

Pam Mendelson: Sounds good. Hello, everyone, and thank you for joining us today. Welcome to this session on organizations that have successfully targeted energy initiatives for low and moderate income populations.

Before we dive in, there are few housekeeping points to cover. Please note that today's session will be recorded and archived on the Building Buildings Solution Center. We will follow up when today's recording and slides are made available. Next, attendees are in listen only mode, meaning your microphones are muted. If you experience audio or visual issues, please send a message in your chat window located at the bottom of your Zoom panel. Next slide.

My name is Pam Mendelson, and I work at DOE in the Weatherization and Intergovernmental Programs Office. I will be kicking this session off, and after the presentations, my colleague, Michael Freedberg at the Department of Housing and Urban Development will conduct the questions and answers session and bring us to a close.

We are excited to use an interactive platform called Slido for Q&A, polling, and session feedback. Please set it up now by going to www.Slido.com. Use either your mobile device or open a new window in your Internet browser. You can enter the event code, #DOE, and then please select today's session in the title drop down menu in the top right, addressing energy burden and workforce development. If you would like to ask our panelists any questions, please submit your questions in Slido any time during the presentations. Please note in your question if it is for a particular speaker, and it would also be great if you include your name when you type in the question so we know who's asking the question—not a requirement, but just would be great if you did.

If you see someone else already has asked a question like yours, you can like the existing question and it will move up the question list when you do. We will be answering all the questions at the Q&A portion at the end of the session. Next slide.

Today, our speakers will discuss energy burden and justice, how you can use DOE's Low Income Energy Affordability tool, the LEAD tool, to analyze energy burden, and exciting developments in multi-family low income sector.

I'm going to introduce all of our panelists first. So, our first speaker is Yasmin Yacoby. She's the Program Manager for Energy

Justice Issues at the Rhode Island Office of Energy Resources. Her role focuses on the equitability and accessibility of Rhode Island's energy systems, programs, and policies, and she is working to ensure that all Rhode Islanders have access to clean, affordable, and dependable energy. Yasmin is a Govern for America fellow, and graduated from Harvard University with Honors, with a B.A. in Environmental Science and Public Policy. Yasmin will speak about viewing energy burden in a framework of energy justice.

Kenya Stump will follow Yasmin and will address how the State of Kentucky uses DOE's LEAD tool to address inequities in energy burden across the state. Kenya was appointed as the Executive Director of the Kentucky Office of Energy Policy in March of 2020. Prior to that, she served as Assistant Director for Energy Assistance within the Office of Energy Policy. Kenya has also managed environmental assistance programs with the Division of Compliance Assistance and served as an Environmental Scientist and Policy Advisor in the Director's Office at the Division for Air Quality. Kenya has Master's degrees in Environmental Science from the University of Kentucky and Public Administration from Indiana University, and a B.A. from Western Kentucky University in Chemistry.

Our third speaker will be Vlada Kenniff. Vlada joined The New York City Housing Authority, or NYCHA, in 2017, and was named Vice President of Energy and Sustainability in the Capital Projects Division in March of 2020. In this role, she is responsible for leading NYCHA's comprehensive sustainability agenda to reduce energy and resource consumption and carbon footprint and to improve resident health and well-being. Prior to joining NYCHA, Vlada spent a decade at The New York City Department of Environmental Protection where she managed integrated water management planning and capital projects. Vlada earned an M.S. in City and Regional Planning from Pratt Institute and a B.A. in Environmental Studies from Pace University. She's a Ph.D. candidate in Information Studies at LIU Post. Together, Vlada and Tonya Gayle will speak about how they address energy burden in low-income multifamily housing.

Which brings me to our final speaker, Tonya Gayle. Tonya Gayle is Executive Director of Green City Force, where she created and led Green City Force's Development Team from July, 2014 to September, 2020. She's a board member of the Corps Network, focused on national service, and Environmental Advocates of New York, focused on environmental justice. Prior to joining Green City Force, Tonya served in public/private partnerships at The

New York City Housing Authority and sponsors for Educational Opportunity Career Program. Tonya is a member of the New York City Women's Foundation Circle of Sisters for Social Change, a graduate of Wesleyan University, and a native Brooklynite. And I really want to thank all of you for being here today in this session. Next slide.

Well, I thought it would be fun to test this out with everybody, and we'd really like to know a little bit more about who's out there in the virtual room. So, if you could please go to Slido and address this question, which is, what sector are you working in? We have some choices for you. If you're just getting into Slido, you enter DO and you select the session in the upper right session, it's Addressing Energy Burden and Workforce.

And now I'm gonna take a quick peek and see how it's looking. This always reminds me of the Washington Nationals baseball games when they start out with the four Presidents who like to run around the field. And it's very staged, and they bumble, it's all planned, and here, they pull ahead, they fall back, they pull ahead and fall back. But what I can see is that, right now, it looks like the majority, slight majority of our attendees are in nonprofit organizations, followed closely by developers and consultants, and then city and county governments and federal governments. And I always wish on that other category, we could give you a way to tell us what the other is, but I'm glad you're in there, and that's great. Okay, I think that gives us a great sense of it, thank you.

So, I'd like to give you just a little introduction to the work my office has done in the energy affordability area, in addition to the great work that you may already know about in our Weatherization Assistance Program. I'd like to tell you a bit about the Clean Energy for Low Income Communities Accelerator, or CELICA for short. DOE completed CELICA and published a toolkit in 2020 that distills learning from the accelerator on low-income energy program development. It was a two-year accelerator aimed to lower energy bills for low-income communities through a voluntary partnership between DOE, nonprofit organizations, and state and local governments. The goal was to better understand and address low-income energy challenges and to demonstrate a wide range of locally designed energy efficiency and distributed renewable energies solutions.

Partners committed \$335,000,000.00 to help 155,000 low-income households access energy efficiency and renewable energy benefits. DOE collected resources and lessons learned and made

the CELICA toolkit online. In addition to the toolkit, DOE developed the Low Income Energy Affordability Data tool, or the LEAD tool, during CELICA. And you can see on the screen here a screenshot of the landing page for our toolkit. I encourage you to visit and read through some of the issue briefs and case studies that we made.

