

Nate Allen:

Welcome to the 2021 Better Buildings, Better Plants Summit. We have over 700 registrants for this session. I was going through the list this morning. It's exciting to see so many old friends and colleagues, people from all over. I just wish I could see you all in person, but soon enough.

So let's jump in. We'll go to the next slide here. Thank you. And I will just say, again, thank you for joining us. This is the Local Government Meet-U Last slide is we have links, tons of links, so many links to the toolkit sections. Please check them out. These are shorter documents, pretty heavily formatted, and hopefully of interest to you.p. I think we have some fantastic speakers. I'll introduce them in just a moment. And we're also really hoping to hear from all of you over the next 90 minutes, and I'll explain our plan for engagement shortly, if we can go to the next slide.

I'll briefly introduce myself. My name is Nate Allen. I work in the Weatherization and Intergovernmental Programs Office at the Department of Energy, and I have the pleasure of leading our engagement with local governments involved in Better Buildings.

Let's go to the next slide. This one's important. So before we dive in, there are a couple housekeeping items that I want to cover here. So the first thing I'll note is that this session is being recorded and it will be archived on the Better Buildings Solution Center. You'll receive an e-mail when the recording and the slides are made available. And I want to stress this point, because we're gonna present a lot of content today and we're gonna share a lot of links for more info. You'll be able to access all of this later, so worry not. This is gonna be archived.

The next thing I'll note is that with the volume of attendees we have, everyone is in listen-only mode except for presenters, so your microphones are muted. If you experience any audio or visual issues at any time during today's session, please see the tech support attendee. So what I'm looking at here on my screen, in the lower right hand corner, there's the chat function in Zoom, and rather than to all panelists look for tech support. Send a message to tech support. That's Nina, our colleague, and we'll help you out and make sure you get what you need directly.

Let us go to the next slide. We're going to talk about our agenda for today. I will just frame this by saying that my intention with the content that we've curated is that there will be relevant takeaways for everyone no matter where you are on your energy efficiency journey. Some of the actions that we'll be hearing about in a

moment can be implemented in a matter of hours with very basic technology. Other presenters are going to share the results of years of planning.

Momentarily, I will turn it over to our acting director of our office to share a welcome on behalf of DOE and recognize our Better Buildings local government partners, as well as our 2021 goal achiever. Then a couple of us will share some updates from this past year and briefly highlight some new resources that we think can support your work. We'll then have an in-depth panel discussion and hear from some outstanding presenters. We'll introduce them later on and I'll wrap up with a Q&A and then ways to stay engaged beyond today's session. I may move quickly through some various slides. Just remember, you'll be able to access all of this content later.

Let's go to the next slide. We're going to talk about our plan for engagement. So we're using an interactive platform called slido. Many of you may have used it before. We'll be doing our Q&A, and polling, and session feedback on slido. There are two ways to access this quickly. I'll tell you how I do it easily. I've got my phone right here. The QR code on the screen, if you hold it up right away and just lock in on it, it pulls you right to the platform, and what you'll want to do is select the Local Government Sector Meet-Up.

You can also go to [slido.com](https://www.slido.com), and if we could put that link in the chat, too, that'd be great so folks can just click it. Using your mobile device or your computer and enter today's event code, which is #DOE, and then you'll see the Local Government Sector Meet-Up. I flag all this, if you'd like to ask our panelists any questions throughout the course of this session, please submit them in slido anytime throughout the presentation. We're gonna be answering questions, as I mentioned a moment ago, at the end. We'll use slido to facilitate that Q&A portion, too.

So it's really important that everyone's able to get into slido. I'll give you a couple moments here just to pull it up and make sure it works. I'm gonna do the same on my phone as we're talking. Here we go, and let's actually test it.

So why don't we go to the next slide and we're gonna do a brief poll to kick things off here. We're gonna ask folks where – that's perfect. Yeah, that's helpful – where you are joining from today. So in my case, I'm actually in my living room. Thanks to a Zoom background, hopefully you can't tell that, but let's go with city

name only, so Washington, DC is how I would answer this. And I'm just getting in now, and let's see where folks are from.

I love these word clouds, great. I'm gonna give this just a minute to populate. Strong presence from Boston, very good. One of the great things about Slido, too, is if you continue to enter, we'll be able to catalog these responses.

In the interest of time, I'm gonna suggest we go to the next poll so we can find out a bit more about who's in the room. So let's go to poll number two and we'd love to know what sector best matches the focus of your – hey, you're already on it. There you go, focus of your role. So do the same. This is about the breakdown I was expecting looking at the attendee list. And I think what we'll do, again, if you want to just enter and as we continue forward, that works on our side. We'll be able to catalog this.

So with that, let's go to the next slide. It's my pleasure to introduce Amy Royden-Bloom, who's the acting director of the Weatherization and Intergovernmental Programs Office at DOE. Many of you probably know Amy from her previous role, where she was running our state energy program. I'm really pleased she could make time to join today. She's got to leave not too long thereafter for an event with our secretary, but while we have her, Amy, can I pass to you?

A. Royden-Bloom: Yes. Thanks so much, Nate. Thank you for the introduction. It is my pleasure to welcome you all to the 2021 Better Buildings, Better Plants Summit and the Local Government Sector Meet-Up. I regret that we're not able to see each other in person this week, but as a silver lining, it's wonderful that so many of you are able to be here from all over the country right now. The virtual nature of this event is allowing us to stay connected while you're where you need to be doing the critical work that is enabling our nation's cities and local governments to continue operating. Thank you so much for joining us amid all of the priorities in front of you right now.

I want to provide an especially warm welcome to anyone here representing the more than 40 local governments nationwide that are partnering with us through the Better Buildings Challenge. We're grateful that all of you are taking the time to join this meet-up and hear directly from some of your peers.

Next slide. Oh, you got it up there already. Today, I'm going to broadly highlight why we do this work at the US Department of Energy and share some of the progress that we've been making

together. To put the situation in context the US spends \$600 billion each year to power our homes, plants, and buildings. On average, 20 to 30 percent of that energy is wasted. Local government buildings alone consume two quadrillion BTUs each year and have the potential to save \$3.7 billion annually through a 20 percent reduction in building energy use intensity.

This is why in 2011, DOE issued a challenge to states and local leaders, CEOs, university presidents, manufacturers, and building owners to commit the organization to achieve 20 percent energy savings or more in ten years, and to lead the market by sharing their solutions to overcome barriers towards energy efficiency goals. Since then, the Better Buildings Challenge has grown to more than 360 partners across most sectors of the US economy, including K through 12 schools, states and local governments, industrial plants, commercial real estate, hospitality, multifamily housing, and more.

The annual Better Buildings Progress Report that's being released today references some of the strategies that partners are using to reduce building energy use intensity and includes the latest energy saving statistics across sectors. These savings calculations are based on the data submitted annually by Better Buildings Challenge partners. Your results have been impressive. As of this year, Better Buildings Challenge partners across all sectors have collectively reported more than \$6 billion in cost savings through their work with DOE.

Moreover, the work you've implemented towards achieving your goals is well-aligned with priorities outlined by the Biden-Harris Administration. This includes your progress towards carbon reduction goals, workforce training in support of energy efficiency, launching building retrofit programs, and advancing environmental justice in your communities. During the course of this session today, you'll hear specifics from BBC partners about progress towards all these outcomes.

The Administration is also focused on advancing collaboration between federal agencies toward our shared priorities. My office works closely with our colleagues at the US Environmental Protection Agency, and I'm pleased that in a few minutes, you'll hear directly from a member of their ENERGY STAR team about their work and how we're all interested in supporting local energy programs towards net zero greenhouse gas emissions goals by 2050 or sooner.

Next slide, please. In the WIP office, we oversee engagement with public sector Challenge partners, including states, K through 12 school districts, and of course, local governments. At this moment, I'm proud to share with you that the 44 local government partners in the Challenge have cumulatively saved \$570 million on avoided energy costs since 2011. That's terrific.

