a case study example here of what Denver Housing did, providing not just always direct bill savings but also providing operation and maintenance improvements for the community in question. And so ultimately I'm not going to spend too, too much time on this, but just to let you know that there are a variety of options. So we can move forward and get into our roundtable discussion more clearly.

Ultimately, these lessons learned you see here we are going to cover in the context of our breakout session, so I just want to put them on the screen for you to see, but ultimately we want to chat a little bit through these issues with you. So moving forward, here's our panelists for today. And so I'm going to introduce each of them individually once we get to their session. And so first and foremost we have Shanon and Kranti from BRIDGE Housing. So we can actually move on. And so Shanon and Kranti, very excited to have you today.

Shanon Lampkins is the Director of Asset Management for BRIDGE Housing Corporation. She manages a portfolio of third party affordable housing developments. So previously she oversaw the management of BRIDGE's greening activity, and is now of course working towards those ends, fulfilling our commitment in their big reach and of course the Better Buildings Challenge. So I apologize for the background noise. Kranti Malik is the Senior Portfolio and Sustainability Associate with BRIDGE Housing.

So ultimately in this role she leads greening project under Shanon for the BRIDGE portfolio of over 12,000 apartments across California, Oregon, and Washington. So with that, I'll pass it to Shanon and Kranti.

Kranti Malik: Thank you, Jeff, and thank you everyone for being present at this session. Shanon and I will discuss a bit more about different types of solar deals that we have at BRIDGE and just give you a little bit of background on different types of programs we have implemented. You can move on to the next slide please. So why solar? At BRIDGE, installing solar is part of our strategic plan, and that is to install solar at 85 percent of our portfolio.

This goal was initially driven by our participation in BBC and SAVES Big Reach Challenge. And now as we're moving towards more efficient and greener options to generate energy, and the local policies being favorable towards greening options, adopting renewables just makes sense. In addition, we want our properties to be able to save on common areas like electricity cost and provide

opportunities for our tenants as well as to save on their electricity costs and help the environment at the same time by reducing greenhouse gas emissions. So keeping the operating expense in mind and a way to protect against the rising utility prices and long-term affordability of the property are the main driving forces here.

At BRIDGE, we install solar at different phases of a property. For instance, during new construction, rehab, and also under asset management, where we install solar using funding provided by the state and also by forming of our own solar company, which Shanon now will discuss in detail and some other programs that we have implemented. Shanon, go ahead and take it away.

Shanon Lampkins: Thanks, Kranti. So BRIDGE's existing solar projects are financed and installed a few ways. Systems are purchased and installed during the development phase, they're purchased by the property during operations using a combination of rebates, operating cash and reserves, or they're also financed during operations by a third party via power purchase agreement for a set contract period in exchange for discounted pricing and maintenance. In order to make solar installations financially feasible on operating properties, BRIDGE utilizes rebates through California's Multifamily Affordable Solar Housing Program, which was known at MASH.

MASH rebates were used to supplement property operating cash and reserves in order to cover the cost of solar installations. For a small set of properties that were good candidates for solar, they did not have sufficient funds at the property level to cover the cost of the solar installations even with these MASH rebates. So using a model created by the National Housing Trust, BRIDGE created a new business entity called BRIDGE Aggregate Solar Company, or BASC for short. BASC is structured as an LLC and functions like a third party.

It combined MASH funds, federal solar tax credits, and debt to fund solar installations at seven of our properties. Two of those installations included solar for both common area and direct tenant offsets, and BASC owns and manages these systems. The team that brought BASC to life included NH as our consultant, Urban Ingenuity as our overall project manager, and Grid Alternatives was the solar vendor who managed the system designs and installations. Since this BACS entity was a new business entity for BRIDGE, we did require board approval in order to move forward.

So our presentation to the board really focused on highlighting the benefits to both BRIDGE and to the properties. So the benefit to

the properties, there were a few, including discounted energy costs, and we scaled the energy costs to be between 2 and 10 percent; lower annual rate increases, which we maxed at 2 percent; and reduced operating costs. The benefits to BRIDGE included advancing the use of renewable energy across our portfolio. We received a one-time development fee as part of this project and will receive ongoing annual management fees and cashflow after debt service payments.