Our LEAD tool really helped us understand energy burden. Using data from the U.S. Census American Community Surveys, we can look at income, a variety of housing information, and energy expenditures. The tool shows that the national energy burden for low-income households is 8.6 percent, which is three times higher than the 3 percent energy burden for non-low-income households. In some areas, depending on location and income, energy burden can be as high as 30 percent.

Of all U.S. households, 44 percent, or about 50,000,000 are defined as low income. Through our work, we saw that low-income households face disproportionately higher energy burden. We define energy burden as the percentage of gross household income spent on energy costs. If you want to see any of this in more detail, I encourage you to look at the Low Income Energy Solutions page of DOE's State and Local Solutions Center. Okay, next slide, please.

So, with that, I turn to our first speaker, Yasmin Yacoby from the Rhode Island Office of Energy Resources.

Yasmin Yacoby:

Good afternoon, everybody. Thanks so much for having me here. I'm excited to be here. I apologize for any sniffing, I'm battling a bit of a cold. So, we'll dive right in, and if you see me glancing up, it's because I have a second monitor.

The Office of Energy Resources, just to give a brief introduction, is the lead state agency on energy policy and programs for Rhode Island. Our mission is to lead the state towards a clean, affordable, reliable, and equitable energy future. And OER develops policy and programs in response to the state's evolving energy needs while advancing environmental sustainability, energy security, and a vibrant clean energy economy.

So, we're gonna just dive right into kinda the meat and potatoes here with this first slide that's already up. What is environmental injustice? I wanna do just a little bit of level setting with you all to talk about these terms, make sure that we have common language, and then dive into what energy justice looks like in Rhode Island.

So, environmental injustice is the unequal and disproportionate distribution of environmental harms, from climate change, from pollution, from mitigation measures, et cetera, in marginalized communities. And generally, the way that this looks is that people of color and low-income folks, who have contributed the least to the climate crisis, are disproportionately burdened by pollution and degradation. Next slide, please.

So, just like environmental justice says that everyone has the right to be protected from environmental pollution and the right to live in a healthy and clean environment, energy justice says that people should all have access to clean, affordable, and reliable energy, and that is OER's mission statement. But to clarify here, energy justice is not a new field, but it is a fast growing one, and this is just one definition. Definitions often vary by community, and they depend on the type of injustice the community have faced. But the key tenets are the same, and those tenets are distributional justice of kind of where costs and benefits are being distributed, procedural justice of who is participating in these efforts and whose voice is heard, and recognition justice of recognizing past harms of the energy system. Next slide, please.

And because these definitions vary, I wanna make sure that we just take a moment here to talk about the difference between equality and equity.

Equality is often used to mean giving people the same resources, regardless of their situation. That's the picture here on the left. Meanwhile, equity is about ensuring that everybody has what they need in order to succeed. This means that we might be expending more efforts on some communities than others to ensure they, too, end up with fair opportunities for a healthy life. And the reason that I like this graphic specifically is because it shows that the problem is not with the individual or with the community. The problem is really with institutions and systems.

And so, what I want to point out here is that the ground is sloped and the fence is sloped as well. And what this shows here is that the fence is institutional discrimination, the ground is situational differences, and it's really important to keep in mind that we don't all have equal footing and equal access. But that's what we're really striving for—we're striving to be able to reach equality, and in order to do that, we need equity.

Great. So, diving right into energy burden and energy justice in Rhode Island—thank you—energy burden is the percent of your household income that goes towards your energy bill. On average, energy burdens are about 3 percent of the household income in the United States, in New England, they're 3 percent, and as you can see here, in Rhode Island, in the majority of the state, they are also 3 percent.

But not everywhere, and I want everybody to just take a moment and really look at where those are, where those areas are that have higher energy burdens. And this is all courtesy to that wonderful LEAD tool that we were talking about earlier. Next slide, please.

So, I want to take a second here and contextualize why communities of color tend to be disproportionately impacted, right? That was part of the definition that we gave of environmental injustice. It's really crucial to recognize that none of this is coincidental. No amount of burden or injustice is coincidental. This history goes all the way back to race-based slavery, which Rhode Island was heavily involved in, and I'm gonna give you a bit of a history lesson, here.

So, Rhode Island played a major role and a leading role in the trans-Atlantic slave trade. Not only did Rhode Islanders have slaves, but they had more per capita slaves than any other New England state, and Rhode Island traders controlled between 60 and 90 percent of the North American trade in slaves. And much of this trade in slaves took place after African slave trade was made illegal, first by Rhode Island and then by the United States government.

So, that's just the beginning of context, here. But you might be asking, "Why are we talking about something that happened 400 years ago? We don't have slavery in the United States any more. How is this relevant?"

Let's talk about something a little bit more recent—redlining. Redlining was the practice of limiting lending in certain neighborhoods, regardless of the creditworthiness of individuals living there. It's currently banned by law, but the practice was once routine, and it was one of an array of discriminatory actions that was practiced openly by the housing industry and the government itself.

The thing that makes redlining most problematic is that neighborhoods that were defined as declining or undesirable meant

that people in those neighborhoods couldn't get a mortgage. All white neighborhoods were viewed as safe property values and they gave them loans, and communities of color were deemed as declining or undesirable or even hazardous.

Now, homeownership is one of the most important and successful ways to entrench people in the middle class. It builds up wealth that can be passed down through generations. So, the history of redlining is the history of providing favorable access to financing for white residents in all white neighborhoods and preventing minority populations from building credit and then trapping them in a rent cycle, not allowing them to get into the middle class.

So, while slavery might feel like a thing of the past, redlining is a very tangible thing that started happening in the 1930s—1934, to be specific—and continued until 1968, when it was banned with the Fair Housing Act. But it's had significant impact on Rhode Island today.

Why does this all matter? Why are we having a history lesson, here, and why does this matter in the energy sphere? Well, if we can go to the next slide, please, the four cities and towns that were redlined were Providence, Pawtucket, Central Falls, and Woonsocket. As we see here, those same cities have the highest number of residents of color living in them today. Next slide, please.

Those same communities are, by far, the poorest in Rhode Island—by far, the poorest. This is from 2018 Census data. Next slide, please.