In addition, it's my honor to congratulate and formally recognize the city of Orlando as a new 2021 goal achiever for surpassing their 20 percent reduction goal from baseline year of 2011 for the 4.5 million square feet in their portfolio. Orlando joins ten other local government goal achievers from previous years. You can see all their seals on this slide, and since this is such a big deal, I want to name each. Atlanta, Georgia; Beaverton, Oregon; Chattanooga, Tennessee ; Chicago, Illinois; Fort Lauderdale, Florida; Hillsboro, Oregon; Margate, Florida; Roanoke, Virginia; Rochester, New York; and West Palm Beach, Florida.

So at this point, I'm going to say farewell to all of you for now and wish you a productive week as I pass to Chris Castro, Orlando's director of sustainability and resilience, to share one or two high-level success strategies from pursuing their energy savings goal in the Better Buildings Challenge and highlight what's next for the city. Thank you all, again, for joining us today. Chris.

Chris Castro:

Hi. Good morning, everyone. Thank you, Amy, and Nate, and Adam, and the entire Better Buildings Challenge staff. I am grateful to join you all today to represent Orlando Mayor Buddy Dyer and the city of Orlando in this recognition of achieving actually 23.4 percent savings during our commitment term. And as I mentioned this morning on our low-carbon pilot workshop, I gotta give a shout out to my colleague and partner in change, Ian Lahiff, who's our city's energy manager, and really worked in tandem with me and the team to get us to this point.

I'll tell you that our excitement level about this milestone is at an unprecedented place here in Orlando. It's something that dozens of people across our city institution have been working hard to achieve, and this started back in 2016, when Ian and myself worked closely with Mayor Dyer and city leadership to make the bold commitment, and shortly after, started to look at different models and scenarios with the help of the Better Buildings Challenge staff in how we could go about achieving this. And one of the unique aspects is we decided to go down the path of self-performing municipal energy retrofits through a green bond mechanism, and I think it's been something pretty unique

compared to how other cities have achieved this goal.

But what we decided to do is target 55 of the most energy intensive buildings across our municipal portfolio. Those buildings were identified by actually benchmarking all of our buildings in the ENERGY STAR Portfolio Manager tool, helping us to look at the entire portfolio and where to target those investments. And shortly thereafter, we did a number of things that I think are important to share with you in looking at buildings, not just our traditional office buildings or city hall, but sports arenas, and wastewater treatment plants, and other neighborhood centers.

And so instead of going down the route of working with a private partner to do an energy savings performance contract, we decided to self-perform these energy retrofits, like I said, and the first thing we did was secured Ian's role as our full-time energy manager to be that ongoing manager for this effort. We then secured over \$17 million of green bond capital through the low-interest bond market, and from there, hired a third-party engineering firm to go into these 55 buildings, performing very in-depth investment-grade audits to identify these energy conservation measures and also tying the financial metrics to them.

That helped ensure from our CFO's perspective that these investments were sound financial investments that would have a return. From there, we decided to procure the equipment, things like LED lighting, and building automation and controls, and HVAC improvements. We procured that using the tax-exempt status of governments. So we were able to procure that tax-free. We then utilized our continuing contractors to install all of that equipment, and finally, we implemented an enterprise-wide platform, Lucid BuildingOS, which helped us with continuous improvement and working to measure and verify those savings.

And in short, since we started this journey, we're now saving over \$2.5 million per year, enough to not just pay the debt and the interest on that green bond every year, but also recapturing a lot of those savings in a revolving energy fund that is now going towards further energy efficiency and even rooftop solar and vehicle electrification efforts and more.

And so moving forward beyond this, not only are we excited to hit this goal, but we are not stopping here. We're excited to join the new low-carbon pilot of the Better Buildings Challenge and encourage our peer cities to also look at that challenge, as it's still open to join. And we want to work closely with DOE, the National

Labs, and other partners, to achieve our climate action goals, including powering all of our city municipal operations by 100 percent renewables by 2030 and transitioning the entire city to a zero carbon economy before mid-century, before 2050.

So thank you, again, for this recognition. We are so excited about it and the next round of partnerships with DOE, and with that, I'll turn it back to Nate and the team. Once again, much appreciated.

Nate Allen: Thanks, Chris. Outstanding and congratulations, again, for Orlando's achievement. And thank you very much, Amy. I'm glad you could join. Chris, I'm excited we can continue working together through the low-carbon pilot, and if you can consider this a warm call, I'm going to flip back to you in about 30 seconds for something brief.

Chris Castro: Yeah.

Nate Allen: Let's build on that when we get into some updates. Let's go into the next slide where we're going to look at what's happened over this past year. We're gonna highlight some new resources and let's jump right in.

So earlier this year, hopefully you all saw Better Buildings announced the launch of a new pilot for addressing operational carbon reduction goals and buildings. I'm really pleased that four local governments signed up to work with us through this. We have, I believe, by Friday's count, over 54, 55, it'll be announced in the opening plenary, overall partners, but four local governments, as well as two K-12 school districts, a strong public sector representation. And what we're doing is we're asking partners to commit to pursuing a carbon reduction plan for two buildings in their portfolio over the next two years, and we're working with our national laboratories to document their experiences and pathways.

Earlier this morning, we had a small meeting with our pilot participants and discussed individual action plan templates that we're developing together. And just so everyone knows, the approach that we're encouraging through this work is to maximize efficiency first, very much in line with how we've worked with partners through Better Buildings, then explore grid interactivity, onsite renewable energy generation, and then other carbon pollution-free generation strategies.

You'll hear more about this work in the opening plenary right after this session, and then obviously, it also aligns nicely with the

White House Roundtable on Decarbonization later this afternoon. The link at the bottom of the screen has more information about the pilot, but Chris, since you're on, I'm wondering if you could just tell us briefly, in 30 seconds, a bit about the two buildings in Orlando and any takeaways you had from talking with other public sector partners this morning.

Chris Castro:

Yeah, this morning we had a great workshop, to Nate's point, and really trying to think through this, but as alluded, we are choosing two of our facilities across our portfolios. These two buildings are actually neighborhood centers that often become houses of refuge after a big extreme weather event like a hurricane. And so we wanted to look at resilience and figure out ways that if the grid goes down, we could sustain those critical operations, and at the same time, achieve that zero carbon goal that we have here in the city of Orlando.

So we thought it was a great natural fit. We're going to be looking at everything from enhancing deep retrofits at those two neighborhood centers, improving the ventilation and air cleaning of those centers, as well, but then looking at onsite renewables for both of them, partnering with our utility to land some storage, incorporating the equipment to disconnect from the grid, right, the automatic transfer switches and other components that we'll need to roll up chillers as needed. And for the most part, we're excited to work very closely with this team because there are some natural complexities in thinking through getting to zero carbon.

Some of those are faced from a regulatory perspective, looking at new utility partner models with our municipal electric utility OUC and working through some of the regulatory framework challenges that we have here in the state of Florida not allowing things like third-party PPAs and other important mechanisms that other communities have the ability of leaning on.

So we're excited to roll up the sleeves and go deeper, not just on the energy saving side, but now how do we actually get down to a zero carbon building and do so that complements people, planet, and prosperity.

Nate Allen:

That's awesome, Chris. Thank you so much. And we're excited that Ian is able to join for the rest of the session and maybe contribute to the Q&A. I see in the chat window we've got some questions coming in for Orlando.

Let's keep moving, because we have a lot more we want to cover,

and I'm excited to highlight this next point here around virtual building assessments using free DOE tools. So this work I think is highly replicable. Those of you in the Better Buildings Challenge will recall about six months ago, we invited local governments to join us for a training to use data tools from our Building Technologies Office in the ERE to conduct assessments to understand cost-effective upgrade opportunities.

What we're about to hear more about is free. It can be completed on a tablet while walking around a building. It is designed to be very user-friendly. I am thrilled that Fernando Berjano, who's a sustainability coordinator in El Paso, raised his hand to participate earlier this year. We've really enjoyed working with Fernando and his team this spring, and Fernando, I'd like to invite you to share a little bit about your experiences.

