
The broadcast is now starting. All attendees are in listen-only mode.

Holly Carr: Hello and welcome to the Better Buildings Alliance Annual Open House Webinar. Let's go ahead and advance to our intro slides. We're going to make sure they're where they belong. There we go. Hopefully, not too many of you showed up to the DOE headquarters expecting punch and cookies for an open house. This is an online open house webinar. Thank you for joining. We'll go ahead and run through the plan for the day on the next slide. Basically, it's a new school year. It's a new year for the Better Buildings Alliance as well. The goal of our session here today is to let you know what will be happening over the next year in the Better Buildings Alliance.

Over the summer, your steering committee has formed for each of the sectors, and has met and discussed priorities, and come away with some key priorities for each of our sectors. We have many, many activities happening in our technology teams and solutions teams that we wanted to let you know about. Today, we'll start off with a few introductions, and then we have just a couple kind of broad program updates and an overview of the alliance to give you some contacts if you are an inquiring mind, perhaps not involved in Better Buildings Alliance or Better Buildings Challenge, per se, but interested. We'll give you a little context for what the alliance is all about and how it organized. Then we'll dive right into the sector priorities and talk about supposed activities that your sector leads and your account managers have in mind to address some of those priorities.

We'll get updates from our Technology and Market Solutions folks, and lots of opportunities for involvement this year. Then finish it off with any questions that folks might have, if we have time. I want to encourage you to please use the question box on the right-hand side of your webinar window. Use that not only as a question box, but also a comment box. As we're providing information and sharing with you the Steering committee's priorities and so forth, let us know if you have any ideas for additional work or specific activities within those priorities that would make sense. Our goal is that at the end of this webinar, you have a whole Post-It note or a notebook page full of ideas about resources you want to go check out, activities you'd like to participate in, technology campaigns that you want to get involved in. We do ask our Better Buildings Alliance partners to participate in at least one activity with us per year, and hopefully that will be an easy ask this year. There's a lot going on.

Next slide, please. These are just some faces to go with names that many of you have spoken to already, some of you for many years, participating in the alliance. I do want to call out two new faces. One, Jordan Hibbs, who recently joined the Department of Energy and will be heading up our Technology Solutions Team. She'll be taking over for Andy Mitchell, who has done that for the past couple of years. Welcome to Jordan. You'll hear more from her in a few moments, when we really get into the chat portion. Also, Prithvi Acharya, who is joining us from ICF. He's fairly new to the team, but has a lot of experience with food service and will be working with our Food Service and Grocery folks as an account manager. Welcome to both.

Next slide. *[Break in audio]*. Some of the special things definitely to our Steering Committee members. We have at least one steering committee chair for each of our sector groups. You'll see here in a couple places, we have a co-chair. A special thanks to John D'Angelo, Joan Kowal, Ken Hansen, Pat Lydon, Eric Duchon, Ray Hobbs, Chris Magee, and Jim McClendon for stepping up and really leading these sector groups this year.

Next slide, please. All right, this is just a quick overview for folks who might be new to the Better Buildings Alliance and checking it out on this open house webinar. The better Buildings Alliance exists to help building owners and managers meet their energy efficiency goals. That is why we're here. We try to provide lots of opportunities for peer-networking, for development of resources that can move the needle for you in energy efficiency. To do that, we've broken the organization up to sort of a matrix structure. Down on the left-hand side there you can see we have five sector groups that meet on a regular basis, usually by phone or on a webinar, and talk about sector specific issues and energy efficiency.

We also have cross-sector technology teams and market solutions teams. The technology teams are pretty self-explanatory there, focusing on very discrete technologies and how they can support our partners in reaching their energy goals. Then we also have market solutions teams that really address sort of those more pernicious barriers to energy efficiency that are non-technical. Things like energy project financing, that split-incentive issue between landlords and tenants, access to energy data so you can benchmark. Those types of things. You'll see down there a hint of things to come with the new building envelope tech team. Jordan will be telling us about that in just a minute.

Next slide, please. This is a quick snapshot to show you where we are today in the alliance. We keep growing. We are 213 partners. We now have 174 organizational partners, and then 39 affiliates. Those affiliates are typically non-profits and trade organizations whose members are also our members. We are at 11 billion square feet, represented commercial building space, which is about 12 percent of commercial buildings in the U.S. We brought 17 new partners into the alliance this year. Twelve partners and five affiliates. You also have access to over 100 energy-saving resources. These are case studies, guidance documents, decision models, implementation models, showcase projects, you name it. There's a lot there to help you, and we hope folks will take advantage.