The MASH program was eventually replaced by a new program, California Solar on Multifamily Affordable Housing, also known as SOMAH. SOMAH's one of the nation's first solar subsidy program designed to directly benefit residents. It requires 51 percent of the solar generated by the system to be allocated to residential units. So the SOMAH program was of interest to BRIDGE because of this direct resident benefit requirement. Next slide please.

SOMAH offers a higher level of rebate than MASH for the tenant-serving portion of solar. The rebate is approximately 22 percent higher under SOMAH than MASH. So the higher rebate allows the property to provide the energy to tenants without implementing a utility allowance adjustment. In fact, under SOMAH utility allowance adjustments are not allowed. So we reviewed our California portfolio to identify SOMAH-eligible properties that will be good candidates for solar based on a few factors, including property size, layout and orientation, cost savings to the property, and solar benefit to the residents.

And in addition to properties that did not have solar, we also considered properties that had solar that was only serving common areas, because SOMAH allowed us to expand existing systems to include the tenant offset portion. So we were able to eventually whittle our list down to 24 properties, and we're currently working with Sunrun to install these systems. Because of the number of properties and the limited capacity of our team, we're scaling the installations over a two- or three-year period – we're rolling them out on a quarterly basis. So these properties that were selected, it's been roughly $1 million a year on common area electricity costs, and we project savings of approximately 30 percent. And once all of these SOMAH installations are completed, we expect to provide direct solar benefits to approximately a little over 3,700 residential units in California.

Kranti Malik: Thanks, Shanon. And I can talk a little bit more about the cost around SOMAH. So another big reason we are installing SOMAH

is that the solar systems under this program will be installed at no upfront cost. However, we have come across some cost at the property that the property would pay for, and those are related to the third party review and landscaping costs. As a standard practice at BRIDGE, we always get a third party review for the designs for each solar system, and the third party cost specific to SOMAH program for our property was somewhere around $4,600. The landscaping cost of course varies property by property.

There are a few projects where the property couldn't afford to make these costs, and we were planning to cancel the project but our vendor Sunrun had covered the cost. So it's really important to partner with the right solar provider. In our case, Sunrun really helped out there. So depending on your vendor relationship, you could have a plan worked out where the vendor will cover these costs, but certainly not for all the projects of course.

Other costs I wanted to highlight could be related to getting approvals from your lenders and investors. For example, a number of our properties where we have a Fannie Mae deal, we were asked to cover Fannie Mae's outside counsel's legal fee to review the solar system's approval request. And those fees can cost anywhere to $3,500. It could less and more depending. So the overall bill cost is covered under the program, but there are some additional costs for the properties that is possible. And as Shanon mentioned earlier, we have partnered with Sunrun to install the solar system under SOMAH.

Sunrun will install and operate the systems for the entirety of the solar service agreement we have with them, and the term for this solar service agreement is 20 years. Under the SSA, energy produced by the system is sold to a property at lower than the current utility company's rate. Unlike the utility company rates, the escalation of SSA rate will be limited by the contract. And towards the end of the SSA contracts, BRIDGE will have three options – renew the SSA for additional terms, purchase the system at fair market value, and have Sunrun remove the system at no cost.

So there are different options we have. And I believe that's all I have to speak around SOMAH and this is towards the end of our presentation. I would like to say if any of you have any questions around what Shanon and I have shared please feel free to reach out to me directly. Our emails are provided on the screen and they will also be shared towards the end. Thank you.

Jeffrey Cook: Thanks so much, Kranti, and I appreciate your and Shanon's time today. So we're going to run to the next presenters, and of course use Slido to submit any questions you have. So ultimately, I'm excited to introduce Andrew Martin. He is the Floor Asset Manager for the National Housing Trust located in Washington, D.C. He's responsible for day-to-day operations of over 3 megawatts of solar systems owned by NHT and their partners.

So Andrew's going to be leading our conversation today. Also included input from Ian Fischer, the COO and Cofounder of Urban Ingenuity. Of course he leads their organizational structuring, strategic planning, financial programs and energy performance contracting implementation. Of course he is working with Andrew Martin as well. So Andrew, please do take it away.