Those same communities have the highest rates of childhood asthma. This map over here overlays poverty levels to make it clear that the communities with the highest rates of asthma are also the ones that have the highest poverty rates. All of those areas—it's Providence, Pawtucket, Central Falls, and Woonsocket. Next slide, please.

Those same communities have also the older building stock, have higher exposure to lead, as we see here, have less efficient homes. So, this correlation is showing the correlation between poverty and exposure to lead, and as we know, older buildings also mean less efficient homes, correlating to higher energy bills. And, if we go to the next slide, we can see that those same communities also experience higher energy burdens and are more likely to experience energy poverty.

None of this is coincidental. It's really crucial for us to recognize that this was intentionally done, and we need to intentionally undo it. We need to be targeting certain communities and creating equitable access to this energy system that has created years of injustice. Next slide, please.

So, like I was saying, just as systemic discrimination was intentionally built into our state and federal government, we have to intentionally undo it. Targeted universalism is one way to approach this. So, I'll start with an example that's up here on the screen of targeted universalism in action. This is an example that the City of Providence uses frequently and I'm shamelessly borrowing here.

So, what the example on the screen here is, the tool on the left was designed by OXO, which is one of the most popular brands of kitchen appliances out there. What you might not know is that OXO was founded by a chef whose wife had arthritis. He designed a functional and minimal peeler, but above all, it had a wide and flexible handle which stayed comfortable during repetitive gestures, which are very difficult for people with arthritis. So, even though the OXO line is designed for people with arthritis, the chef actually just made something better and more comfortable to use.

That is the concept of targeted universalism. It's creating universal goals and solving them with a targeted approach. When we talk about targeted universalism, we're talking about ensuring that the most marginalized groups have access to the programs and policies we're trying to create.

Now, when applied effectively, targeted universalism is a really powerful tool for analyzing and addressing social justice issues. Using it to guide our thinking and work means we have to move away from single issues like only thinking about race, only thinking about gender, only thinking about class or income, and move away from top-down approaches to addressing the realities on the ground for people as they experience them.

Using this approach means the difference from being performative and further worsening people's experiences of discrimination to creating change within institutions that undoes some of the institutional discrimination we see. It means creating solutions that reflect the realities for people, especially the people on the margins and extreme margins and understanding that people can be both privileged and marginalized, and recognizing that solutions need to

be driven and generated by those most impacted. So, it's really a bottom-up approach. Next slide, please.

So, how are we applying targeted universalism? What is happening at the Office of Energy Resources, OER? It's important that we focus on two aspects of our work, here. We need to make sure that we are understanding these intersections between racial justice and energy justice, and we need to be working towards building an anti-racist organization. We also need to be ensuring that we're engaging with communities respectfully and culturally competently and that those frontline communities, low-income communities, and communities of color are part of the decision-making process and that their voices are being centered.

So, those are kind of the two aspects. I've been working internally with folks in my office to kind of understand those intersections—how racial justice, social justice, and energy justice all intersect and why it's important for us to be looking at it with that lens and centering equity. And we've also been working to increase community engagement and community partnerships with frontline community members, starting to build those two-way relationships, starting to build trust, and really starting to defer to the communities to tell us what they need in order for us to create a better energy system for them. Next slide, please.

So, some additional efforts that kind of fit within all this work. In our most recent energy efficiency plan, National Grid, which is the main utility in Rhode Island, committed to forming an Energy Efficiency Equity Working Group that will inform program development and evaluations and will center equity in the energy efficiency plans. This group is going to be facilitated by a third party, which is the Green and Healthy Homes Initiative, and we'll be bringing in folks from community organizations, from nonprofits, and from governments to have these conversations and really target low-income renters of color in our decision-making process.

And lastly, OER, along with the Brattle Group, our consultant, conducted a study for achieving 100 percent renewable electricity by 2030, as dictated by former Governor Raimondo's Executive Order 20-01. And in creating our recommendations, we made policy recommendations, planning and enabling recommendations, and equity recommendations. And these equity recommendations outlined the importance of partnering with community organizations and working with those most impacted to create a just and clean energy transition. And so, all of these efforts really

center the voices of frontline communities in our work in the future. Next slide, please.

I want to highlight that this is only the tip of the iceberg. On top of all this existing work, we need to thoroughly analyze our current and past programs and policies through an equity lens. We need to be thinking about how to assess all of these programs and policies to determine their intersection with equity. Thinking through what success actually looks like, how do we define it, how do we measure it, what are important metrics to keep in mind. And again, critical to all this work will be continuing thorough community engagement, and making sure that a wide variety of opinions, concerns, and lived experiences are a part of our effort, and that once again, we are deferring to those communities, and we are working from the ground up to create equitable solutions.

Thank you so much.

Pam Mendelson: Thank you so much, Yasmin. Wonderful. And with that, we'll transition to Kenya Stump. Kenya?

Kenya Stump: Yes, thank you, Pam, and what a great presentation from Yasmin to kick us off. I'm here today to speak about Kentucky's use of DOE's LEAD tool and how we're approaching energy affordability in the state and through our Office of Energy Policy as well as across state government. Next slide, please.

I am the Executive Director of the Office of Energy Policy. We're located in our Energy and Environment Cabinet, which I do think is a very crucial kinda linkage and unique about us here in Kentucky in that we see energy and environmental issues as being linked and so important that we're collocated together so that we can work, similar to what Yasmin was saying, that we can work across and with our sister agencies. We see them one and the same—energy affects the environment, the environment affects our energy choices. Our office supports the utilization of all of Kentucky's resources for the betterment of the Commonwealth while protecting and improving our environment. A big portion of that is energy affordability and how we approach that here in our state. Next slide.

Part of our office goals is, we're here to be the customer-driven state energy policy authority, enhance the economic opportunities and benefits to Kentucky citizens' industry—that means workforce, that means economic development and market opportunities. We also have some stewardship. I'd like to give a

shout out to DOE. We are funded partially through the State Energy Program funding, and part of that is, how do we leverage that funding by working with partners to create cost effective and credible energy programs? And part of our programming is very state specific in how do we leverage these funds to increase our work and reach and energy affordability.

Also, very central to our goals at the office is energy resilience and security, energy security. And when we look at the definition of security, energy security, we're looking at kinda the uninterrupted supply of energy resources to the Commonwealth that are affordable. And so, an element to energy security in our state is the affordability of our energy resources _____.

