Leslie Zarker: Hello, everyone. Welcome to the 2020-21 Better Buildings webinar series. I'm Leslie Zarker with ICF, supporting the U.S. Department of Energy and the Department of Housing and Urban Development's Better Buildings Initiative. In this series, we've developed best practices of Better Buildings Challenge partners and other organizations working to improve energy efficiency in buildings. Today's webinar we'll look at innovative energy efficiency financing strategies in public housing, featuring three of our leading Better Buildings multifamily partners.

Before we proceed with the agenda, I'd like to just share a few housekeeping notes with you. Your phone line is on mute. If you have any technical issues during the webinar, go ahead and type them into the GoToWebinar chat box on the right-hand side of your screen.

Now, I'd like to introduce Josh Geyer with HUD's Office of Environment and Energy. Josh is the multifamily sector lead for the Better Buildings Challenge. Welcome, Josh.

Josh Geyer: Thanks, Leslie. First of all, welcome to all of our attendees. It looks like we have quite a few people here and we're really glad that you're able to join us. The background behind this session is we in the Better Buildings Challenge multifamily sector a couple of years ago did a SWOT analysis and identified a number of barriers to folks in the multifamily sector, particularly affordable housing providers, getting retrofits done.

One of those major barriers was financing, the availability of financing and various hurdles, whether they're regulatory, or market, or otherwise to there being financing available that people need, and hooking people up with that financing so they can get their retrofits funded and implemented.

We also are very aware that when we say affordable housing there's two major universes, those being HUD-assisted affordable or affordable assisted through other means that's privately owned, on the one hand. On the other hand, we're talking about public housing. This summer, at our Better Buildings Summit, we did a financing roundtable specifically targeted at HUD-assisted affordable and looking at the many complexities of those organizations getting the funding they need, and looking at different solutions to that problem.

This is the public housing companion to that roundtable, where we're looking at what these innovators and these creative people in the public housing space are doing under a totally different but equally as challenging set of constraints, what they're doing to get their projects up and financed, and implemented.

We are hoping that all of this work together, as well as some other work we're doing in addition to these sessions, will help move us toward a place where we can be better at hooking our partners up with the financing they need, whether it's working with financial allies or working to improve the tools that we already have. We really want to lower this financing hurdle so that we can unlock as much new retrofit funding as possible.

Just a little more background on the initiative as a whole. The Better Buildings Challenge multifamily program is comprised of 91 partners with properties all over the country, the vast majority of which are affordable housing providers. Thirty-five of our partners are public housing authorities, and seven of the ten largest PHAs in the country participate in the program. Our partners commit to improving the energy efficiency of their portfolios by 20 percent over 10 years, receive utility benchmarking assistance from an assigned account manager, and annually share their energy performance data.

You can find out more about the Better Buildings Challenge multifamily program by visiting the website below, which would be – do we have the website on the screen? I'm sorry. We can circle back to that. Or, by typing Better Buildings Challenge multifamily into your search engine. Next slide.

Today, we'll start with some opening poll questions, and then we'll hear presentations from our three panelists. Each panelist will be followed by five minutes of Q&A. We'll end with a final poll and wrap up. I want to add that this polling is for our own edification right now, but it's also a part of this whole effort to understand what's going on better in the financing space in public housing. So, we will be very interested in your responses and we'll look at them after we're finished the session.

I believe I'm handing off to Leslie to go through these poll questions?

Leslie Zarker: Sounds good. Let's take a quick minute to get familiar with Slido. Please go to www.Slido.com now on your smart phone or on your computer. If on your computer, you can open a new window on your computer's Internet browser, and then just go ahead and type in, if you're at Slido.com, today's event code, which is #DOE.

During our panelists' presentations, you can submit questions any time in Slido's Q&A platform. We'll have about five minutes of Q&A after each panelist. Also in Slido, if you see questions you like, you can select the thumbs up icon to that question, which will result in the most popular questions moving to the top of the queue. I'll give everyone just a few minutes more to open up Slido, and then we'll be launching our first poll shortly. Okay, next slide.

We'd like to do two quick polls to hear from you. Again, go to Slido.com, #DOE. The first poll question is how would you best describe your employer? We have a number of options here to choose from: public housing authority, federal or state agency, NGO or nonprofit, maybe you're a consultant, affordable housing provider, utility company.

An overwhelming majority is PHAs, which is totally appropriate and awesome. We're so glad so many of you are here today. Followed by federal and state agency, it looks like. Followed by consultants and nonprofits. Then, a few other types of affordable housing providers. That's great. Utility companies there, as well. Alright, thank you so much for that.

Then, let's go to the second question. What type of financing has your organization used to fund energy efficiency upgrades? Please go ahead and enter one or more answers into the text box, and then your answer will appear in the word cloud on the screen. Cool.