Andrew Martin: Awesome. Thank you, Jeff. Yeah, to just get started I'll give a little bit of a background to what we do at NHT. I think there are just a few things that kind of make us unique in the space of affordable housing, because not only are we developing and managing properties, but we have the full resident services team in house, we have a CDFI lending crew, and we have a policy team, which I think speaks to the fact that we're based out of D.C. and we have access to all the policy wonks in the world here.

So we are looking at kind of what we do boots on the ground, you know, people like me and Ian that are actually implementing programs at the city level, and that kind of information feeds directly into what these policy folks are suggesting to state and local and then ultimately Congress for ways to kind of make the systems work better. So for example, something that just came up over the last couple weeks is we've had to – and Kranti and Shanon kind of touched on this – there are ways to kind of get around the hurdles of being an affordable housing developer and using the low income housing tax credit and then also trying to utilize the full value of solar investment tax credit. For those of you that are familiar, I mean, you can't claim unfortunately the full value of both of those tax credits.

And so that's kind of the reason we established these separate third party solar owners, but our experience in doing so has informed our policy team to create drafts. And this is something that they're bringing to the House Ways and Means Committee of ways to kind of get around that and make it so it's easier for affordable housing developers to also invest in clean energy, because we really believe it shouldn't be one or the other. So I just wanted to note that I think that's something that we're really grateful for, just having all those

great minds in house and having that advantage of being in a place like D.C. Next slide please.

So as it relates to community solar, NHT was one of the early adopters in D.C. before they had a full-fledged, city-sponsored program. We actually helped develop the first community solar project in the district with a partnership between us and Nixon Peabody, which is a global law firm. They've got a big office in downtown Washington, and they wanted to go solar and also wanted to have some sort of tangible benefit in doing so in the community that they live and work. And so they reached out to us both as a partner to help coordinate and build the system as a codeveloper, but also knowing that we have buildings all over D.C. that we own and manage, and wanting to reach out to us directly to get our residents subscribed to this new project that they were building.

So in doing so, one of the things that kept coming up is that it's tough sometimes to get tenant benefits to people in these affordable housing projects because a lot of them utilize other federal programs like the Section 8 program and low income housing tax credit. And as part of those there's usually some sort of utility allowance given directly to tenants or to the building owner, and so what we kind of thought is that in the first year of actually dishing out credits from this new project it will lower costs to tenants in the first year but then as they reassess and actually – I guess the process and calculating this utility allowance from year to year, they look at what did you spend last year and reassess and give you a new rate. So we were kind of worried. You know, how do we get this credit out to people and not just lose it after year one when they reassess and show that you're spending less on utilities so we're going to give you less money moving forward?

So we thought about that. One of our properties in Ward 7 here in Washington, which is one of the naturally-occurring affordable housing projects, so it's subject to local law D.C. rent control, but it doesn't utilize any Section 8 or LIHTC funds. So that was kind of our early workaround to make sure that tenants are getting these benefits and getting the full value for years to come. But one of the things that's come up since is that it's project specific, so it's only for people that live at Copeland Manor.

So one of the issues that's come up is what happens when somebody moves? Do they lose their credit? Do the new people that are moving in, how easy is it to get them set up? So that's always been a trick of just who's responsible for subscribing

people and how do we make sure people are getting that full value? So next slide please.

And since then, we've continued to kind of double down and invest in solar. D.C., if you're not aware, is one of the stronger markets in the country, not only for having this new Solar for All programming, which there are grant funds available to solar developers, but also we have this renewable portfolio standard that says to utilizes if you're selling energy in the district you have to meet a certain level of sourcing energy from renewables like wind and solar. And so if they don't then they would come to owners like us and pay for credits to kind of offset. So in D.C. those are really valuable.

Every megawatt of power gives you a market rate of 400 to 450 in credits the energy company will pay you. So there are lots and lots of incentives to build in D.C., but then the issue comes up is that there's not a lot of space, and it's a small city and there's not a lot of open space. So together with Ian and Urban Ingenuity, our first project looked beyond our own portfolio, and we worked with five or six different affordable housing partners in D.C. and set up projects where we would set up a long-term lease to basically use their rooftop to build and operate solar. This first project was across 23 different not only multifamily buildings but also senior centers and even a Baptist church here in D.C.