Just like previously, I'd like to just do a little bit of level setting with some definitions. For us, energy affordability—and I believe I took this from one of the national labs—we see that as equality of an energy system where the cost and the needs of the system are balanced with the ability of users to pay. It's a very kinda scientific, comprehensive definition, but you're really balancing the ability of users to pay with the cost and the needs of the system. And again, like I said, energy security, we see that one way as the uninterrupted availability of energy resources that are affordable.

So, from that context, energy insecurity does exist within our state and we often see that that insecurity overlaps with other insecurities such as food insecurities, housing insecurity, and yet, what we have seen is, energy insecurity doesn't get as much attention, in general, again, even though it's part of the foundation for what we see as individuals throughout society kinda reaching their full potential.

And what we've also seen, too, early on in our discussions around energy affordability is that the lens and the perspective of the stakeholder looking at energy affordability is very specific to that stakeholder. And what do I mean by that? For instance, we've heard a lot about energy burden. That's the lens that I look at energy, or the metric that I look at energy affordability through. We have seen some stakeholders, they look at just the price of the commodity as an indicator of affordability. From a utility or a regulatory perspective, sometimes the metric is the cost effectiveness of a program.

So, what we've realized here in the state is that—and when I say the state, I mean here in our office—is that we had a lot of

stakeholders talking about energy affordability but we weren't using the same kinda metric or understanding. And so, when you're trying to achieve a common goal around decreasing or increasing the affordability of energy in the state, it's very hard to do that if you have some people talking about price, some people talking about energy burden, and some talking about cost effectiveness of programs. So, what I'm getting at is, a common language is extremely important to ground these discussions with a variety of stakeholders. Next slide.

And that's a nice segue to the LEAD tool. The Low Income Energy Affordability Data tool is designed to help state and communities create better energy strategies and programs by improving their understanding. And what I see the power of the LEAD tool for us is, it does create that common language, that common grounding so that we can have real discussions about energy burden in this particular context, but about energy affordability through the metric of energy burden. And here, we see a snapshot of the tool where you can do a variety of filters based on area median income, state median income, poverty level, building characteristics, fuel type, building types. You can look at cost, housing counts, and energy burden. Next slide.

So, here, we have an example I just wanted to show in Kentucky. A lot of people think of energy burden and immediately go to Eastern Kentucky or Appalachian region, and that is one issue that we see. But we do see energy burden affecting other parts of our state as well. And here, we have an area median income up to 60 percent, and you can see our average energy burden for that particular population is 11 percent, but in some areas of our state, both East and West, it greatly exceeds that 11 percent. So, this is kinda building that grounding in what are the characteristics that you're looking at when we're talking about energy affordability and where is it occurring. I'm looking here at the county level. The nice thing about the LEAD tool is, you can also go to the Census view and we'll see that in some subsequent slides. Next slide, please.

So, just to kinda summarize what we really enjoy about the LEAD tool is, you really can get a sense to look at urban versus rural housing. You can look at renting versus owners, and we see differences there as well—multi-unit, single unit, age of housing. For us, one big characteristic is mobile homes versus traditional stationary homes and fuel types. So, I kinda had these characteristics as, these are the biggest things that can dispel myths and kinda level set and set that foundation with stakeholders, and

then that can really help you build a strategy. Well, how are you gonna tackle urban versus rural? What about renters and owners? Renters, you may have different stakeholders, single versus multi-housing. And if it's a mobile home issue, then how do you really start tackling that within your programming? Next slide.

Here's an example of the urban and rural. This is Jefferson County, and again, I'm still at the AMI up to 60 percent, and we're just, we've kinda zoomed in to the Census level. And this just shows, similar to the previous presenter, we have a very urbanized environment in Jefferson County. And you can see that we do, compared to that 11 percent, if we look on the West side and even some over up to the East and down to the South, we do have some concentrations of areas that are struggling from an energy burden perspective. So, this kinda informs us at the urban level where we can do some targeted work with community groups and stakeholders and start building the relationships and talking through programming and a common language to work on these areas that are exhibiting these high energy burdens. Next slide.

This is the one that's near and dear to my heart, because it's one that's really tough to tackle and this is our mobile homes. Similar, but yet different from the overall state map I showed earlier is that we really can see very targeted areas of the state where programming specific to mobile home, how do we address that, how do we work with utility programs, housing organizations to find partners that can really help in this space as well? And you can see, in general, you can see that overall, it's more higher energy burden across the state when we're looking at mobile homes and that's informing us as program developers and also, as an agency that gives out funding, how do we identify funding partners, identify resources, where we can put our funding to work in the areas that are experiencing higher than average energy burden? Next slide.

So, for me—again, kinda bringing it home, the LEAD tool acts like, really, a guiding light for us. It really is a first step in program development. It also aids our office in identifying the geographic areas for targeted assistance programs. And then, too, we then can go into those geographic areas and seek out our grant partners to help us achieve those specific goals in those areas. Some examples of that, we're working with specific housing organizations in high energy burden areas. We're also ensuring that when we do give out grant monies and we contract with our partners that we're including education, outreach, engagement, and areas of high

energy burden and making that part of our contract commitment with our grant partners. Next slide.

So, in the end, I just wanted to say before we kinda talk about some next steps, it really does break down barriers and that starts with that common understanding. Once we all can get grounded and we're talking about energy burden that it's not just about price of a commodity, it's not about the cost effectiveness of a utility program. I mean, those play into it, but from that lens that our office is taking, we look at energy burden.

And so, that really starts to break down barriers, because then we're not cross talking with each other, we're starting to talk about—okay, what does this look like, what are the factors at play, and then how do we start adjusting our programming to address the barriers that we're identifying by talking with each other. And the first step is, we have to talk with each other. Our state programs have to talk with each other, have to get grounded in these concepts so that we can start to identify where the programmatic breakdowns that may not be working to address some of the issues that we're seeing. Next slide.

A little bit of delay. So, here's where it really allows us to find commonality and learning opportunities. So, our next steps is, we are having our first Energy Affordability Work Group coming up in late June. This is really a first of its kind work group in our state, and that work group, that first meeting, will be grounded in the LEAD tool, what that looks like in Kentucky, what we're talking about, and it really starts to bring state agencies, nonprofits, utilities together in the same room, community organizations to start talking about all of these complexities.