Well, none's big, which is exactly what we don't want to see and we're trying to avoid with the efforts that we're going about today. Capital fund program for PHAs, of course. Capital funds. Office of Capitalization at HUD. Rebates, grants, some ESPCs, EPCs of course. Oh, there's even a little PACE in there, which is interesting. Utility incentives I see, rebates. The Public Benefit Fund. Let's see, utility ratepayers, of course, if there's a utility program that taps into ratepayer funds. Great. Tax-exempt leases and bonds, and energy consultant advisors.

Excellent. Thank you guys so much. It does give us a good idea of what people are relying on. Now, I'll turn it back to Josh to introduce our first panelist.

Josh Geyer: Thanks, Leslie. Thanks again to our participants, who really are going to find this helpful and find it helpful right now.

We're delighted to have three panelists present their work to you today: JoAnn Sutton, Stephen Cea and Tina Miller. Before we hear from our panels – oh, Leslie already did this part. To begin with, I'm pleased to introduce JoAnn Sutton, Executive Director of the Manhattan Housing Authority of Kansas. JoAnn has served in several leadership positions at the local, state and national levels of the National Association of Housing and Redevelopment Officials, and is currently serving as treasurer for the state chapter. Welcome, JoAnn.

Leslie Zarker: Oh, on mute, still. Now we hear you.

JoAnn Sutton: Okay, thank you. Thank you for having me here today. I'm delighted to be here. As Josh indicated, I'm with the Manhattan Housing Authority in Manhattan, Kansas. We're gonna be talking about the Apartment Tower highrise rehab project today. Next slide.

This slide is just a little bit about our housing authority. We're a relatively small housing authority. Manhattan is about 73,000 population when the students are in session. We're in very close proximity to the Fort Riley military base. Next slide.

This is a picture of the building that we're speaking about today. This is our focus and where we discovered a mold problem in 2013. We also learned through testing, of course, that there was asbestos in the building, and so we would have to deal with both mold and asbestos. Next slide, please.

In terms of funding, our first step was to apply for an emergency capital fund grant in fiscal year 2014. Although the engineer's estimates were over $7 million, there were some items that HUD did not approve in our emergency grant. They funded us at $5.4 million. HUD would not approve some items such as the replacement of the windows, which were a big part of the problem. They were original to the building, and leaking moisture and air.

They also required that the HVAC system that we had in place, which was original to the building, an old two-pipe system, be replaced with the same type of system. We were required to use operating reserves and available capital fund monies for a project-related expenses prior to being approved for the emergency grant. We had some tenant relocation, mold testing, engineer fees, et cetera that we needed to pay for. Of course, we were moving people out of the building, so our reserves were going down, and so was our dwelling rental income. But our expenses seemed to be going up. Next slide.

This left us with insufficient funds to complete the project, especially since the windows were a large part of the problem and a large expense that were not approved in the emergency grant. We also were discussing, at about the same time, an energy performance contract. HUD did eventually agree to allow us to fund the replacement of domestic storm sewer and water lines out of the emergency grant. However, they did not increase the amount of the grant to do that. We still had a shortage of funds to deal with.

In the energy performance contract, we focused a little bit on what our priorities were, which was to get the Apartment Towers building back online. We were able to use $719,000.00 out of the energy performance contract to cover the cost of the difference between replacing the HVAC with a two-pipe system and upgrading to a heat pump system which would provide more resident comfort, as well as more energy efficiency in the building. We also paid for lighting retrofits and water saving devices, as well as refrigerators out of the energy performance contract. Next slide.

Despite the energy performance contract, which was a big help, we still had a shortage. The emergency grant was not enough. Some things did not qualify for the energy performance contract. We still had a building that we needed to get back online. So, around 2013, 2014, when all of this was happening, HUD began to transition the Replacement Housing Factor Fund to DDTF funds. The DDTF funds were now able to be used as capital improvements, so that gave us an idea and we said well, we've been accumulating these funds since about 2008. Why don't we ask for a waiver and see if we can use them as if they were DDTF funds?

We made that request and HUD approved the request. They also granted an extension on the obligation and expenditure of those funds because some of them were setting to expire on those dates. That had a total impact of $480,000.00 on the project. But yet, we were still short funds to finish the project. So, in a conversation with our field office and in speaking, we had set up a conference call with the headquarters, Office of Capital Improvements, and that conversation led us to a consultant who had worked with the housing authority who was in a similar position. They were able to approach their city and receive basically an advance on their future capital funds.

So, the city eventually agreed, after many conversations, and doing tours with the city commissioners and local officials of the building, and showing them exactly what the problems were. Additionally, towards what we thought was gonna be the end of the construction project, we discovered that the below-grade sewer lines were deteriorated to the point that they were no longer usable, and we could not get a certificate of occupancy obviously if we didn't have usable sewer lines.

We did approach the city and asked them to fund replacement windows, which were just over $800,000.00. We were able to line the deteriorated sewer lines with that million dollars that the city approved. Like I said, they issued bonds to fund that advance the housing authority will pay back over 30 years. Our annual payment is about $62,000.00.