So just really anywhere we can build and have a kind of direct impact. Yeah, this first round of Solar for All was sort of an interesting model in that we set up almost like a faux PPA where we look at energy costs for the property for the last 12 months or so, average out that price, and say if you were paying 12 cents on average per kilowatt hour we will charge you as the solar company that same amount moving forward. But then rather than actually send them a bill we would just send them a statement that says this is what you otherwise would've paid to the utility and this is how much you've saved from solar. So the benefits are going to the property owner from lower energy costs at the building and then that sort of delta of savings is what's used to fund resident services and building upgrades and things like that.

So the idea being that the system is kind of cost neutral to the property owner. So if you were paying, for example, $50,000 before we put solar on and you're paying $30,000 now, then that $20,000 gap is what's available to you to spend on any number of preapproved services. So before we move on, I'll toss it to Ian and he can kind of jump in and talk some more about that.

Ian Fischer: Yeah. I think it's worth just a couple of points on that. One, we actually handle that. We use an ESA as opposed to a PPA, but there is a contract that charges for the electricity, and then we actually created these countervailing contracts, community benefit contracts back to the affordable housers. And so sometimes we actually collect the money and then send it right back. Sometimes we do it on a credit system.

It sort of depends on the preference of the houser. So it's a really cool way to sort of enforce that the benefits are going to the tenants of the housing. This is on generally master metered properties, so these were net metered solar, not CREFs. We'll talk about that in a minute. But I think one of the challenges of course, all of this paperwork and billing and making sure that they're continuing to provide the benefits does add extra work on our end in terms of the ongoing asset management to make sure that those benefits are being delivered, that they're being delivered in a way that's sort of consistent with the program.

And Solar for All in their first year in D.C. was focused on innovation, so we were trying lots of stuff. There were also a lot of challenges in taking 23 roofs, getting all – you guys can imagine – I think we did something like 70 SNDAs and investor consents to get all the signoffs on the properties to put this third party solar on. So there were some great benefits of solar aggregation and getting tax equity in for these kinds of properties, but also some real challenges when you deal with that many roofs and that much billing, infrastructure that you have to have to manage the flow of these contracts. And so I think Andrew probably I've teed you up well to talk about the CREF community solar approach that D.C. Solar for All has adopted and what we're doing now.

Jeffrey Cook: And then Andrew, just a note there, we've got about one minute left on this one.

Andrew Martin: Okay, sure. So next slide please. So yeah, the next round, as Ian mentioned, is going to be a model of community renewable energy facilities, where instead of benefits going to the property owner it's just paid out directly in tenants' energy bill. So Ian, you can probably talk a little more about this. I'll toss it back to you.

Ian Fischer: Yeah. I guess I would say the one advantage is we get to build megawatt sites behind these. One of the sites we're building right now with NHT it's 1.1 megawatt. D.C. has a great program where they're actually aggregating all the customers for the LMI Solar for

All program, and so I think that's something to consider, is the cost of aggregating customers. But we also have a role with NHT and doing outreach to find customers to funnel into that program. So CREFs a great way if you don't have access or roof space for your own solar to own a share of it, and then I think we're increasingly looking with NHT for creative ways to get more people, the communities that we serve to sign up for those CREFs and have access to them.

And something to consider as you're looking at CREFs in other jurisdictions is the customer aggregation piece. And I know we're tight on time, so –

Jeffrey Cook: Yeah, thank you. We're going to have to leave that one there, but we can bring it back up in the breakout session. So thanks again Andrew and Ian, and I'm really looking forward to your perspective coming up here in the breakout rooms. So if you have direct questions of course you can always email Andrew or just through them in Slido and we'll get them answered for you.

At this point I want to welcome Chris White into the group here. Chris works in the Energy and Sustainability Department of the New York City Housing Authority's Capital Project Division. He ultimately implements NYCHA's commitment to host 25 megawatts of solar on New York City public housing by 2025. So without further ado, Chris please do take it away.