Because when we look at energy burden, we're also looking, as the previous speaker spoke, other intersections that are occurring in this topic. So, we're talking about housing, we're talking about food, we're talking about poverty, we're talking about vulnerable populations, and we're talking about—well, how do we all try to figure out programming in ways that can work in an efficient way to start increasing affordability, decreasing the energy insecurity in these areas? Next slide.

While the slide's transitioning, I will say, our work is part of, over all our Cabinet's energy and environmental justice framework that we're implementing here in the Energy and Environment Cabinet. And we see, just like the previous speaker, we're looking at energy and environmental equity and justice issues. We're taking that lens

into all of our programming, including that here at the energy office in Kentucky.

But kinda circling back to the LEAD tool, I really love this quote—“I’m a GIS nerd, I love GIS, and so, knowing where things are and why is essential to rational decision-making.” And I think that’s why, when we talk about affordability, kinda the geospatial aspect to it and grounding the conversation in where are the issues, what are the factors at play is kinda essential for stakeholders to have these productive discussions. We’ll also be launching, through our grant commitments, a partnership where we’ll do a first of its kind really energy affordability deep dive study for our state, and we’re also requiring all of our grant partners to engage with us on energy and environmental justice training and encouraging our partners to find innovative ways that they can take these concepts and incorporate it through their lens of their programming as well. Next slide.

And I’m gonna leave you with this. There’s my contact information, Kenya Stump, our website, and I’ll leave you with, “Data has a better idea.” And I think that’s why I was here today, to really kinda talk about how the LEAD tool and that data can kinda maybe lead to some better ideas.

I really appreciate you all having m here today and letting me kinda go through our experience with the LEAD tool. There’s nothing really rocket science about it, it’s just kinda diving in and seeing where the problems exist geospatially and then proactively really trying to seek out new partnerships and new partners. Thank you.

Pam Mendelson:

Thank you so much. I cannot tell you what a good feeling it is to listen to both you and Yasmin talk about how an idea was helpful to you.

I did see in the chat, somebody was asking about where they could get maps like yours, and I’m just putting in the link to the LEAD tool. We don’t make the maps for you, we let you go in there and make them whatever you want them to be.

Okay, so, I don’t even have to introduce the question, but I’m really happy to do a second poll with this group. Please do think about the things that you might want to accomplish in your workplace, in your community, and let us know if there is anything, one particular item perhaps, that would be great.

Energy efficiency potential is very interesting. I will just say that the LEAD tool is built on data for things that are actually happening. Rather than being a panning tool to try to predict what will be in the future, there are tools like, for example, we have one called Slope that would be also very helpful for the scenarios of energy efficiency potential, just so you know. We definitely can access racial data through the American Community Survey and it maps geographically, so it's perfect for LEAD, we could do that. The weather events is another good one to see, because I know that's mappable, and sometimes there's an overlap with low income, high energy burden, and weather events and disasters.

I can't see everything else that's on there, but there are other things having to do with—oh, there you go, underneath children and elderly population, opportunity zones. Okay, great. This is very helpful. What I would like to do is let you know you can always get back to me if you have more feedback or questions individually. But right now, we are gonna move to our next presenters on some of the workforce developments and other energy burden activity at NYCHA. So, Vlada, please begin, we'd love to hear from you.

Vlada Kenniff:

Hi, good afternoon, and I'm glad to be here to have these very important discussions. Pam, thanks for that introduction. Kenya, we actually, I learned that we share something. I am a geo nerd, I absolutely love GIS. I think all of the decisions over the course of my career as an urban planner, we've tried to make using geospatial decision-making, and some of it will transfer over into some of the things that I will talk about in this presentation.

I will be joined later by Tonya Gayle, who is an incredible partner, you'll hear more from her. But I just wanted to set the stage, and if we can go to the next slide and take about the New York City Housing Authority, which is the New York State Public Development Corporation, which provides public housing to New York City. It was the first agency in the United States to providing housing to low- and moderate-income residents throughout the five boroughs in New York City. And just to kind of, again, set the stage with the scale of the Housing Authority, we serve approximately 400, by some count 600,000 people in New York City, that's 1 in 15 New Yorkers. In some ways, we are as big as Miami or some other large city, so we are a city within a city.

We serve the economically vulnerable populations, communities of color, immigrant communities. I come from an immigrant community; I grew up in a building very much like NYCHA. I

have family members that live in buildings like NYCHA and I care very much about the work that I do here. One hundred and ten thousand of our residents are children; 77,000 are seniors; about 300 developments across New York City. That's 2,200 buildings, 2,400 acres, so you get the scale, if you'll go to the next slide.

And my department works on multiple initiatives, and we are actually working through the 2021 Sustainability Agenda. I encourage you to take a look at it. We have a preview of it on our website. We focus on things like health and well-being, community facilities and resource management, and how do we pay for things, right, the economics of it all.

But today, I'm going to focus on the energy and carbon piece of our portfolio and how it intersects with the energy burden and the workforce development pieces of the portfolio, and I'll touch base on sort of the industry definition of the energy burden, the percentage of household income that goes toward energy, cost. There are only about 4,000 households in NYCHA that do pay their utility bills, but we definitely do programming around those households and the energy burden of those households is equally important. So, let's go to the next slide.

One thing that's important to note is that NYCHA buildings are old, and the energy systems that are in our buildings are old. What was state of the art in 1939 is still with us today. So, those big Scotch marine combustion gas-fired boilers and centralized systems are still with us today. And even though it's not an energy burden as we sort of discussed it just now, there are some significant inefficiencies in how those systems operate. Next slide.

So, we've been focusing in my portfolio on space heating and domestic hot water, and for the right reasons, right? Because that portion of the carbon reductions that we've measured comes directly from those activities, from space heating and domestic hot water is approximately 65 percent. And when we look at how efficient or inefficient that process is, when it originates at the beginning of the heating plan at the central plan, and it makes its way to becoming useful space heat or domestic hot water, two-thirds of that efficiency is lost along the process. And that has to do with the fact that there haven't been capital investments in these systems, and these are not, the heating systems are not the only systems. There are also plumbing systems that are not functioning properly, they're creating mold conditions and asthma conditions. And so, it is important to acknowledge that there is a \$40,000,000,000.00 backlog of capital investments.