But it's not a loan. There's no collateral involved. Our agreement is specific that if the housing authority isn't financially able to make that payment in any given year, they will defer the payment. We will still owe the money, but they will defer that payment in any given year as necessary.

As I understand, there's one other housing authority who has done this in the country. I'm not sure where they are, but if you're interested in seeing the...it was called an advance grant – I can't even say it right now – if you're interested in seeing the agreement with the city – I'm sorry – you can log onto the Better Buildings Challenge website and there is a copy of that agreement as a PDF document on that website. You can look and see how you might be able to replicate that with your city. In discussing this, we started with the city manager and the finance director, and the city attorney, of course. From there, went on up to the city commission.

I would also say, backing up a little bit, with the Replacement Housing Factor Grant Fund, although they are not in place anymore and the DDTF funds can be used for capital improvements, there may be other funds out there that your housing authority has received or can apply for, and may be able to receive some labor.

You just have to think outside of the box and looking into the regulations, talk with your field office folks, talk with the folks in headquarters. They have very good information about how these funds can sometimes be used because there may be some exceptions in there that you can use for those funds. I think these last two things are very replicable, as well as the energy performance contract option. Next slide.

This slide and the next slide just show the sources of funding for what turned out to be over an $8 million project. You can see, we had funds from HUD, some from our own operating budget, the energy performance contract, and the Recoverable Grant Agreement. That's what I was looking for, the Recoverable Grant Agreement. Next slide.

This slide just shows the uses of funds. Obviously, the construction, the reconstruction of the building was the largest expense: it was tore down to studs. But I'm confident that if we had not used these other funding strategies, that we would have a building still sitting here vacant. We did receive our certificate of occupancy in September of 2018, so the building is up, and housing residents and our offices, once again. Next slide.

I'm ready for any questions and answers.

Josh Geyer: Great. Thank you so much, JoAnn. I'm gonna check out our questions on Slido and see if we have any that seem relevant.

Here we have one. I'll read it out. "Beyond technical assistance for..." Okay. Let's see. Leslie, have you had a chance to go through these questions yet?

Leslie Zarker: No, I'm looking at... Hi there.

Josh Geyer: Some folks are looking for some additional information about the age of the building and how the heat pumps were installed, if you can take those, JoAnn.

JoAnn Sutton: Okay. The building was constructed – I believe construction was completed in 1975, so it was 40+ years old. We did install heat pumps in each unit. We had to actually build a larger mechanical room to house some of the equipment, which we used replacement housing funds for, as well as install a cooling tower out on top of that expansion.

Leslie Zarker: Josh, you're on mute.

Josh Geyer: Thanks, Leslie. We have a question about who your EPC contract was with?

JoAnn Sutton: Johnson Controls.

Josh Geyer: And how long it took you to get all the funding in place, at the end of the day?

JoAnn Sutton: There were a lot of starts and stops. We applied for the emergency grant in November of 2013. It was approved in June of 2014. It did take a little bit of time to get the request submitted for the replacement housing fund. It had to run through the channels of the HUD offices. I don't know exactly, but I'd say it was an average of sometimes a couple of months, waiting to get those approvals.

There was one grant that there seemed to be some misunderstanding between the headquarters, and us and the field office. The field office and we thought that by asking for the extension on some of the grants, that meant all of them. Headquarters didn't see it that way, so we did lose one grant because it did expire. So, we had to regroup at that time and figure out how we were gonna make that up.

I think probably the biggest gap was in working with the city to try and get the recoverable grant agreement approved. We started that process in 2017, I believe in about April or May, and it was finally approved in the last quarter of 2017. Then of course, we had to get the change orders in place and get the contractors organized to get in here and get it done. So, it turned into about a five-year project. But like I said, there were some stops and starts in there with trying to figure out funding.

Josh Geyer: We have a couple more. What was your relocation process like, and how much did it end up costing?

JoAnn Sutton: Well, that's an interesting question. We actually stopped refilling apartments, obviously, as tenants moved out due to normal attrition. As tenants moved out of some of our other public housing properties, we were turning them over and moving residents from the Apartment Towers into other public housing units as much as we could, to save on relocation expenses so that we could have that money to reinvest into the construction. I think we relocated 47 tenants in the beginning. Only six of them had to be relocated at other properties, but they were relocated to properties that we managed and they were tax credit properties.

Our largest expense was paying the utilities, since they were at the family site where they pay utilities. Our largest expense were the utilities and the actual moving costs to and from. By the time the building was finished, enough people had moved out of public housing, we had enough turnover that we only relocated 16 of the existing tenants back. Some of them chose to stay in the developments where they'd been transferred to, if the unit sizes were appropriate. I think our relocation expenses were somewhere around $350,000.00, by the time we paid movers and utility bills.

Josh Geyer: Thank you so much, JoAnn. Now we're gonna move onto our next presenter. Switch to my correct window here. Okay, so the next presenter is Stephen Cea, the Director of Development, Modernization and Sustainability at the Jersey City Housing Authority – quite a title. Stephen's the point person between national development companies and the housing authority regarding the planning and repositioning of outdated public housing. Stephen is a New Jersey attorney with over 20 years of HUD-related and public housing experience, as well as development experience. Welcome, Stephen.