Chris White: Thanks for the introduction, Jeff. You can go to the next slide. So I'm just going to start with a little bit of background on the New York City Housing Authority. We're the largest landlord in North America, largest public housing authority in the city. In 2016, we released our first sustainability agenda, which included, as Jeff said, a commitment to host 25 megawatts of renewable energy by 2025.

We are currently updating that and we're going to be releasing our 2021 sustainability agenda later this year. Also in 2016, we committed to this goal as part of HUD's Renew 300 Program. And as we were setting up this program several years ago, one thing that was really on top of mind was making sure that we are meeting our commitments and directing benefits back to NYCHA residents while not diverting or jeopardizing our scarce financial resources, because we have a large backlog of other really important capital work that we need to get done. So it's always been very important.

We want to do this in a way that doesn't ultimately cost us. We can go to the next slide. And that was really at the top of mind when we were setting things up. How were we going to go solar? And as it turns out, the conventional power purchase agreement route would not actually save us money. We had a 27-team study indicating that power purchase agreements would not be financially viable because we pay very low rates for electricity already as a New York Power Authority customer.

And until last year we were also not allowed to subscribe to community solar. Other New York City agencies have done solar projects where they've actually had to pay more with PPAs. Therefore, we decided to go in a slightly different direction, and instead of buying the power ourselves serve as a roof host and then build into these community solar roof leases, other by strong commitments, to ensure that the benefits of the power are directed towards NYCHA residents. Another thing that was definitely a challenge setting up is the vast majority of our residents are in master metered developments and they do not pay their own electric bills.

So how do we make sure that those residents were able to share in the benefits of solar? So with that, and also trying to figure out lease terms that were acceptable to NYCHA and don't put our finances at risk except billed to HUD. That was something that took us a while, but we were eventually able to figure that out in the past couple of years. So basically the solution is a roof lease for community solar that has programmatic commitments built into the lease. So there's lease revenue that goes to the operations of the host development, there are commitments to hire and train NYCHA residents as part of the RFP language and in the lease, and then a commitment to subscribe low income New Yorkers with a special focus on NYCHA households who pay their own electric bills, but not necessarily limited to that because there is only a small percentage of our residents do pay. Next slide.

Next slide please. Alright, thanks. And then so we've put together two solicitations so far. First solicitation, which we called the Commercial Solar RFP, focused on some of our larger developments with a goal of really trying to maximize this revenue to those developments. As you can see the image right there is the installation at Queensbridge Houses, which was our first signed lease on the solar RFP, and that's – yeah, our first lease signed for this 27. That's 1.8 megawatts across 27 buildings.

And then our second project was what we're calling Accelerated Community Empowered Shared Solar, and that was focusing on some smaller rooftops that maybe the big players wouldn't be as interested in, really trying to maximize community benefits, really building into having sort of a streamlined open application process that is possible because NYCHA is committing to not paying anything – we're serving as the roof host – and then focusing on local developers working with community-based organizations and nonprofits, and we selected a number of teams, most of which are still working through their proposals, but we do have one project that went into construction last year and is currently in construction. Go to the next slide.

Next slide, I guess, thanks. And then so basically as we were figuring out how do we direct these benefits to the residents, one of the things that was really at the top of mind was to include resident hiring. Normally as a public housing agency we do have a commitment called Section 3, which basically means any contract where we basically pay the contract, a certain percentage of the hires need to be public housing residents. This is not technically a Section 3 project. However, we made sure that anyone who does a solar project meets or exceeds those goals.

And that was something that so far in the two projects that are in construction right now have been a huge success. There were two training cohorts last year. Almost 50 NYCHA residents had received construction training and 25 of them have been hired to construct these solar projects at Queensbridge North and South and at Carver, Glenwood, and Kingsborough, which is three developments on the second lease. So one thing that we were originally hoping to have was also some more non construction jobs in subscriber outreach. That was something that the Queensbridge project was originally hoping to do.

But it was a little hard to do in-person outreach because of COVID last year, so unfortunately they had to pivot away from that, but that's something that we're hoping we can build back up in future projects. And in order to this we've worked with internal stakeholders, entrusted partners. We've called REES which normally handles our resident hiring and outreach and also Green City Force which is an AmeriCorps program that exclusively works with younger NYCHA residents, and they've been a huge partner in making this resident hiring component be a success. Next slide please.