Nest slide, please. Those 100 solutions and a lot more are located up on our Better Buildings Solutions Center, which is really the nexus for all things Better Buildings. They are searchable every-which-way. It's nice and clean and easily accessible. If you do see anything that you're interested to check out today, you can pretty much rest assure that it is up there on the Solution Center. Anything that you see highlighted – or hyperlinked on our presentation today will be sent out to you. This presentation will come out to you afterwards with clickable links, so don't worry.

Next slide. All right. This is just calling out those new partners more explicitly. We want to welcome all of these folks across – as you can see, all of our sectors. We gained membership this year, and we're really, really happy to have you. Welcome.

Next slide. And these are our affiliates. You will probably recognize some of your closest allies in the more broad work that you do in your sector in our affiliates. We have wonderful affiliates to partner with us, and really to get the word out on energy efficiency and resources available to folks to a broader audience. We very much appreciate their support and participation.

Next slide, please. Just a couple program updates I hope that will all be good news to you. First off, we are really excited this year to begin working with Better Buildings Alliance partners to develop showcase projects and implementation models. In the past few years, we have developed those explicitly with Better Buildings Challenge partners, those who have stepped up to that 20 percent portfolio-wide energy reduction bill. We are really finding that our alliance partners have such great stories to tell, and many best practices that would be useful to others, and we want to share those in a case-study format. So, if you have a particular building in your

portfolio where you are seeing 20 percent or greater energy savings that you would like to highlight as a showcase project, please let our account managers know. They will be asking you about that when they talk to you, but you can let us know as well.

Similarly, with the implantation models, these are not individual building case studies, they are an organizational CAPA case study. So, if you have a secret sauce that is working for you and supporting your energy efficiency efforts, unique explaining methods, we put you're engaging staff or engaging building occupants, let us know and we would be interested to turn those into case studies that other folks can learn from.

All these next items are sort of housekeeping on the calendar side. This year we're changing up our calendar a little bit, I think to hopefully make things much easier to our partners by requesting partner progress updates, which is something we do every year. We send out a document asking you all to tell us what you have done this year in energy, and what your successes have been, and to share energy data with us if you can. This year we're going to be asking for that between January and the end of March, for the previous calendar year. So, for 2016.

Hopefully that will simplify things for all of you who are reporting energy news. For those of you that haven't been, because it's been confusing, we hope that you will start sending us your energy data. You can do this quite simply now. This will be the first year that we open up ENERGY STAR Portfolio Manager, so you can share basically with the click of a button, your energy use across your portfolio with the Better Buildings Alliance.

Finally, we are rolling the Better Buildings Alliance Progress Update into the Spring Better Buildings Report so that we can collect all of that information and highlight it in that big, spring publication that comes out right around the Better Buildings Summit. All right, that's it for calendar changes and program updates. Please mark your calendars. Do it right now, while you're listening. The Better Buildings Summit has been schedule for May 15th through the 17th in Washington, D.C. again this year, at the Washington Hilton. We hope to see many of you there for great conversation, lots of learning and sharing of best practices around energy efficiency in your building.

Next slide, please. All right, now we're heading into the sector updates. We're going to have each of our sector leads present their results from our conversations with the Steering Committee, and

the accomplishments of the 2016 year, as well as upcoming activities for 2017. I will turn it over first, I believe, to Cindy for the commercial real estate work. Cindy?

Cindy Zhu:

Thanks, Holly. Hi everyone. In the Commercial Real Estate Sector, we are the largest representation of commercial building floor space in the country with nearly 16 billion square feet of office space. In the Better Buildings Alliance, we have over 40 percent represented amongst our partners' buildings and portfolios. This is a huge percentage and we are very happy to work with all of these various partners that you see on the screen.

Next slide, please. I'll remind everyone that our steering committees are partners that work with us that have decided they want to do a little bit more with us. They meet with us on a more regular level every year, and they help us set priorities about what to use, our resources, and what activities to develop for our partners and those in the Better Buildings network. In 2016, we had three priorities that we attempted to work on and create resources for. The first one was to incorporate energy efficiency in the appraisal and valuation process of real estate. The outcome of that was a working group that contained multiple stakeholders and discussed what type of resources the appraisal sector needed. We held a Better Buildings webinar in March, and we helped develop a training around energy for the appraisal community.

Priority number two, we wanted to help you all identify and evaluate skilled engineers. The outcome of that is what we're calling a solution-at-a-glance. It is a collection of sample interview questions that you all can use as you're evaluating engineers to do work on your projects. This is something that you can actually find online and utilize as you're conducting interviews.