So, we are at a place where we completely understand we need to recapitalize, and so, how do we do it? Let's go to the next slide.

The department that I lead has an incredible history of energy efficiency program. Over the last 15 years, they have been able to reduce the energy demand or carbon emissions by 17 percent. But against the backdrop of some of the state and local regulations and rules that are coming, we still have a lot of work to do. And so, let's go to the next slide.

In the past, the funding that has come in, the small amount of funding has been focused on in kind replacement. The Capital Projects Division, the CPD as you see the acronym there, has focused on replacements in kind, replacements of the boilers. We've gotten better post super storm Sandy and have brought some of these boilers above grade. We now have some additional funding where we're doing decoupling of heat and hot water to gain efficiencies there, and we're also doing temperature controls in the energy performance contract. But really, we need to get to hydronic systems and electrification in the future, and I'll talk more about that. Next slide.

So, we've been focused on sort of traditional methods of energy retrofits, and we've been financing our projects through energy performance contracts. We currently have \$310,000,000.00 at 72 developments that have focused primarily on the lighting retrofits, apartment sensors, and building management systems. You see a picture of our colleagues there at Green City Force, and you'll hear more from Tonya. This has been an important focus of ours in partnerships with community-based organizations like Green City Force, and doing education around these new systems like the apartment temperature controls and building management systems.

We've also been able to sort of stretch the dollar to do some of the higher cost items like boiler replacements and ventilation at a few of our developments. Next slide.

But the future is changing. And so, at the New York State level, we have the Climate Act that set targets to reduce carbon emissions by 85 percent by 2050 and produce zero emission electricity by 2040. At the same time, at the local level, we have the Local Law 97 that has introduced aggressive scheduled carbon reductions from buildings, and NYCHA has to reduce its GHGs by 40 percent by 2030 and 80 percent by 2050 from the 2005 baseline. And again,

the only way we would be able to do it is through electrification and hydronic conversion, so let's go to the next slide.

So, we do, we have started thinking about how this would happen. We have our one building where we are planning to do complete electrification, but there are questions that are being raised and are quite acutely in my mind about what does it do to the energy burden? How does it change the makeup of how our residents will sort of be responsible for their piece, right? So, if we acknowledge the fact that the buildings or the heating systems are at the end of their useful lives and we need to make a decision today, that will signal electrification. There are things that we'll have to do to the buildings such as, for example, the things that you see on the right, we are sort of moving or thinking about toward appliance based solutions, but the majority of the cost is electrical upgrades within the buildings.

And so, if we're doing that, we also need to think about submetering. Because, as we move toward electrification and the appliances become more and more efficient, the piece where it was only 21 percent for residents' electric use will become bigger. And so, will those costs become bigger for residents that do pay their own utility bills? There are other questions—how do we prepare for this process? How do we train our workforce? Now, we are going from boiler maintenance workforce to HVAC workforce, right? So, we need to prepare our workforce for that transition, and we need to make sure that that transition is including populations like NYCHA residents and we are providing the proper training and proper job opportunities for residents to be a part of that just energy transition. Next slide.

I'll conclude with the last slide. This one focuses on the community shared solar program. We are very proud of this program. We are doing our part in making the grid cleaner. This is also a part of the federal Renew 300 goal. We've committed to 25 megawatts of renewables at NYCHA properties. Our goal is also to raise revenue for the developments that site the solar through rooftop leases and that funding goes directly back into the operating fund of those developments. And also, enable NYCHA residents who pay their own utility bills to take advantage of discounts and subscribe to community shared solar.

So, one thing that—I see that the bullet point is missing here, but it is the most important one for me is to train and hire NYCHA residents to again prepare them for the just clean energy transition. Today, we have five NYCHA developments that are in progress or

have installed solar panels on the rooftops and are ready to serve approximately 500 low- and moderate-income households in potentially reducing their energy burden upwards of 20 percent. And these current installations have, we've been able to train and hire 25 NYCHA residents. We have an additional 14 megawatts of solar programs that are unprogrammed and we will be issuing RFPs for that.

Actually, I do have to mention that many of the solar apprentices that were hired for the solar program came through the Green City Force graduate program, and I'll let Tonya, my colleague, talk about that. Thank you. Over to you, Tonya.

Tonya Gayle:

Thanks, Vlada. Hi. I know we're short on time, so I brought in the perfect tee up to our organization, so I'm happy to be here to talk about our partnership with NYCHA and the work with Green City Force. Next slide, please.

So, we are a nonprofit AmeriCorps program, and we train young leaders who are NYCHA residents to power through leadership and career training and inclusive economy through service. We're focused on racial justice, economic justice, and environmental. Next slide, please.

As Vlada explained, we focused in the public housing communities across the five boroughs of New York City. Our recruitment for the participants of our program and our major service initiatives are focused in the city within a city that Vlada mentioned. Next slide, please.

So, within the Public Housing Authority, as Vlada mentioned, is a huge population. We're particularly working with young adults 18 to 24 where there's a reported 72 percent rate of unemployment. And so, our work is at the nexus of combining the need for employment and climate solutions in our service model. Next slide, please.

So, we're an Americorps program. We deploy young people in national service to engage in large scale sustainability initiatives within the public housing portfolio while they're building their workforce skills to make them job ready for career paths in energy and others. Next slide, please.

So, folks come into our program, as I mentioned, as AmeriCorps members, and they're in the Service Corps training and building skills tied to environmental priorities of the Authority in New York

City. And through this platform, they then go into a graduate role of being career ready to be placed, as Vlada mentioned, in solar positions, in a variety of other sectors which I'll show shortly. Next slide, please.

And in our service model, we combined layer approaches of urban agriculture, food production, education and energy behavior change, recycling and composting towards a holistic—next slide, please—model where we create in NYCHA spaces what we call Eco Hubs, where you can see we're concentrating demonstration models that show how frontline communities can drive sustainable change through these various layers of initiatives that help to eventually lead to closed-loop energy cost reductions as well as workforce and vibrant community transformation. Next slide, please.