Stephen Cea: Thank you. Thank you for affording me the opportunity to speak today. I'm always happy to talk about the Jersey City Housing Authority and the things that we've done with regard to energy efficiency. Next slide.

Just a little bit about the housing authority. We are the second largest housing authority in New Jersey. We have approximately 7,000 affordable units, 2,400 public housing and 4,600 Housing Choice Voucher Program voucher units. In 2008, we created what we call the Sustainability Plan, but in project management parlance, that would be the charter. It is something that we use right through to today. We had joined the BBC in 2014 and met our BBC goal within six years. Next slide.

This is a very unique housing authority in that we have no scattered sites, but we have large, old sites. As a result, we had some barriers to achieving our goals, one of which would be aging infrastructure and outdated mechanical systems. Our buildings are all between 60 and 80 years in age, and we have a few that were built in the 1800s that we took over, one of which is a historical landmark on the National Register. That gave us barriers that we had to deal with.

There was also, we had financing and funding barriers, obviously. One of those would be cost. It's very difficult for housing authorities to borrow money because there's no one to sign personal guarantees. Then, there was loss of programs. Our funds were gone, HOPE VI was gone, CNI is very limited and restricted in the way it could be used. RAD, which is the new tool, which is a good tool, I will talk about it, but it has issues if you already have an EPC or a CFS2 funding out there, which we do.

Then, we have regulatory barriers. Those could be funding restrictions, the procurement tedium, which I don't know about other states but in New Jersey, it is very difficult. Our procurement is take HUD procurement rules and then put them on steroids, and then you have the New Jersey procurement rules. They're almost... They're arduous, at best.

Then, the same thing with the RAD restrictions because how you deal with EPC and how you deal with CFFP, there's restrictions on what you can do. There's also, we have force majeure issues. As anybody knows, Jersey City is a low-lying coastal city and therefore, we have problems with flooding. Superstorm Sandy bore that out. We spent an awful lot of money on our seed program. Then, a lot of that stuff got wiped out and we had to double down on what we did in order to meet our goals.

Then, resident quality of life, which is one of these things that regretfully, some of our housing authorities overlook. But these energy initiatives, they're more than inconvenient. They affect the quality of life. You have to determine what's the best way to deal with that, which I'll talk about, and I use, and my executive director uses to this day, as a tool that we find beneficial, which we will talk about. Next slide.

There are financial opportunities that are available to PHAs, and what we did, and what we couldn't do or what we would like to do. The first, of course, is the Rental Assistance Demonstration. I do think that there are some issues with RAD, which I won't get into today. But I will tell you, one of the real benefits of it is that right now, with your subsidy proration at 97 percent, if you RAD today, you're locking in at 97 percent for the next 20 years, which is a wonderful thing.

However, the Jersey City Housing Authority, like a lot of other housing authorities, we've had a robust EPC program, and we've had a limited CFFP program, which is the Capital Fund Finance Program. Those things don't necessarily work well with RAD because what RAD does away with is how you pay for those things. There's all kinds of rules and what are you gonna do if you have an EPC? What are you gonna do if you have CFFP? You have to decide whether or not it's beneficial to RAD.

Capital Fund Financing Program, which is something we used and I will talk about, I will tell you that we used it here not just this administration, but the prior administration in ways that were better than other housing authorities, and that we used it very limited. We did go over the 33 percent; we're not locked in. If we do RAD, we can pay some of that money back. We also, based on our numbers and the ratio, I figure that we probably can... I mean, we have the five percent restriction, but if we were to have the labor, we're probably the housing authority that might be able to get one only because we're only about ten percent of our total capital fund budget, which is a good thing.

There's also Federal Emergency Management money. After Sandy, we tapped into FEMA. FEMA gave us a $250,000.00 grant, which we used exclusively for cleanup and energy initiatives, which was very beneficial and was a help to receive the money. As we know now, with corona, FEMA is also again giving us the possibility of getting money. If you're creative enough, you can use that and some of those things can be for energy efficiency.

Coronavirus Aid Relief and the CARES Act, it is a capital fund money, but it's used basically like operating funds and there's a lot less restrictions on that money. We are using that for the benefit of a lot of things, not only to prevent the spread of the virus, but some of that also equates to better energy performance.

Those are some of the things that they're opportunities in the feds right now. There's state funding opportunities always with tax credits, which I'll talk about. After Sandy, the New Jersey HMFA actually came out with the Sandy CDBG program. We had, in our EPC, we spent about $2 million on new efficient boilers. Sandy came in and wiped the boilers out, all brand-new boilers. They were less than a month old. We doubled down, we went to the HMFA.