And then in addition to that we do also want to make sure that sort of the benefits of the solar do flow to low income New Yorkers and NYCHA residents who can subscribe. At the sites where we have solar, those are all master new developments. However, community solar does allow anyone within the ConEd service area to sign up, and we insist that they direct the subscribers to low and moderate income New Yorkers, including focusing on those NYCHA residents who do pay their own electric bills and other 100 percent affordable housing in the city. So our teams have been working with a number of community-based organizations and outreach groups in order to help fulfill that commitment.

One of the teams has gotten some programmatic funding from ConEd and they are trying to hit 100 percent low and moderate income. One of the teams is just hitting 20 percent, and that's something that we would like to get as high as possible, but it has been a challenge to get 100 percent LMI projects financed. That is something that we are hoping that once these projects are down and people see, hey, this can be a success we can have more projects in the future where we are hitting those higher targets. And there have been some challenges so far in outreach, basically trying to convince people that, hey, you can save 10 to 20 percent off your electric bill. There's no catch.

This is not Anesco. And also not being able to do in-person outreach last year has slowed things down a little bit, but we're picking up and I think we're optimistic that we're going to get there and it's going to be even better next time. And so also I just wanted to say a little bit for the future in the last minute I have. We are in the future going to continue to explore ways in which our future solar projects can even more directly benefit residents. We are now considering whether we want to do direct capital projects where the solar is consumed onsite for resilience purposes, not necessarily money-saving.

But hey, better if there's a power outage. We are going to be looking into battery storage, and we are also hoping that this is a model that can be used for community solar all across the city, because that's very important in a city where most people don't have their own single family house. They're renters. They don't necessarily have a rooftop of their own. This is a way that they can get bill savings. Alright. I think that's it.

Jeffrey Cook: Thanks so much, Chris.

Chris White: Thank you.

Jeffrey Cook: And appreciate your time and all the session speakers today. So we're now going to go into the breakout session portion, so if we could move to the next slide, as well to specify the approach for this. So just as a reminder to folks – you can move to the next slide too I believe – oh wait, this is the last one, sorry. *[Laughs]* So ultimately here is where we want you to make sure that you have listed your name for your organization – oh thanks, Becca. Yeah, this one is the one we want for your role.

So if you change your name – I put my name, my organization, and then my role as government, and so if you could do that. Ultimately you're going to be asked to join your assigned room. We'll have 15 minutes, and we have session facilitators for each one of those, working on 14 minutes now. We'll close those sessions and end with a couple of concluding comments about the Better Buildings Summit once we get out of our breakouts. So without further ado, I think it's time we can move over into the breakout sessions. Again, if you do experience any issues with that, click the help button.

Thanks, Tawe. Appreciate everybody's involvement in the breakout rooms, and I'm excited to see what we covered in all of the rooms I wasn't able to be in. And so ultimately we're going to wrap here with some resources for you to follow up in the National Community Solar Partnership in particular, and then also with a bit of housekeeping here. So to confirm, we would like to highlight some of the resources mentioned, of course already mentioned, and then we will be populating a lot of this information at the Better Buildings Solution Center, and that's where you'll find the slides for this session, including a bunch of resources on other items. So Becca, I think we're going to play the video, right?

[Video plays from 1:01:32 to 1:02:24]

Awesome. So again, we of course like to make sure you attend the Better Buildings summer webinar series that you can see here starting in June. Again, to register for that you can go to the Better Buildings Solution Center and click on "events and webinars." And with that, we can move onto the next slide, and I'd like to thank, of course, all of our speakers today and all of those that presented or participated in the breakout sessions. I want to make you all aware that we've launched a feedback survey in Slido, and I would ask that you take a couple minutes to give us some feedback on this session to improve sessions going forward.

Of course your answers are going to be kept confidential. We rely on your feedback, of course, to design or webinars, our summits and more, so please do go ahead and take that feedback poll. And that poll is going to be open till tomorrow morning. Again, if you'd like to learn anything about anything we discussed today, please do go ahead and check out the Better Buildings Solution Center or feel free to contact me at the email you see here, jeff.cook@nrel.gov. Thank you everyone for your time.

[End of Audio]