Some history about our graduate population—again, going from 72 percent unemployment to starting wages at 16.50 an hour is our approach and proven model, which we believe is replicable across other frontline communities. Next slide, please.

And here are some examples. You can see 65 percent of the paths that graduates take following completion of our program are tied to energy. These are examples of the different types of roles and career opportunities they're pursuing. Next slide, please.

As I mentioned, 65 percent. Some examples of job titles of these young people who have come into our program having no full or clear understanding of energy or these career paths—direct installers, site superintendents, green infrastructure ports, green building superintendents—are emerging fields where we want frontline folks competitive for these opportunities, and our work is about having that opportunity for them to be leaders in the next phase of the green economy. Next slide, please.

We work with employer partners across multiple hires for groups like Franklin Energy, property management companies, and we do individual placements depending on need, we do demonstration projects like Vlada mentioned and solar demonstration projects as well. And so, we're always having an eye on what are the next career paths and ways that we can train folks to be prepared for the opportunities that are coming based on the growing investments toward these sectors and industries. Next slide, please.

As I mentioned, solar and energy, that slide Vlada mentioned, our graduates have been deployed to be part of energy contracts through the NYCHA retrofit. Next slide, please.

And these are some examples of the technical skills we provide to our participants so that they have the basic foundation of criteria and credentials that help them build upon that for next level from pre-apprenticeship to apprenticeship to career entry-level to more advanced career paths over time with benefits and advanced career and investment opportunities for them. Next slide, please.

We're also part of an EmPower program, and so we have various ways we work with our graduates and programs in NYCHA focus as well as low income housing communities across New York to really educate others driven by our population of frontline people of color, largely black and brown young adults, helping to basically reduce the overall carbon footprint across New York and, as was mentioned through all of the presentations, focused on a priority of the energy burden specifically disproportionate for frontline communities. Next slide, please.

As Vlada mentioned, many of our graduates have been critical to the work of the, through our social enterprise, the retrofits, and it's a next step opportunity for folks to be trained up ideally towards career paths, whether it's in trades or union opportunities or full level advancement. These are just some of the different ways we continue to build opportunities past the initial service program that they started with us through GCF. Next slide, please.

Again, some examples through the social enterprise, Vlada mentioned earlier, we're training our folks in HVAC, urban forestry, they're getting technical skills while they're building their wage potential, and so, it's a really robust and broad ranging platform for folks to really build a path towards sort of climate solution career tracks, which they, again, otherwise would never have even considered, but through our program get exposure to. And because they're creating change in their own communities, they're also building leadership and momentum towards really motivated collective impact beyond themselves as individuals. Next slide, please.

This is a picture of our folks on the Energy Contract within NYCHA, some examples of our teams. Next slide, please.

Some examples of our graduates. You can see the career paths that they've had, again, and the trainings that they've had to prepare themselves for these next level opportunities. Next slide.

This is a young man, Earlton, who was able to get into a union electrician's lane because he had gone through these various steps that we provide and trainings. Next slide, please.

Another example, I mentioned Franklin Energy earlier. We're working always with whatever partners that are looking to build their workforce and find ways to get our folks into those communities. Next slide.

This young man built upon his experience in the retrofit social enterprise where he actually ended up getting hired by one of the energy performance contract companies, which was amazing, which significantly increased his annual income, and he's doing really well in that role. Next slide.

And so, just to summarize, for over 10 years, GCF was working hand in hand with NYCHA, aligned with all the priorities and really being intentional about preparing the people from those communities to be best positioned for leveraging those opportunities for advancement and training.

So, I'll stop there. I know we're short on time, but thank you for joining us.

Pam Mendelson: Tonya, thanks so much. Michael Freedberg at HUD is going to facilitate what Q&A we have time for.

Michael Freedberg: Thank you, Pam. Thank you to all of the speakers, just an incredible, inspirational and educational and a lot of good information, I guess from three states with real national implications—Rhode Island, Kentucky, New York. Really quite extraordinary.

We have time for a few questions. I just wanted to, since we ended with Tonya on the workforce front, I just wanted to ask you, Tonya—can you say a little bit more about how you are training your residents? Are you working with community colleges, or are you doing it yourselves? And then secondly, what of these career paths seem to be most promising in the energy space? Is it on the solar front, is it on the energy audit or building analyst front? Where do you see this going?

Tonya Gayle: Sure, thank you. So, the young people in our program are coming in with having completed high school, and part of our model is being a disruptor of the career to prison pipeline and be an alternative pathway to careers versus traditional college.

So, through our Americorps program, folks are entitled to some funding that helps them with education, but practically, as low-income New Yorkers, they need to work. And so, we would love to have partnerships with CUNY and others and we've explored that, but primarily, we do technical training and national service. And then, through our employer partnerships, build on training once they've graduated and then work with the employer partners to build their skills.

To your question about sectors, it ranges, and that's why it's so important that we work so closely with NYCHA and the City and employers to be thinking ahead what are the emerging. So, to Vlada's point, you know, it was historically energy audit and efficiency, it was solar in the past and then it ebbed and flowed, and now it's solar again and HVAC is becoming more—so, we're literally always trying to navigate what's emerging and how do we position ourselves to partner with folks so we're ready.

Michael Freedberg: Thank you. You made it sound all very straightforward, no problem, get these people trained, put them into high paying jobs, but we know that it took a lot of blood, sweat, and tears to get there.

Tonya Gayle: Yeah, systems change is very hard. *[Laughter]*

Michael Freedberg: Yes, which gets us back to the first point which Yasmin put on the table, which is bottom up systems change, the really important conceptual framework, which we need to put this work in the context of. So, we'll just go to one of the top questions in Slido, Yasmin, if you want to pick up on that. Can you give us examples of responses you've received from the community when you ask them what they need to address their energy reduction goals, or their energy burden? What are you hearing from the people that you engaged in your—

Yasmin Yacoby: Yes, thank you. Thank you for the question. So, I want to highlight that, first of all, this will continuously change, and some of the responses that we've received have changed over the two years that I've been with the Office of Energy and will continue to change. And I also want to highlight that it's not necessarily just supporting energy reduction goals, and I think this is part of the

main feedback that we've heard. Sometimes, it's just wanting to participate in the clean energy economy. Sometimes, it's wanting to reduce their energy bills. Sometimes it's wanting to build wealth in their communities and build resiliency, personal resiliency of not having to worry about where your energy is coming from.