Fernando Berjano: Thank you, Nate. Yeah, it's been a pleasure working with the Better Buildings team in this pilot project. We were excited when we were invited. We are not at the state that Orlando is at, and it's amazing where they got, and we're trying to build our program to get there. And as many of you, Portfolio Manager was the first step for us in terms of energy benchmarking and building our energy plan. We see assets for an audit template as the next step.

As Nate was saying, these are very easy to use tools that give you audit template, gives you the opportunity to get all your systems information in one place very easily, and asset score, as you can see on the screen now, provides a report on where your building design is. In our case, for this example, we got a very efficient-designed building with a nine out of ten score, but again, the tool identified the options to get to ten and save 29 percent of the energy for this building.

So this is a very easy way to improve your energy management and that's how we see it, and we are planning to keep working with it and keep piloting it within eight to ten facilities this year. So from there, we'll see where we go. Thank you, Nate.

Nate Allen: Thanks, Fernando. I'm glad you could highlight that work. We're really impressed by everything you're doing, and for anyone who wants to look back at this presentation later or visit the link that you see at the bottom of this slide, when one clicks through the tool, it identifies actionable steps for improvements and provides information for where to turn for next steps and resources. So click through it. If that's of relevance for you, I think planning for facility improvements is always a good task and there are other

tools that we can help connect folks with, as well, if you'd like to go deeper on this topic.

I am going to suggest we continue on here. We are right on time. This is perfect. I'd now like to introduce my colleague, Adam Guzzo, who used to run our local government engagement in Better Buildings. Many of you know him, I'm sure. He's gonna highlight a few additional program updates and resources relating to his work from this past year and right now.

So, Adam, the floor is yours.

Adam Guzzo:

Thank you, Nate. It's a pleasure to be here with you today and virtually see so many faces and names that I recognize. First, I want to echo my appreciation for the leadership of our Challenge partners with a special congratulations to Chris Castro and the rest of the fantastic team in Orlando for achieving their savings goal this year. It's really amazing. Well done.

Next slide, please. So the first resource I want to tell you about today is the Energy Data Management Guide, and this really builds nicely on what Fernando was just talking about. It's a new seven step how-to guide for implementing an energy data management program in the public sector. So as you know, local governments are large energy users that own and operate a significant number of facilities and other energy-using assets. So taking a data-driven approach to managing those assets can help your jurisdiction identify opportunities for energy and cost savings, make informed decisions about which facilities to prioritize for improvements, and enhance control of your energy budgets.

The proven practices outlined in the Energy Data Management Guide, along with 20 local government case studies, the majority of which feature our Better Buildings Challenge partners, plus resources and tools highlighted in each of the seven steps, are designed to help your jurisdiction utilize utility and asset data to more effectively manage the buildings and facilities it owns and operates.

The guide step-by-step framework is designed to walk you through the process of establishing an energy data management program. And as you can see here on the right side of the slide, the first two steps are really about generating buy-in for the program by defining the value proposition for energy data management and then aligning that value proposition with your jurisdiction's goals. Steps three through five are designed to help your organization

build a solid foundation for its energy data management program.

So that means creating a central energy database, streamlining access to utility data, and leveraging data management tools such as DOE's asset score and audit template that Fernando mentioned just a minute ago, and those are actually linked in the context and where they can be utilized within this process within this guide. And then the final two steps outline how to hardwire energy management into the culture of your organization. So the guide is entirely web-based, so you can easily jump between steps based on your area of interest.

Next slide. The next resource I want to highlight today is the State and Local Planning for Energy Platform or SLOPE. For those that are not familiar with SLOPE, SLOPE integrates and delivers data on energy efficiency, renewable energy, and sustainable transportation into an easy to access online platform to enable data-driven state and local energy planning. SLOPE includes compelling data visualizations for users to explore and better understand the impacts of energy actions to assist decision makers in understanding the various cost-effective options to meet their clean energy and climate goals.

One of those data visualizations is the map presented here on this slide. It showcases one of the new transportation data sets that we actually just added to SLOPE last week. What you see is the light-duty personal vehicle stock projected by county across the United States for 2020 under a high-electrification scenario, and we have this data projected out by state and county through 2050 on SLOPE.

Next slide, please. So as we think about what are the types of questions that slope can help address, here's just a representative sample of questions. So let's just take a couple of examples. If you want to know which sectors to target that will have the biggest impact on reducing energy consumption to support your city's climate goals, SLOPE provides the projected electricity consumption and expenditures for the residential commercial and industrial sectors under a business as usual case out to 2050, and that's modeled at the state, county, and city levels, or let's say perhaps you're interested in encouraging greater investment and development of solar in your jurisdiction to help meet your county's renewable energy goal.

SLOPE provides the technical generation potential of residential and commercial rooftop PV by county and you can see how your

county's PV potential compared to surrounding counties, or let's say you're considering programs or policies to targeting commercial buildings and want to understand the potential scope and impact of those programs or policies. SLOPE can help answer questions like how many commercial buildings over 20,000 square feet are in my city and what's the total square footage broken down by property type.

So those are just a few of the questions that SLOPE can help address. Local governments are already using SLOPE to support their energy planning efforts. For instance, Miami, Florida is using SLOPE to inform building efficiency ordinances, renewable energy pilot programs, and its community outreach and education efforts.

Next slide. So this slide outlines all the data currently available on SLOPE. For the sake of time, I'm not gonna go through all of this. I'll just highlight two data sets. So first, I mentioned that we just added transportation data to SLOPE. Now you can see that right at the big star there, which includes current and projected vehicle registration by fuel type, vehicle fuel and electricity consumption, and vehicle miles traveled for personal vehicles projected through 2050.

And again, that data is available at the state and county levels. We're really excited about that, and I think many of our users are, as well. In addition to data on energy generation potential for 16 types of renewable technologies, SLOPE also has projected electricity costs for 16 generation technologies plus battery storage through 2050 available at the state and county levels.

Beyond what's currently available on SLOPE, we're also considering adding some additional functionality and new data this year. So, for example, we're planning to add scenario planning capabilities that can model and visualize the energy and emission scenarios from various supply and demand-side scenarios based on user-selected inputs. We're also exploring opportunities to integrate data that supports energy and environmental justice considerations to help users target programs and policies to disadvantaged communities.

Next slide. Okay, so that was a pretty quick and high-level overview of SLOPE. So where can you go to learn more? So we have a bunch of resources available on our website, including a brief tutorial video, fact sheet, and list of FAQs. You can also watch a recorded webinar we held in march that included a

detailed demonstration of SLOPE's data and functionality or you can join us for a similar webinar on August 10th, which is part of the Better Buildings Summer Webinar Series, or I'll put a plug in for Thursday's Pathways to Zero session, where Matt Donath, from Milwaukee, Wisconsin will talk about how the city is utilizing SLOPE to inform its efforts to achieve net zero emissions by 2050.

If you have questions today about either the Energy Data Management Guide or SLOPE, please just drop those in the slide. I'll stick around and address as many of those as I can, and I'll drop links to these resources into the chat so you can take a look at those right now.

Thanks for your attention. Thank you, and I really appreciate the opportunity to be with you. I hope these resources prove useful to you in your daily work. It's back to you, Nate.

Nate Allen:

Thank you, Adam, and I love seeing these messages in the chat, people wishing Adam well. We have a great team. I love getting to work in the WIP office with the folks that I do. We have awesome colleagues and I'm thrilled that we can highlight some work across, well, what we do beyond Better Buildings exclusively. So that actually ties in well with the next couple slides that I want to highlight, and Gerald, I'll get back to your question later when I'm done talking.

So there are a couple more items, yeah, that I want to talk through just before we get to our panel. These resources actually went live just last week and you'll note are targeted for opportunities in small and medium-sized facilities. Over 80 percent of all state and local government buildings are fewer than 50,000 square feet and about the same number are 20 years old. So I encourage you to check out the Energy Savings Performance Contracting for Small Projects Primer and our other new resources to help strategically prioritize finance and energy efficiency in these facilities.