They actually gave us a loan – well, they call it a loan – for $8 million to go back and buy those boilers. The interesting thing about that loan is that it has a 20 percent debt forgiveness per year. So, after five years, we don't owe anything and we haven't paid anything back. To me, it operates like a grant.

There's also city and local funding that we utilize all the time. Jersey City has a robust affordable housing trust fund. It is a loan, but it's at zero percent with a payoff in 30 years. No monthly payments required. It's just like you have to pay it back. But at zero percent interest, it is a very good tool that we use and we use all the time.

Then, we have local nonprofit organizations that also tap into CDBG money. Through partnerships that our executive director has cultivated, they have provided us with a new boiler system we're about to install. They've provided us with an insulation program, and they also had a program for appliances where the residents would trade in their old appliances and they'd get more efficient appliances. All of which has been very helpful in us reaching our Better Buildings Challenge goals.

Of course, you have your energy partnerships. We have a very good EPC program with Siemens. One of the things that we never talk about with EPC is, of course, there's the money and the ability for them to go out and get you the financing. We all know how the EPC works. But more than that, we tap into their expertise. The group at Siemens that deals with us have been wonderful. I can call them on unrelated energy matters and they're happy to talk to me, and happy to talk to my architect and my engineer. That was a partnership that not only was financially suitable for us, but also is a plethora of knowledge with regards to energy performance.

Then, there's low income housing tax credit partnerships. But again, if you're gonna do that for RAD 'cause we know that RAD is cost-neutral. But if you're gonna borrow money, you're probably gonna use tax credits, which means that you're gonna get involved with an owner entity that can take the property so that they can take advantage of tax credits 'cause we don't pay taxes.

But now, which has recently come out, this is not a pitch, but I know that a lot of you like us are part of the HAI group, Housing Authority Insurance group, which is a collective across the country. They put out a program about two years ago which I was talking about, people are looking at me like I'm crazy 'cause now, they're really pitching it. But they actually come in and guarantee, they give you the personal guarantee, which is a wonderful opportunity so that you're not stuck with the developer telling you well, it's our way or the highway. You have this other opportunity to go out and get money, and borrow it with a personal guarantee that's backed by an insurance carrier. Next slide, please.

I talked a little bit about project charters. Our approach here is we use a project management design development approach to everything we do, whether it be construction, whether it be operations. But community development, we really use it. In fact, we have sent everybody in the executive staff and parts of different groups to get their project management knowledge degrees. We are a group that understands project management pretty well, and it's been very helpful.

One of the things we do is any time we talk about energy efficiency, we do a SWOT analysis. What are our strengths? What are our weaknesses? What are our opportunities? What are our threats? Generally, basically we know when it comes to development in Jersey City, the strength is always that we have a cap rate between three and four percent, which is basically unheard of.

It gives me the opportunity to bargain with developers. It's a bargaining chip. If they're putting market rate units in our sites, which they do, the rents they receive are unbelievable. So, it gives us a better leg up on the kind of deal that we set with the developer.

How does that help us? Well, if I have a higher percentage of development fees and I have a higher percentage of cash, well, that's just more ability for me to give the money to whether it be development or social programs that support the housing authority. Or, energy efficiency. We spread it across.

Josh Geyer: Hey Stephen, you have about one more minute, okay?

Stephen Cea: Okay. I'm sorry. One of the interesting things, and you can just see the slides, but I'm showing you the site there, which is Berry Gardens, this is an example that not all energy conservation measures are financially prudent or feasible.

The windows that had to be replaced there, those are curtain walls. So, to replace the windows in the one building with the blue façade is about $3 million. How do I go about doing that? We look for grant money. We do use some capital funds. We go to HUD to determine if there's something that we can do. Next slide.

I'm gonna go through these pretty quick now. We have an EPC with Siemens, which I talked about, 15 years, $8.5 million. We double down on the EPC by refinancing the loan with Capital One, which has been very successful. It saves us an additional $75,000.00 a year, which is something that people don't realize they can do.

I talked about Sandy CDBG. We received a $5,000.00 clean energy grant from the DCA in New Jersey. We use affordable housing trust funds, and we use CFFP, and we use ARRA funds, which you can see, which is the.. That slide is actually from Siemens. We did a solar panel system with glycol heating of the water at one of our sites, which has really saved us a lot of money. I talked about the local nonprofits. Next slide.

One of the things I just want to reiterate here is replicable strategies and next steps. It's an iterative process. We started this in 2008. It is a totally new administration, but we've adopted that, which makes it very easy for us to go and get money. We have a strategic planning process, which also creates... When you present a strategic plan under project management, you're not just asking for money, but you're convincing investors to put their money in your site. We've been very successful.

We do funding source analysis and research all the time: what's available and how they interrelate with money that we already have out. We identify and establish partnerships constantly, whether it be with different groups, nonprofits, government entities, schools, universities. It all helps. Next slide.

In summary, each JCHA department and technical advisor approaches energy from a different perspective. Engineers are concerned with saving on energy conservation, but accountants talk about money, and operations always want to know how you're gonna do it. I put all of those groups in the same room so that we are a cohesive unit with a systematic approach. It has led to a great success. Next slide.