That's mostly the feedback that we've received thus far is figuring out kind of what the actual priority is. Sometimes, it's energy reduction goals; we're seeing that from municipalities, but frontline communities have different goals.

Michael Freedberg: Great, great, thank you. I'm gonna just jump ahead, so I just thought we'd get a question for each of our panelists in here. I know there were some other questions.

Kenya, in Kentucky, the maps are incredibly powerful. You presented all of these images of, I think you were focusing on 60 percent AMI. I think you were showing that the manufactured homes, mobile homes were showing a very high energy burden, in some cases over 20 percent. So, how have you been able to target your resources to these different sectors once you know where the challenges are—mobile homes, multi-family, single family housing?

Kenya Stump: Yeah, very good question. Right now, we're working with—I'll give you an example. We're working with Housing Development Alliance in Eastern Kentucky that's training, has a workforce component where they're training those who are in addiction recovery or jobs in energy efficiency and we're supporting their program where there are affordable housing units that they're building in that particular county. We're providing additional funding to help with upgrades to Energy Star heat pumps and also to go through Energy Star certification of those units in that county.

We also have a great partnership with Habitat for Humanity, and then in those counties, we look at affordable housing organizations and how can we work as best we can. Now, on the mobile home front, this is where I'm gonna say, if anybody's cracked that nut, you can let me know, because it's really difficult. USDA and the funding that came down in December, the CARES Act funding, they had some programs where you could do on bill financing for replacement of manufactured homes if they could not be upgraded cost effectively. That's a type of program, they use on bill financing.

We're exploring things, too, like, is there a possibility of residential PACE financing to tackle some of these. It does come back to some of the energy efficiency standards on some of these and requirements. So, we have tried many programs such as incentives to purchase more energy efficient mobile homes. Some people just don't want to leave their home or they don't want to trade in their house for another home. So, there's a lot of behavior, and anybody that's worked in energy efficiency, you know how hard behavior changes are in this space.

So, I think mobile homes, manufactured housing, it's going to be a long-term effort with multiple partners, because we have some root causes here that we're really trying to unpack.

Michael Freedberg: That's great. I'm over at HUD, and so, I'm happy to work with you. We know that's a tough challenge.

I know we're almost out of time, but I'm gonna try to get a quick lightning round in here before we move on to the next session. Question for all the speakers here on the screen. Maybe we can just do a quick, you know, as they say, give us one key point that you'd like to make in this space. Can you share best practices when it comes to stakeholder engagement on equity issues? I'm gonna start with you, Vlada, and then go to the rest of the panelists.

Vlada Kenniff: Yeah, thanks, Michael, and I work in the space of Capital Projects as you know, and so, you know, we bring changes to communities all the time. And so, it is important to come early, it's important to have communications about the work that's going to happen in the communities, it's important to get feedback where possible.

And actually, during COVID, I saw the question on the screen, I think that some of those communications became a little bit more flexible because people accepted that you don't have to schedule a meeting in the evening, you can have it during the day, you can have more participation. And so, in many ways, I think that some of the resident discussions that we wanted to have were more complicated and scheduling became a little bit more flexible.

I do miss the in-person piece. It is something that is extremely important. I look forward to many of the in-person meetings.

Michael Freedberg: Great, thank you. How about Yasmin?

Yasmin Yacoby: Yeah. I would say similar to what Vlada was saying—come early, come often. Do not bring them a half-baked cake. *[Laughter]*

Make sure that the ideas are starting and being shared with the community, that they are helping develop the initial thoughts. That's how you center equity, that's how you center their needs.

Michael Freedberg: Great. Tonya?

Tonya Gayle: Absolutely. Energy behavior change, any kind of long-term solutions will only be long-term if the community is involved in the process from the beginning throughout.

Michael Freedberg: So, start early, no half-baked cakes. Kenya, your experience or ideas on this?

Kenya Stump: I think you can't be afraid to talk about it. A lot of people want to complain about affordability, but don't really want to talk about it. And you have to go into, knowing it, that it's a complex issue. You're gonna have to bring in multiple stakeholders. They're not one and done conversations, and you're gonna have to talk about some difficult topics.

It really brings to the forefront the use of all of our communication skills and how do we address really hard concepts and topics in a way that we can kinda find workable solutions, knowing that we've talked about you're not gonna fix it overnight, you're not gonna fix it in one meeting, but you've got to be able to plant the seeds to have the long discussions and have the partners that are gonna be willing to stick with you. And I can't emphasize enough listening to the ground up. It's gonna have to be from the community up.

I can't tell a community what they need to do, and it's not my job to do that. My job is to listen and figure out ways to cut the red tape, you know, reduce the bureaucracy and kinda get things done.

Michael Freedberg: Yeah, that's not a bad mantra to end this session on. Lots of listening and cutting of red tape is at least part of the solution.

I think with that, we're gonna have to thank our speakers. We will try to answer the questions that came up on the Slido, some important questions, and there were also some good resources that were posted in the chat, which was very good.

Pam, am I wrapping up or are you wrapping up at this point? Maybe I'll hand it over to you. Okay, I think you're on mute, unfortunately.

Pam Mendelson: Okay, great. We saw two slides, one on resources that have to do with workforce development, there's the D.C. Solar for All video, a fabulous 30 minutes to build on what we've already learned from the NYCHA Sustainability Agenda and then for other low income energy affordability resources, you can play with the LEAD tool yourself. I saw stakeholder engagement questions—we have an entire section of our work in the toolkit on stakeholder engagement specific to low income and energy, so I highly recommend looking there. And then the next slide was a webinar series that, if you've been to any other session, you've seen. These will be fabulous, and we encourage everyone to take a look and learn from them as well.

Thank you to our speakers, my co-host and really, the tech support team—Mariana, Cecilia, and everyone who made it possible for us to do this for you today. Thank you so much for joining us.

Vlada Kenniff: Thank you.

Michael Freedberg: Thank you, all.

Tonya Gayle: Thank you very much.

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