And let's go to the next slide, because speaking of ESPC, I want to specifically draw your attention to an upcoming webinar in the Better Buildings Summer Series. You'll hear more about the Summer Series. We have a slide on this at the end and you'll hear more in the opening plenary, but this one's coming up pretty soon, just under a month. This takes place on June 15th, and let's, yeah. Thanks, Nina. Let's put the registration link in the Zoom chat there. Please share this with your colleagues.

I've been through the Foundations of the ESPC training. It is

excellent. I want to make sure this opportunity is not lost, as it's coming up pretty quickly. I think it's highly relevant for all of you and a great way for your peers to help get up to speed quickly. ESC and NASEO, they do a great job executing on this training. Some of you I know have been through it and the feedback that we get is tremendous, so I wanted to draw your attention to that.

Let us keep moving because there's one more thing I want to do before we get to our panel, and this is one more slide, Opal. Yeah, your answers here are especially useful to us. Normally, we would have this meeting as a roundtable discussion and we'd hear themes that would help us plan our work together over the coming year. In this case, I'm directly asking you for your input on the topics for technical assistance that would be most helpful to you meeting your energy savings goals this coming year. I want to launch this poll and I'm going to stay quiet for a minute here because this is very helpful for us to just deliberately target the ways that we work together and the resources that we work on from our side.

So let's go to slido. I'm gonna go in the poll, too. We'll leave this one open for a minute, too. I see, we're gonna stay on the PowerPoint slide here, which is just fine.

Okay, great. So we'll keep this poll open in the background. Please continue to share your insights with us here, but I'm gonna keep us moving along. We're right on time. And if you have questions about the slido poll, please use the Zoom chat function there, too.

I'm going to introduce our panelists, because we have a great lineup of speakers today who are going to cover content that, as Amy indicated earlier, is well-aligned with Administration goals. Our speakers are going to highlight a range of topics in energy efficiency and related goals, how they're working towards them in their jurisdictions.

First up, we have – let's go to the next slide – Brendan Hall, who is a public sector program manager at the US Environmental Protection Agency, and has been very helpful to some of our Better Buildings Challenge partners. I think I've presented alongside Brendan with three of the last four Better Buildings summits, maybe for the last four. He's great to work with and he's gonna highlight their new benchmarking and building performance standards policy toolkit that was released this spring and covers the gamut from foundational to aspirational.

Next, we have, well, one of my old colleagues, Katie Bergfeld,

someone I used to work with, who's now the branch chief for the Building Performance and Enforcement Division at the District of Columbia Department of Energy and Environment. Katie oversees the team that administers all facets of the district's benchmarking program, as well as the development and implementation of the District's new building energy performance standards policy.

Then we'll hear from Dom McGraw, who's the city energy manager for the city of Philadelphia in their Sustainability Office. Dom manages a team that focuses on energy management for their over 800 municipal buildings across the city and he's going to review their new climate action playbook and some of their strategies towards carbon neutrality by 2050, including how they're addressing workforce development priorities and an environmental justice commission that they're establishing.

Lastly, we may be joined in Q&A by Lara Cottingham, but as Murphy's Law always takes effect in some way when something happens here, so Lara was called into a meeting with the mayor just before this started, and I've been keeping an eye on my phone. She's going to text me when she comes out. But we have a plan for how we're going to shift this around and I think what we're gonna do, Lara's got some anecdotes from their climate action plan and their work towards carbon neutrality by 2050, which if we can incorporate into our ending discussion, will be great, but otherwise, we'll hopefully find another opportunity to present with Houston and share some of their great work there.

So I want to thank our panelists for all being here with us today. I think that's enough talking from me. Let's go to the next slide and I'm going to pass it to Brendan at EPA. Take it away, Brendan.

Brendan Hall:

All right. Thanks, Nate for the introduction and hello, everyone. So I'm Brendan Hall. I'm the co-lead for state and local support at the ENERGY STAR program, and as Nate alluded to, my primary purpose here today is to talk through a toolkit that we developed. It was developed between two sister programs at EPA, the ENERGY STAR Commercial and Industrial branch and the State and Local Climate and Energy. Quick shout out to my two colleagues, Katy Hatcher and Cassandra Kubes, who along with me, were the main [inaudible] toolkit. It was something that was developed through EPA's years of experience supporting state and local governments' benchmarking laws and building performance standards more recently, as well as through more than 15 direct conversations with state and local governments grappling with benchmarking and [inaudible].

Next slide, please. And actually, we can go one more. So really quickly, I want to give a agenda for my time, so I'll give a little context to the toolkit, sort of why we put it together. Then I'll walk through each of the sections and wrap up with how local governments can use the toolkit and EPA support.

Next slide, please. Yeah, and then we can go one more. So I'm gonna bounce around a little bit here, but wanted to start with a map that shows the requirements across the country commonly referred to as benchmarking and beyond benchmarking laws. So the latter category includes things like required audits, retro commissioning, equipment upgrades, and building performance standards.

I would think that this audience is a pretty elevated one, so you're aware of all of those, but just to double down, on the benchmarking side, there are over 40 requirements nationwide and these laws basically require commercial and multifamily buildings to track and report their energy use [inaudible] use to state and local government on an annual basis. And then typically have the resulting metrics or performance information disclosed publicly in one or more ways.

So some of the driving ideas behind those laws are sort of like the value of benchmarking, that paying attention to and tracking usage that will help the building owner make savings, achieve savings and make reductions. And then the value of disclosure is the complementary part of it, that the market will start to factor in performance information into business decisions, a sort of invisible thing that isn't really captured, and decisions will start to be [inaudible].

Go to the next slide, please. So building performance standards, meanwhile, are a newer approach. The benchmarking laws have been around for going on a decade now. Building performance standards started passing the last couple years, and at its core, this approach requires building owners to meet energy, or GHG, or other performance targets, and typically will have a deeper time horizon, say 2050, with interim targets along the way.

So there's a lot of variations out there, but I think also worth mentioning, BPS is one of the key drivers for us in developing this toolkit, and some reasons behind that, so there's a lot of variation in the places that have passed BPS to date, like Washington State, District of Columbia, New York City, and St. Louis. There's also a

lot of interest out there among state and local governments and a lot of sort of critical decisions to how the policies are designed and implemented that will affect things. And the last part, sort of these laws are pretty ambitious, or depending on your perspective, aggressive, in meeting goals. They're sort of designed that way. So those are a lot of the reasons there. And it's not the only policy option I thought I should mention to [inaudible] decarbonization, but it's sort of a growing mass market.

Okay, if we go to the next slide, please. So quick aside here, I just wanted to mention a key driver behind building performance standards energy reduction goals, which is not surprising.

Go to the next slide, please. So the goal of the toolkit really is to provide considerations for policymakers [inaudible] targeted at that audience around effective design and [inaudible], and by effective, I mean something that can be complied with and something that drives improvement towards goals. There's a lot of other things to do [inaudible] effective in a policy design, but those are [inaudible].

Next slide, please.

- Nate Allen:* Hey, Brendan, I'm going to interrupt just briefly. Can you try turning your video off? The audio's fading in and out. It wasn't doing this earlier and I'm wondering if it could be a bandwidth thing.
- Brendan Hall:* Sure thing.
- Nate Allen:* And if you maybe get closer to your computer. I apologize for interrupting you.
- Brendan Hall:* Oh, no problem.
- Nate Allen:* Let's try it now.
- Brendan Hall:* Is that better?
- Nate Allen:* Let's try it, and if we need you to dial in, we will, but let's just get going. Thank you.
- Brendan Hall:* Sure thing. All right, so what's the ENERGY STAR program connection to all of this? At its most basic, ENERGY STAR Portfolio Manager, the tool that's been referenced frequently by other speakers here, is the reporting backbone for these laws, and it

also spits out metrics like 1 to 100 ENERGY STAR scores where the normalized source of EUI and energy emissions that are sort of central to [inaudible] policies.