I think that's it.

Josh Geyer: Great. Thank you so much, Stephen. To keep us on track, I'm gonna just pitch you two questions here to take quickly, and then we'll move onto our last presenter.

Here's one that says, what are some "creative" ways that New Jersey uses the CARES Act to help fund energy efficiency initiatives?

Stephen Cea: Sure. One of the things that we are in the process of doing is we have a lobby where both our Section 8 and our Section 9 residents converge for whatever we do. We have broken up that lobby so that the Section 8 residents go through one side, and the Section 9 residents go through other for no other reason other than CARES

Act gives us the ability to separate. The more separation there is, the better.

Part of that has to do with adding heating sources and adding boilers or whatever because we're separating that stuff out. When we do that kind of stuff, we always go for more efficient than what's already there. That's one of the things. There's others, which I would love to talk about. Whoever is pitching the question, if you want to call me, I'd be happy to...

Josh Geyer: After we wrap this up, Stephen, you can get into Slido if you want and respond that way. The other question is why didn't the insurance cover the boilers as a result of Sandy?

Stephen Cea: They did and they didn't. They gave us a certain amount of money. It was not enough money. They were not going to pay for us to take... What happened was the boilers are in the basement, so we had to take units offline and we had to do some retrofits. The insurance company was not gonna cover that kind of stuff. That's why we took the opportunity, we went out and got the $8 million and we put in a system, we joke about it. We have a system that the Freedom Tower has. It's amazing and it's very efficient.

Josh Geyer: Great. Thank you, Stephen. You can find Stephen's contact information on the screen. Now, we'll move on for our final presenter. Our final presenter is Tina Miller. Tina has led Cambridge Housing Authority's Energy Program for the past 15 years. Her work has been instrumental in leveraging grant funds, utility incentives, and energy finance and support of CHA's transformative portfolio-wide energy program.

Tina has experience with substantial building retrofits, onsite energy insulations, and energy supply contracting, as well as energy reporting. Welcome, Tina.

Tina Miller: Thank you very much. It's great to be here today and to walk you through a snapshot of Cambridge Housing Authority and our position relative to energy savings. May I have the next slide, please?

At CHA, we're an urban area in Cambridge, Massachusetts, abutting Boston. We house about 7,000 families or 12 percent of the population of the city. Our portfolio is split between low-rise family developments and we have five elder disabled high-rises. We also have scattered units in condo settings across the city. Next slide, please.

Cambridge entered into the Better Buildings Challenge in 2014. We became a goal achiever in 2019 by reducing our energy intensity by 23 percent within four years and our greenhouse gas emissions by 25 percent within that same framework. This is a result of our base as one of the original Moving to Work agencies, which helped us with locking our utilities over time to be able to do both self ESCOs and third-party ESCOs. They're a part of our track record of successful energy savings over time.

We did with Ameresco in the late '90s one of the first conversions from electric-resistant electrically heated building to gas hydronic heat. At that time, that wasn't even an energy by BTU savings. I'm sorry, that was an energy savings rather than a cost savings. But Ameresco was willing to work with us and really provided our training wheels for the work that we did over the intervening years. We also had three successful competitive ARRA projects, where we continued to gain steam as it were in approaching our approach to buildings. Most recently, we've had an infusion of capital due to our transition from public housing to the Rental Assistance Demonstration, or RAD, program. Next slide, please.

Under RAD, we've used Section 18 or demo/dispo to convert the majority of our buildings to Section 8 housing. One of the first steps of that is to conduct... Cambridge has always had outstanding comprehensive needs and capital plannings throughout our history, but one of the first steps for the Section 18 is to have a third-party existing conditions assessment of those buildings. If you are embarking on that, I would strongly suggest you lend your own internal capacity to whatever firm you have that you are working with. In many cases, as long-term owners, we understand our buildings' long-term issues better than someone coming in with a checkmark for that particular day.

Certainly in Cambridge, we also had to provide some pushback about the cost attributed to where the failing systems were, meaning the cost to rebuild those systems. We are in a very high-cost market and we are also, in Massachusetts, like Jersey apparently, we have our own public procurement bidding that increases cost for each project as we go out. I should say at Cambridge Housing Authority, we develop all our own projects internally. We don't use an external developer.

Under RAD, the financing came together as state bond funds, as the City of Cambridge's affordable trust, as being able to take debt on the property, and converting into low-income tax credit program. This raised significant capital. We have almost $1 billion in construction at this point in time, which allowed us much deeper modernizations than you can approach with an energy performance contract, speaking to the importance of getting to your envelop and getting to your windows. Envelop leaks in our high-rise were attributed up to 40 percent of our energy losses. Of course, when we stop the leaking and water intrusion, we also create comfort for our residents.