And we go next slide, please. And the last thing before we get into the individual sections of the toolkit that I'll walk through quickly, I wanted to underscore that throughout the COVID [inaudible], to emphasize the importance of stakeholder engagement as being here to ensure that policies are designed well, and done well, and equitably, so a key sort of EJ or climate [inaudible].

Okay, so I think now we can launch into the next section, and Nate, is this still sounding okayish? Better now or?

Nate Allen:

I can follow you, and interestingly, I'm getting texts that it might be a Zoom thing. Let's just charge ahead and do the best we can. Thank you.

Brendan Hall:

Sounds good. Okay, so the toolkit has four sections. Go to the next slide. Benchmarking, building performance standards, intergovernmental coordination, and utility data access. And the latter, utility data access, has two companion fact sheets on model policy language and one that walks through the technical side of implementation for [inaudible].

I only have time to give an example or two for each section here, but if you go to the next slide on benchmarking, to start with, there are a lot of key considerations in the toolkit to think through in the policies, including ways to improve data quality over time and the many possible formats for disclosure, and which sort of align with the policies. So there's a lot there and I'm just [inaudible].

If we could go to the next slide, please. So building performance standards. This is a big section of the toolkit, as I mentioned before. So we, again, list out a lot of considerations. This one's sort of a novel area. None of these laws have been fully implemented yet, but we highlight a lot of things, key elements that policy makers have to work through like the type of metric or metrics that the policy will center around, along with the stringency, the property types that will be covered, as well as groupings of them that will be held to the same standards, and any exemptions or accommodations for property types that might need them [inaudible] equity area.

Another thing is the types of pathways that will be available for compliance, whether they're prescriptive or performance-based.

[inaudible] a lot of wrinkles there. The enforcement and fines component is another one. So these are pretty aggressive or ambitious policies. There still needs to be a corresponding [inaudible] there.

Next slide. Another key part is the technical and financial support, so what all of the building owners need in order to reach the goals. And then the last thing is sort of the mechanics or logistics of how these policies work including as related to [inaudible]. And as mentioned, building performance standards are a key driver for us in developing the toolkit.

There's a lot of big decisions that I just listed off. These will be determinative of whether it's an effective policy and I think from the EPA sort of national programs perspective, we think that while there's some experimentation out there and that's a good thing, we're also cognizant of the [inaudible] avoid tons or dozens of incompatible models starting to crop up across the country, especially when building owners operate in multiple markets and there's sort of a shared or overarching common goal policy. So that was one of the [inaudible].

All right, and then this third section is intergovernmental coordination. This is especially important when we're talking about states working with its local governments, as well as local governments that are located in a state or region working together. One example of this that's relevant to a local government audience, besides municipal utilities, states generally have oversight over utilities and utility data access, which I'll talk about in the last section in just a second, is key to compliance for these laws for tenanted buildings like multi-family housing and real estate. They'll make up, in most cities and municipalities, a major percentage of floor area. So coordination is needed at a higher level to work through that area.

The last section of the toolkit is utility data access, and so if it wasn't clear, this is sort of utilities rolling up and providing aggregated usage information to a building owner or buildings that are tenanted that otherwise wouldn't have access to that. So this is often overlooked as a key thing that needs to happen, upstream thing that needs to happen to make these policies work, and we walk through for policymakers some key considerations, including data access threshold or customer data privacy threshold that's there. That's the number of tenants at which aggregated data is included as compromising privacy [inaudible].

We also walk through cost recovery for utilities, which is key for them sort of making sure when they're developing solutions and delivering data [inaudible]. And the last thing is sort of the mechanism for delivering data, whether that's Portfolio Manager Web Services. Sort of a direct connection between utility system and Portfolio Manager or a spreadsheet.

All right, and the last section of the toolkit, if go to the next slide and even one more, I just wanted to briefly touch on some things [inaudible] and support you with and [inaudible]. So, we have a lot of things that you can do with the toolkit. One of the key things is exploring building performance standards, if you're new to them, and we also encourage everyone to connect with us after you've done a little poking around, chat with us, and we'd love to hear more about your interests and what you're thinking about.

Go to the next slide, please. In terms of our overall support, so we have the tool Portfolio Manager, as mentioned. We can familiarize you with that, walk you through and get you set up in the tool. We also have a big partnership program, of course, at ENERGY STAR, so we're sort of used to wearing our building-owner hat so we can provide some sort of strategic recommendations and guidance on how you're thinking about your initiatives.

We also love to review drafts, especially draft policies, especially as they relate to Portfolio Manager and sort of ensuring that everything is [inaudible] as written. We don't want you to get too far down a path and then learn that this isn't really workable. And we can also make introductions to other local governments, sort of matchmaking [inaudible] shared interest or what not.

And I'll mention that we're working to develop additional guidance that's here on metrics in the context of building performance standards. So if you're thinking about a policy, you have certain goals and you're working in a [inaudible] context, hopefully, this will help guide your thinking.

Last slide is we have links, tons of links, so many links to the toolkit sections. Please check them out. These are shorter documents, pretty heavily formatted, and hopefully of interest to you.

And I think I'm in charge of polling questions.

Nate Allen:

Hey, Brendan. I'm gonna take over for you, actually.

Brendan Hall: Okay. That sounds good.

Nate Allen: Thanks. Thank you.

Brendan Hall: Sorry.

Nate Allen: Thank you for charging through this. I'm sorry for you. It wasn't doing this earlier, but you did a great job pushing ahead, and again we will be making these slides available and these are live links.

Just in the interest of audio clarity, I hope I'm coming through clearly. There are some presenter polling questions – yeah, thank you for bringing that up – that we want to conduct via slido quickly, just to build on this and to help as an entree into the next presentation from DC. So if you can revisit slido, perfect. Okay, so there are two of these, but let's give this a sec just to see the responses that come through. I see I'm coming through clearly. Thank you for sharing that.

And I would say let's go to the next slido poll, because that one will stay open. So I'm curious to unpack more about the specific – let's go to the next poll – the specifics of a BPS policy, if you are pursuing one. So we wanted to know what primarily it will drive buildings to improve.

There we go, thanks. I'll log in to slido, too.

And Brendan, I see your note in the chat. Sometimes things happen. Don't worry about it. I caught most of what you were saying, and luckily, our next presenter is going to build on these themes with an overview of work in DC and implementation. So while this poll is still going in the background, Katie, I'm gonna flip to you to take it from here.

Katie Bergfeld: Thanks, Nate.

Nate Allen: Loud and clear, Katie. That's great. Good. I was wondering if it was gonna affect more people.

Katie Bergfeld: Did you hear me?

Nate Allen: Yeah.

Katie Bergfeld: Good. Hi, everybody. My name is Katie Bergfeld. I am the branch chief for building performance and enforcement at the Department of Energy and Environment, so I work for the local government

here in the District of Columbia.

You can go to the next slide. And so today, I'm just essentially gonna give you a quick overview of DC's we call it BEPS. Everybody else is calling it BPS, so excuse me for the crossover in language here, but I will be saying BEPS a lot. So I'll give you an overview of the District's Building Energy Performance Standards program and sort of just a basic overview of the policy and then where we are. And I'm gonna to talk a little bit about the outreach and engagement that we've done, and particularly with lower-resource buildings.

So you can go to the next slide. So here, again, in DC, we call them BEPS, Building Energy Performance Standards, and essentially what the policy stated, so it was a legislation introduced by DC Council in 2018, and essentially it said that by January 1st, DOE was to establish a minimum threshold of energy performance that shall be no lower than the local median ENERGY STAR score, or source UI for buildings that can't get a score, by property type. So our standards themselves, the BEPS, are based on the ENERGY STAR score. We were required to set the first one by January 1, 2021, and then we're required to set a new BEPS every six years.

Next slide. And the way that's going to apply to buildings in terms of size requirements, so right now, our benchmarking requirements apply to privately-owned buildings over 50,000 square feet and DC-owned buildings over 10,000 square feet. For the first BEPS period, that first 6-year period, it's going to apply similarly on the BEPS side of things, and then coming into BEPS Cycle 2, or BEPS Period 2, as we're calling it, which will start 6 years from now, the BEPS requirements will drop down to privately-owned buildings over 25,000 square feet, and then by the time we get to the third BEPS period 6 years after that, so 12 years from now, it will drop down to 10,000 square feet on the private side.

So we will be all buildings in the district over 10,000 square feet will have to meet these energy performance standards about 12 years from now. So what's it now, 2021? So in 2033, all buildings over 10,000 square feet will have to meet these standards.

Next slide. And what happens to buildings that don't meet those standards? So that's the question, right? So DOE sets these standards and then essentially buildings that do not meet that standard, so all the standard does is sort of bifurcate our building stock into buildings that meet the standards and buildings that don't

meet the standards. And any buildings that do not meet those standards will be placed on what we're calling a compliance cycle. Right now in the legislation, it's spelled out as a five-year compliance cycle, and then the building owner has the end until that five-year compliance cycle to meet what we're calling energy efficiency requirements. And I'll talk in a minute how buildings can comply based on sort of the compliance pathways that we've built out.

I want to point out, because everyone asks this question. That's the question of the year, I guess. "What have you all done to adjust for COVID?" And so typically, as I said, most buildings will have five years to meet these energy efficiency requirements, but due to COVID, we essentially extended that out by a year, so every building will essentially get a one-year what we're calling a delay of compliance to meet their energy efficiency requirements. So we "started" the program on time by setting the standards on January 1, 2021. The building owners will just have an extra year to actually come into compliance with these energy efficiency requirements.

If you can go to the next slide. So, as I mentioned before, most of the standards are essentially based on the ENERGY STAR score. As you know, I think 80 percent of the buildings in the District can get an ENERGY STAR score, and then other buildings will be sort of measured on their source EUI. So that's just setting the standard. Once a building is put on a compliance cycle, they are required to meet these energy efficiency requirements. There's two main pathways spelled out in the legislation and there's another pathway that DOE has proposed within our regulations.

The two main pathways spelled out in the legislation are on the left side of the screen and on the right side of the screen. One is a performance pathway. All building types are eligible for this. It's a performance-based pathway, as per its name, and essentially what it states is that buildings have to reduce their site energy use intensity by 20 percent over that five-year period. Again, this only applies to buildings that are not meeting the standards. So any building that does not meet a standard can choose this pathway and reduce their site energy's intensity by 20 percent over that five or six-year period, if you're getting the COVID delay.

On the right-hand side of the screen, you'll see another pathway that's spelled out in the legislation, which is a prescriptive pathway. All building types are eligible to take this pathway, and what essentially it is is more of an action-based pathway, and it

requires building owners to complete sort of either a list or a group of energy-efficiency measures and reporting requirements to the District.

And also what the legislation states is that those energy-efficiency measures, the savings from those measures must be comparable to the performance pathway, so there must be a comparable savings. And DOE is working to sort of finalize that prescriptive pathway now. We have it within a compliance guidebook that will be coming out soon. I'll talk about that in a minute.

And then the third pathway, which we've spelled out in legislation, is what we're calling a standard target pathway, and what this pathway says is that not everybody just has to do a 20 percent reduction. Some buildings are able to just reach the BEPS. So let's say the BEPS was set at a 70 for office buildings and you're an office building, or you own an office building. You all won't be buildings, but you own an office building that's at a 67. So instead of doing a full 20 percent reduction, you can actually take the standard target pathway and just get your building to a 70 ENERGY STAR score.

However, we are limiting this pathway only to, as we're calling them, high-performing property types. We're only allowing property types in the District for which they are performing better than the national median. So, for example, any property type where the median ENERGY STAR score is above a 50 can take this pathway. So here in the District, that would be office building, multifamily buildings, and hotels, which are actually a majority of our covered building list. So a majority of buildings can actually take this pathway if they wish to. Again, it's performance based because you're going to have to either raise your energy to our score or you're going to have to reduce your source EUI to get to your performance target.

There's also some alternative compliance pathways and there's gonna be a process for applying for a custom alternative compliance pathway. None of that is prescribed in the regulations, but will be provided in DOE guidance, and I'm not gonna go into detail on that right now.

Next slide. So that's a broad overview of how our BEPS policy works here in the district. To give you a sense of where we are right now in the implementation, so our BEPS, those are the actual standards. They have been established. We issued an emergency rulemaking in January to establish the first BEPS and then those

were finalized on April 30th, so a couple of weeks ago. That rulemaking is available to the public, so any of you could go and look it up and see what the standards are for this first cycle.

We then have another set of regulations. We call them rules here in the District, but I'll call them regulations because that's more understandable for most people. So we have another set of regulations that we're calling sort of the application of BEPS or the compliance regulations that will spell out how buildings can comply and how the program will be enforced.

That public comment period just closed on March 4th, and so DOE is reviewing all those public comments and then making updates to those proposed rules. Either those will go out for another second round of public comment or they'll be published as final in the coming months. We will see.

We're also developing a compliance guidebook and the guidebook will be more of a sort of plain speak explanation of what's in the regulations and go into a little bit more detail of how DOE will be applying all of these requirements and restrictions, and so that should be published soon. It's moving through sort of final legal approval right now. We also have a cost-benefit analysis that we were required to produce as per the Clean Energy DC Omnibus Act, and essentially, we were supposed to go in to figure out what are the costs and benefits to building owners and district residents of the BEPS policy.

We're wrapping up sort of the first part of that analysis, and hopefully, we'll be publishing some of that soon. It was a grant that we issued last year to Steven Winter Associates. Many of you knew and probably know Steven Winter or have worked with them, and so they wrapped up sort of the first part of that. There will most likely be a second part of that coming out later in the summer. So I'll have more details on that in a couple months.

And then we have our BEPS task force. So within the legislation, we were required to sort of form this 17-member task force that advises DOE on the implementation of the program. We've been meeting regularly with them. For a while, we were meeting biweekly for an entire year with these folks. They've dedicated a lot of time to this program. Now we're meeting somewhat mostly monthly with them, but we're continuing to meet with them and discuss some of these issues with them as we roll out the program.

Next slide. And so all of this that the sort of the point that we've

come to it now is two-plus years of pretty intense public engagement on this topic, and you can see here, we were starting to talk about these things all the way back at the end of 2018. Beginning in 2019, we formulated a branch that I now oversee. We issued scorecards to our building owners to start communicating to them about how they were performing, 'cause we found that people submit their benchmarking report and then they don't really get much feedback after that, so we issued scorecards to them.

We had working group sessions in the summer of 2019 to gather a bunch of information about what were people most concerned about when it came to BEPS. Coming out of that, we also had sort of separate conversations with our affordable housing advocates here in the District, and out of that came a whole recommendations report to DOE about how we should be handling affordable housing and their compliance with BEPS. And we've really built off of those recommendations and really used them. Our affordable housing advocates have been great partners with us on this, which has been really great, and we worked a lot with our university partners, our hospital partners.

We've been hosting BEPS monthly update webinars for a year-plus now, I think. No, almost a year. About a year, we've been hosting monthly update webinars. We've had two public comment periods, essentially, and we've had our task force meeting biweekly, and we also have stood up a building innovation hub that has been doing a lot of engagement and outreach, as well. So we've been doing a lot of work over the last two years to kind of get to the point where we are now.

And if you go to the next slide. A lot of this has sort of informed how we build out our support program. So we have a couple different main support programs that I'll highlight today. First of all, we have our DC Sustainable Energy Utility here in the District. I think many of you probably have heard of them, but if you haven't, they're essentially a third party demand-side contract administrator. So here in the District, up until the Cleaner DC Act was passed, our utility providers did not provide efficiency programs in the District.

All of our efficiency programs were run through the DC Sustainable Energy Utility, which works under contract to DOE. And so we have a fund here in the District that is funded through a ratepayer surcharge on everybody's utility bill, and that money goes to fund the DCSEU to fund these efficiency programs. So we've been working a lot with DCSEU, as you can imagine.