We were able to, our past successes and documenting through our energy benchmarking, documenting our known savings every time we've touched a building for energy performance, our energy retrofit, we were, with the RAD infusion able to leverage $11.00 in equity from our investors for every dollar that CHA projected in energy savings. Our Energy Star scores with those buildings that we've touched, the majority of them, I'm sad to say, were below 10 on Energy Star scoring and are now in the high 90s. Next slide, please.

Some of the fundamentals of positioning yourself for financing. I would really stress the accurate long-term tracking of energy savings through, we use three utility benchmarking programs, which I'll talk more about. You need a very deep bench within your fiscal department. The intensity of tasks you're asking for, the amount of time that these tasks now take from your department is something that you really need to plan for.

As an agency and in terms of both operations and fiscal, you're starting to pay increasing attention to the net operating income, the NOI, the bottom line of that property. Knowing where it is before you approach and being able to accurately project a post-retrofit budget, not only the utility lines, but perhaps some more admin support or other expertise you need to bring to your agency. Making sure that you're doing a good assessment of both the before and after, and you've allowed yourself some room for measure of success going forward. Don't make those post-retrofit budgets too lean on admin or other central office costs.

Of course, as Stephen mentioned, the local incentives and building relationships with local agencies. We in Massachusetts are quite lucky. We're really well funded from the utility incentive program and from private nonprofits. We're in an area that is willing to test and try new measures. Next slide, please.

Here's an example of one of our energy benchmarking systems. This particular one is WegoWise. It allows you to learn things both at the building scale and to compare your buildings on various metrics over time, and how they perform. It also provides what I find helpful is spike alerts on a monthly basis. If I haven't otherwise paid attention, I could go in and check, and get messages out to managers about what's going on at their particular property. It also allowed me, in the existing condition stage, to know things like which one of our buildings is more susceptible to high wind in terms of what its energy costs are, the different places, both locationally that buildings sit and what their construction is in terms of how vulnerable they are to weather conditions. Next slide, please.

The next slide is – we skipped a slide because the next slide was a snapshot of Energy Star's Portfolio Manager program. I think it's two slides back. There we go. We use Portfolio Manager both for the Better Buildings Challenge, but also our city, the City of Cambridge, has an energy disclosure ordinance where all buildings of a certain size, their energy performance is available publicly. You'll see here, for example, Manning Apartments, which I'll talk a little bit about later, was an all concrete, all electric high-rise. Before the renovation, it was a three. Now, it's a 95 on an Energy Star score.

The other three properties are low-rise family properties where we did more fundamental work in terms of, in some of these cases, bringing in interior or exterior insulation to those walls, air sealing, increased ventilation, and newly efficient hydronic heating systems often paired with a combined heat and power system. On Portfolio Manager, it's whole-building tracking. So annually, the utilities release the aggregate use for a building, so both the tenant meters and the common area meters. This one most naturally shows the full building impact. Next slide, please.

I wanted to stress what you need in your accounting or fiscal departments perhaps maybe because I sit next to them when we're in the office, but also because I've seen the increased hurdles that they have had to go through in terms of – and agency-wide, as well – change of mindset from a governmental service to business metrics. In Cambridge, we decided to hire an asset manager for the first time to bring us that overarching compliance structure. We also reconfigured our operations department to more of a district manager and then individual manager level. So, there was some restructuring that wasn't forced by RAD, but which Cambridge also hadn't done in 25 years. So, it was time.

Fiscally, your audit cycles now may be moving from one audit in June, if you're on a government year, to calendar audits for each entity, with monthly financials and quarterly check-ins with investors. I know for me, there's a new urgency in it's investors calling, answering an energy question. I'm all set. Our tools are built so that it's easy to answer, but it impacts everyone in the agency in a different way.

We, when we morphed into RAD for some properties, we outsourced the payables and billables ground level accounting for those buildings so that our fiscal staff could spend their time thinking on the more important overarching issues and strategies, moving forward. With RAD, your operations team is also moving to low-income tax credits recertifications, which are a different system than public housing and you need to come up to speed on that.

There are also different income limits. So we had to think about, as we approached a building, how many units we were gonna hold for our existing residents who now may be over income for the low-income tax credit program. Overall, there's a new urgency to operational standards. You want your three-day turnover. You want property management metrics reported quickly so that you can understand and get ahead of a problem before you're in the third quarter of your year. Next slide, please.

Here's an overview of we've always used to date the Enterprise Green Communities Certification program as we approach a design for a particular building. That gives us an integrative whole building approach. It brings all the trades, at least in the design phase, it brings the architect and the various subconsultants together to make sure that the building is functioning as a whole and we understand the integrative savings that come with doing the envelop and not just the heat plant. We've learned that 37 to 40 percent of our heating losses come from the exterior at the high-rise buildings.

It also gives you – certainly me, as the energy manager – a more powerful voice when we consider value engineering as we're approaching construction, to really be able to say what changes we are contemplating are most going to impact energy use and comfort for our residents. The certification program also requires that to be certified, your building has to have successful met its goals a year out in operations. So, it's very much tied to reality and operations, and not just the design stage. Next slide, please.