They're a contractor us to align their programs with what people are going to have to do to comply with BEPS.

The Clean Energy DC Omnibus Act set aside dedicated funding to the DC Green Bank, so our green bank has already come out with two offerings that will help people comply with BEPS and provide them some creative financing options. We're continuing to work with Green Bank to provide even more flexibility on some of their financing options to especially help building owners that are owners of affordable housing or other as we're calling lower-resource building owners. They've been a great partner, as well.

And then through, again, a grant, we set up a building innovation hub, which it's eventually going to be sort of the central location where building owners in the District can come to get advice on not just BEPS, but more than that. "I want to do this really innovative thing in my building and I want to get case studies," or, "I want to get connected to contractors," things like that.

So it's going to be sort of this neutral location for building owners to come, and to really innovate in their buildings, and get thinking past just BEPS, and to provide them the technical assistance they need and other resources. So they've obviously been a great partner, as well. And so we've been working to just align all of these partners together and make sure that they're working in conjunction to move us towards our goals.

If you go to the next slide. And so lately, and we've always sort of had this focus, but lately we've really been nailing down sort of more concrete details of how we're going to really focus on what we're calling lower-resource building owners. A lot of our focus has been on affordable housing rent-controlled properties here in the District, but we've started to think a little bit past that and trying to think of buildings that are typically owned by nonprofits such as senior care communities, houses of worship, building owners that typically don't have the technical or financial resources to really undertake a whole building retrofit. And when you're talking about houses of worship, sometimes it's a whole campus, and it gets really complicated.

And so what we've really tried to do, you can see at the bottom right, we have those three main resources I talked about and they all do different things. And then you kind of start to put together the puzzle a little bit of this is what they do, and this is what they do, and here's what they do, but what we're really trying to do is put that puzzle together in a way that makes sense for a building

owner or makes sense for anybody who is trying to understand our BEPS policy.

And the way that we've done that is really engaging with our stakeholders a lot, and listening, and then going back to the drawing board and saying, "Okay, this is what they want. How can we make it happen," or, "This is what they want. How can we adjust our program design to better fit the stakeholders' needs and to really meet people where they are but still push them along to sort of help us meet the District's ambitious goals?"

And so we kind of built the framework of this program design and then we have all the puzzle pieces within that framework. And what we need to do is take those puzzle pieces and put them together in an organized way to make the full picture of how this is going to work. And so we go, and we talk to our stakeholders, we listen to them, and we're talking about the overall program design. And then coming out of that, we get very discreet pieces of BEPS compliance.

So how are we going to do this? How are people going to pay for an energy audit, right, if they don't have any money? If you're going to require an ASHRAE Level 2 energy audit, how is that going to be funded? Where are they going to find the contractors? How is all that going to work, right?

And so we come out of that with those discrete pieces. We go back and say, "Okay, we think we figured this out," and then we go back and we revise, and it's just this constant cycle that we are trying to engage with our stakeholders and make sure that we're building our program in the most effective way possible. And then coming out of that, we've taken those discrete pieces and we've built out what we're calling glide paths.

So we're building out these glide paths of compliance to lower-resource building owners, and eventually, we'd love for someone to just be able to pick something up like a manual or a guide and just say, "Okay, this is exactly what I need to do. This is the partner I need to talk to. They're going to connect me here. They're going to help me go here. "

And that's our eventual goal is to really build this out for folks and make it so that our stance, especially with affordable housing, has always been that residents who live in affordable housing properties can stand to benefit the most from lower energy usage. They're going to be the ones most affected by climate change. So

they stand to benefit the most from this type of policy and so we have to help them get there.

And they deserve to live in as higher-performing buildings as anyone who lives in a market-rate building, and so we can't lower the standards. We just have to increase the resources and we have to make sure that they are at a point where they can actually comply and be successful with this program.

And so that's been a lot of our focus lately and I'm happy to talk about that more, but I don't want to take up too much time. And so if we just go to the next slide, that is sort of my last slide. This is just a couple of resources where you can learn more. I'm going to stick around for any questions, obviously, but we have our ongoing task force meetings that we post publicly. Anybody can attend those. We have education sessions every month. Our next one is May 27th. You can check out the building innovation hub. They're constantly posting events.

And then you can talk to your coworkers, clients, and all those folks about that. And you can always reach out to us and that contact information at the upper right-hand corner of the screen and we're happy to answer any questions you have. And that's it.

Nate Allen: Thank you so much, Katie. That was awesome. You all have been so intentional about community engagement. I'm glad you flagged your upcoming meeting and the arc of that presentation was perfect to broadening out to our next – yeah, here it is, Dom – presentation from Dom in Philadelphia to focus on their climate action playbook and carbon neutrality planning. Dom, without any further ado, I'm gonna pass to you.

Dominic McGraw: Thanks, Nate. Can you hear me okay?

Nate Allen: We can, yes.

Dominic McGraw: Okay, great. So, yeah, so I'm just going to give a quick overview of what Philadelphia is doing in the way of our building energy performance policy. I'm going to talk about the Office of Sustainability, who we are, and then my division, the Energy Office, and how that all comes into play here in Philadelphia.

Next slide. So just to put it in context, what the Office of Sustainability have recently released in January was a collection of previous reports that all had to do with reducing contribution to climate change, using nature as a solution for climate pollution,

and then also adapting to climate change. So these were all thoughts that went into this massive collection of different reports from different departments throughout the city. So that was captured in this book. I just put it in the chat there.

And the next slide. And so really what we're looking at is it updated our greenhouse gas inventory introductions and it also took the different aspects of each plan and looked at it with an equity, health, and environmental, and economy lenses. And so you can see how each different piece of each different plan played out in those different strategies. So it's a very thorough look at all of these things.

I think often what happens in municipal government is plans are put out and sometimes forgotten about, or shelved, or not recognized by there's so many different groups that exist out there. And so having a way to pull it back and showcase all what we're doing, how they all kind of tie together, this has been super helpful in that.

Next slide. So additionally, speaking of the equity lens, what we've really been looking at now is how environmental justice affects different policies, regulations, things that go into place throughout the city. And so really, we wanted to address things that have been done throughout history specifically with it in regards to environmental justice with different policies.

So next slide. So what we're working on is establishing an environmental justice advisory commission, EJAC, for short, and so this is done through the Office of Sustainability. And really, it's going to end up being a 17-member commission from members from various parts of the city, and right now, there's a working group pretty much working together to advise on the process, help identify and address the barriers in environmental decision making, and working to recruit this commission. And so we're really looking forward to that.

So that's been a large effort of the Office of Sustainability and really hoping that we can then work with communities to really work deeper in these plans that I mentioned and how we can kind of adapt them to ensure that environmental justice really plays a key part in all of that going forward.

Next slide. So me in my role as city energy manager, I oversee the Energy Office, so that's a division of the Office of Sustainability where we only focus on municipal buildings. So the Office of

Sustainability affects citywide policy, and then our team has to work to implement those policies within municipal buildings. And so it is a massive building stock with many different aspects and we use an energy management database, that you can see I just put it in the chat here, that will live update what we're doing with our consumption throughout our buildings. So as Nate said earlier, so it's more than 800 buildings, 5,000 utility accounts throughout the city, so there's a lot to manage there with the team.

Next slide. And so our plan that we have, again, a lot of plans from many different departments, but our plan here is the Municipal Energy Master Plan. And so there, we established goals and this was released in 2018, and we pretty much are looking at how we can work to reduce greenhouse gas emissions from city-owned built environment, really looking at energy use reduction, looking at procuring both renewable sources, but then all while either maintaining or reducing cost.

Next slide. So now in regards to the Building Energy Performance Policy, the first thing that we had to comply with was the building benchmarking ordinance that has existed. The city has put out a citywide interactive map for everyone that has complied with this ordinance. Unlike what DC is up to, our compliance is submission, and so there's not necessarily a ranking that they need to achieve. It's just that they have to disclose. And then looking at right now, it's 50,000 square feet and above. We've talked about expanding that in the future to going down to 25,000 square feet. That has not been addressed, yet.