Local incentives, I'll touch on briefly. But having someone in your agency who really knows the local playing field, both for emerging pilots and ongoing incentives. CHA has, ten years ago, piloted air source heat pumps. We piloted various building management systems. We piloted the first – well, it wasn't a pilot – power purchase for solar energy in our area, also assessing that potential for the PPA Partnerships. Or offsite renewable energy purchases, which give you stable pricing and also serve to green your portfolio. Next slide, please.

Josh Geyer: Tina, you have about one minute left.

Tina Miller: Okay. The next slide, I'm hoping, shows the results at Manning Apartments, which was $66 million in construction improvements, full modernization of a 300-unit 19-story building from the exterior all the way through to the interior of each unit. Prior wood, there was no air conditioning. It's now a four-pipe air conditioning and heating system. All of the mechanicals, as we approach our buildings, we move our mechanicals to the top floor for ongoing resiliency in terms of flooding concerns. We're practical. We build co-generation or solar arrays into the building design. Next slide.

A brief touching on our onsite solar and co-generation. Co-generation is heavily incented by the utility in our area. We've had a great experience with it providing ongoing cost savings, and was also an ancillary, an alternative energy credit program that pays for the annual operating for what you contract out for your co-gen units.

The percentage of solar, of electricity, we fund from our own solar, source from our own solar is increasing over time. That will be challenged as we are now going back and increasing our ventilation flows, as a response to COVID, and increasing our filtration for indoor air quality. So, we'll be using some more energy to assure that our residents are healthy over the long period of time.

My last plug is for the importance of long-term energy contracts. It allows us to know five years out how much our energy cost is going to be. It allows us to talk back to investors. For example, they often say they'll give you a six percent increase in utility costs annually, but I can show them our contracts and say, no. This is our stable base going forward.

With that, I'll wrap up to leave time for any remaining questions.

Josh Geyer: Thank you so much, Tina. We have time for two questions. The first one, which I would love to also hear the answer to, is how did you go from an Energy Star rating of 3 to 97?

Tina Miller: The whole building, right? You've got to get to your windows and exterior. I should say we had a fundamentally low bar to start with, right? All electric construction built in the 1970s, you can do a lot with that. Our utility incentives in the co-gen programs were also very helpful in that regard.

Josh Geyer: Great. Concise answer. The second question is, second and last, how are the cost of benchmarking and analysis tools, e.g. WegoWise, covered? Allocated to each entity or handled centrally?

Tina Miller: Yeah, I can say over the years, we've flipped. There have been points in time when we've allowed them to certain buildings. There's been certain times we took it out of the COC cost center and allocated it out to buildings. I'm pretty sure going forward with our property budgets post-RAD, there is a service line for, say, energy management that we've built into those portfolios to handle both the reporting and my time within the office, working on properties.

Josh Geyer: Thank you. First of all, I want to thank our presenters for this fantastic information that you're putting out there to the world. Before we wrap up, we have one more poll question that we'd appreciate you folks who are attending to take advantage of, to take part in. Leslie, take it away.

Leslie Zarker: Sure. As we did before, folks, if you could go to Slido.com and again, type in the event code, #DOE, if you're not already there, to access the poll. If you are already there, you should see the final poll on your screen.

The question is, what financing strategies are you now more informed about than you were before, as a result of today's webinar? Let's see, it looks like in the lead, we've got EPCs definitely more informed about, and also what JoAnn talked about, the Recoverable Advance Agreement in second place there. Also more informed about the RAD program in general. Let's see. Capital Fund, HUD's office of Capital Fund financing program. The DDTF program, and then followed by the LIHTC program and affordable housing trust funds.

That's super helpful. Thank you all for giving us that feedback.

Josh Geyer: Yeah, agreed. Thank you.

Leslie Zarker: Okay, next slide, please. Many of you did ask, after JoAnn spoke, about the website she mentioned. There is a case study on the website about her renovation and financing of the retrofit at Manhattan Housing Authority. Here is the link to the resource she mentioned. It's a case study. If you go through the case study, you'll see a section on tools and resources. You can find the example of her grant agreement that she had with her city there in that case study. We have another case study on Jersey City's work that you can also have a look at. Next slide, please.

We do have a great lineup of these presentations you see on your screen. Go ahead and visit the Better Buildings Solution Center to register today. Next slide.

We do hope you'll join us for the next webinar in our series called CPACE Financing Turns 10. We'll be exploring the impacts and success stories the commercial property assessed clean energy financing, better known as CPACE. Next slide.

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Let's see. Great. With that, a big thank you again to all of you, to the wonderful panelists: JoAnn, Stephen, and Tina. And of course, to all of you for joining us today. Thanks so much.

Let's see. One last note. I want to encourage you to follow the Better Buildings Initiative on Twitter for all the latest news. You'll receive an email notice when the archive of this session is available on the Solution Center.

Thanks to everyone, and we are now concluded with this webinar. Thanks.

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