And the next slide. So what we have found is the reduction that has gone in to play here, but now with all that we were able to discover with the benchmarking where we found that going further and beyond that in to doing tune-ups in our buildings, which is kind of like a commitment we like to say like a light commissioning. We would see five percent CO2 reduction from these buildings. So that for us was pretty big and which led to this ordinance going forward.

Next slide. So here's the timeline. So right now, we've worked from 2019 till now, and we're looking at September 30th was originally supposed to be the first compliance deadline, but now with COVID, we extended that out six months so building owners have the ability to kind of get – the way that we're looking at that is we're continuing that timeline trying to be as aggressive as possible, knowing that it takes some time to implement this. But that's kind of the work forward there.

Next slide. And so what is the way to comply with this ordinance? Well, we're looking at either you're going to have a tune-up or you're going to have an exemption. So the exemption would be looking at high-performance options. So are there ways around and going deeper or other ways than a tune-up and is really what we're looking at. So or if the building's getting demolished or you just had occupancy and you don't have data.

Next slide. So basically, the actions from a tune-up, if you are doing a tune-up, they break down into five sections of building systems, and then you would go through with a professional that would be pre-qualified by the Office of Sustainability, and you would then have to complete certain amount of corrective actions. Some are optional, some are required based on the ordinance, but really, it's not anything beyond the base building system. So if it's something that you don't have in place, it's not required to have a tune-up and there's nothing extra you have to install.

Next slide. Next slide. Thank you. And so this is an example of one. So looking at occupancy sensors, and so this would be what the workbook would have in place. So each team is supposed to be submitting a workbook for the Office of Sustainability to review.

Next slide. And then so as a large portfolio owner, which we are considered that, we have the option to basically break out our portfolio into a multiple-year cycle. So instead of just doing everything in the first year of a five-year cycle, we can break that out. So that's been super helpful for us in preparing this. And we also have the option of using in-house tune-up specialists. Unclear if we're going to go about that, yet. I personally have recently been accepted as a tune-up specialist, but I think we're going to rely on a third party to move that work forward.

Next slide. And so this is an example of one building that we moved forward with in the beginning. So we did a pilot for the Office of Sustainability's policy team in our Juvenile Justice Center. And so this program really will help us out massively moving forward if you look at the numbers that we have seen here. So it costs us about \$10,000.00 to re-tune, but we'll be saving double that annually, so we're pretty excited about what we had seen here.

Next slide. And so the options of high performance, there are many, and so where we're really kind of focusing are the highlighted ones. So our team is focusing on the 15 percent

reduction through retrofits. We're also looking at ENERGY STAR certification, and then looking at active optimization, which I'll speak on, momentarily.

Next slide. So, ENERGY STAR certification. The One Parkway Building, actually in the building that I'm standing in right now, was the first city building to achieve ENERGY STAR, which we were excited about, in 2017. However, that will not allow it to comply, so it would have to be current. We have to meet the year that it was going for application to count.

So we're working on getting back up there. It's hovering in the high-60s right now, so hopefully we can get it up to 75. That's a help there. And then 660 East Erie is another mixed-use building that we have, and that's very close to certification, so we're working on that, as well.

Next slide. And then so looking at 15 percent energy savings, we feel like many of our buildings that are going through retrofits are going to be able to take advantage of that. Recently, we had a massive piece of project Guaranteed Energy Savings Act project that had gone through that. So we saw a 21 percent reduction, so therefore, that would count. We're also doing a major retrofit in our Fire Administration Building where all the fire department is housed, and we're going to see a 26 point jump looking at it with the target finder with that, so we're pretty excited about that project, as well.

Next slide. And then so lastly, I mentioned active optimization. So really looking at how we can use building automation system data to dump it into an analytics platform that we can then have more impact in the building long term. So that's really our goal is to do more buildings like that. Again, out of 800-some buildings, we have four in this program, but they are four of our largest, and so we hope to continue that moving forward.

Next slide. And so the policy here is really looking at focusing on operations maintenance and then existing systems, so not really looking to add anything, but how we can tweak or make sure that existing systems are functioning as intended. So that's really the move forward there. And I think another thing really to look at is just the increased tenant comfort and costs, in addition to emissions and energy savings that go into that. So I think it's going to be a benefit for everyone. And then that's a next slide for me and the last slide.

Nate Allen:

Thanks, Dom. Okay, well, I am looking at the clock and I want to thank our panelists for their flexibility in adapting behind the scenes right before this started. We almost got the timing right. We haven't left a lot of time for Q&A, however, as I'm talking, Katie, one came in through the chat that I think would be really good to address 'cause I see it in a couple places. And it's a from Eric in Columbia about transitioning from energy efficiency to greenhouse gas goals through your BEPS and how you're planning that working with the community, how it's changing the nature of your work. I'd love to call on you in just a second to talk to that briefly.

I know we're going to be out of time in a moment here, so I would again remind folks that this is being recorded and we're going to make these slides available later. And I flagged that in particular because right after the Q&A slide, there are two for ways to stay connected, as well as a resource list including some that were mentioned on this call, as well as others from DOE and the WIP office for supporting local governments. And these are all live hyperlinks. I think it's a very comprehensive compilation there. So that's gonna be made available to you afterwards. I'm not gonna have time to talk through everything there.

And then finally, we are making – yeah, thank you. So this is gonna be made available, too. To sign up for the Spotlight newsletter, as well as all of the resources in our state and local solution center. I'm not gonna cover the Summer Webinar Series, however, I am going to draw attention to folks that our e-mails, including our state and local inbox, is available as the last slide in this deck, and you can reach out anytime, and I appreciate our panelists' willingness to be contacted, as well.

We're a little bit over time, so I'm going to call on Katie to give the last word about that transition from efficiency to GHG, as I think it thematically lines up, too, with just some broader brushstrokes that we're all thinking about right now, too. So, Katie, can you cover that briefly for our chat?

Katie Bergfeld:

Sure. Quite a responsibility here, the last word. Yeah, so right now, our program is primarily an energy efficiency program. It's getting buildings to reduce their actual energy consumption load. In the legislation, it states that we're required to publish a study, a report, by January 1st of 2023, to state whether our BEPS should move to a greenhouse gas metric. So as you can imagine, publishing that by January 1, 2023, means we work in fiscal years here, which means we need to do the actual work in fiscal year 2022, which starts in this October.

Right now, we are doing sort of the preliminary analysis to kind of see what that study would look like. We're doing some projections internally right now, and then we're also aligning with a lot of the electrification work that many of our teams are doing here already in the Energy Administration. We have an electrification study that's ongoing right now that was from Department of Energy funding. We also have another electrification study going on through work we're doing with the Building Electrification Institute. And so we want to make sure that all of that is aligning properly.

And so right now, my team is just doing some preliminary analysis to see how we should conduct a study, to see if we should change to a GHG, and then I imagine there will be a lot more concrete information coming out next year when we start talking about that. There's no guaranty we will move to a GHG metric. We just have to explore the possibility and see how that would work. I imagine that we eventually will move in that direction. It's just probably a matter of when and how that is going to work with all of our longer term goals.

Nate Allen:

Thanks for touching on that, Katie. Mike, could you please go to our contact info slide because I want to list this and make sure that folks can see how to get in touch with us if there are additional follow-up questions. I saw some in the chat I've responded to directly. I know there are a couple more that we haven't been able to answer. Please feel free to reach out to us. I'm sorry we haven't had more time for discussion at the end here, but foundationally, I think this content is really great to cover at the beginning of the week.

I am excited for what comes ahead with the Better Buildings Summit later today, as well as over the next three days. I hope you all have a full agenda of sessions that cater to what you're seeking to get out of this week. I'm really looking forward to the additional presentations we have and I think I'm going to cut everything else short with that because we're four minutes over time, and I'll just say thank you, again, to our panelists for joining us and sharing their insights and experience. And I also want to thank all of you for calling in this afternoon, and I look forward to virtually connecting over the next couple days and beyond. Take care, everyone.

[End of Video]