Finally, priority number three. We wanted to help the market understand and communicate the connection between sustainability and energy efficiency in buildings, and financial value for companies that are investing in these buildings. The outcome here is we had a dedicated working group of building owners and stakeholders to help us develop what we are calling right now 'the financial data research entity'. Not a sexy name at the moment. But, I'll talk a little bit more about this as we move into the market solutions updates later on in the hour.

Next slide, please. For 2017, we have four new priorities. The first is to encourage tenant level sub-metering. Our partners have told us that it is very difficult to overcome the owner/tenant split level

incentive, because they don't know how much energy that their tenants are using in their multi-tenant buildings. Adding to that, the market for laws about sub-metering are very difficult to research and difficult to figure out. The resource that we are working to help develop is a map or database that describes the differences in sub-metering regulation by market; either by state, commercial, residential. Hopefully, this will provide more information so that building owners can make good decisions about getting sub-meters into their buildings.

Next up, priority two. We will lead a big focus on leased space energy efficiency. This is energy efficiency for tenants. Many of the building owners we work with have multiple tenants living and working in their buildings. We will develop a specific initiative for tenants. More on that later.

Next up, we have a focus on green revolving funds for the commercial real estate market. Green revolving funds are internal funds that help finance energy efficiency projects. They are very prevalent in the higher ed. sector, not so much in office space. We will try to help create a green revolving fund template for building owners of office spaces.

Finally, priority number four is how to impact the class B and C real estate. These are buildings that are not quite top market in major markets, but still have many great energy efficiency opportunities. Our potential resource here is to organize and develop market specific events in conjunction with some of our CRE affiliates that are working in this space and also our building owners that have already done a lot of great work in class B and C buildings. To get them together and share best practices. Next.

Holly Carr:

Okay, so I'm back up now – this is Holly – with information about the retail, food service and grocery sector. Before I continue, I just want to encourage folks to go ahead and use that question box as a comment box. Let us know what you think of these priorities, which ones you like, which ones you'd like to be involved in, and certainly other ideas that you might have to address these priorities. We'd really like your feedback.

In terms of the retail, food service and grocery sector, we are at about 19 percent coverage of the 14.4 billion square feet, so 2.7 billion square in our retail, food service and grocery partner floor space. I am covering this section. I work with retail partners, and colleague, Sultan Latif – you all see down at the bottom there – work with our food service and grocery partners. Please feel free to

reach out to either one of us with questions or suggestions after the webinar today.

Next slide, please. Our priorities in 2016 dealt with proactively replacing or retrofitting roof-top units. For that, we have some specific lease language that addresses roof-top unit replacement and maintenance that our partners can use when they're negotiating or renegotiating leases with their landlords. Special thanks to, I know Staples and Starbucks, and I believe Whole Foods, who participated and reviewed that and provided a lot of guidance for that document.

Secondly, developing strategies for dealing with the overwhelming data that folks are starting to get from energy management information systems. There were a couple of sessions on this at the Better Buildings Summit this year that were very well attended. For our sector group, we held a peer-exchange in July on this topic, just to let partners talk ideas and share their best practices with each other.

Our third priority for 2016 is being addressed, in one way at least, next week. This was a priority around our technology performance exchange, which is a tool developed by the National Renewable Energy Lab that's a database of performance data various equipment, energy-consuming equipment. There are a number of ways that our retail, food service and grocery partners can leverage this tool in their work. We'll be holding a webinar with the NREL development team and the lead for TPEx here at Department of Energy on October 3rd. That's next week. From 4:00 to 5:00. You can register right here when we send you the slide set.

Next slide, please. For 2017, we're going to go back to our roots a little bit in the Better Buildings Alliance. We used to have some convening between our partners and product manufacturers and vendors to really turn the tables a little bit. Whereas most of the time it's the vendors telling our retailers and food service folks what they have to sell, we like to provide an opportunity for our partners to let the vendors know what they would like to see in the market place. We're going to try to provide opportunity to do that again this year, either with manufacturers and/or Department of Energy emerging technology staff who are funding research for various technologies that can really benefit from some of that information as well.

Secondly, we're going to look at retail display lightening. We've done a lot of work, as you may know, with the interior lighting

campaign around troffer lighting and more sort of output applications. We want to take a look with our retailers at what could be done to encourage broader use of high-performance lighting for display lighting. We are also planning to look at supply chain energy efficiency. Our Better Plants initiative has created a supply chain energy efficiency program. There's a lot in that program that is applicable to our retail, food service and grocery partners. We're planning on doing some knowledge sharing between that and our partners this year.

Finally, there is also a lot of interest in water efficiency. We have a lot on our plates, and if we can, we definitely want to look at the water efficiency resources that our partners have created, that the EPA has created, and really sift out the ones that are most relevant strategies for our sector, perhaps create a toolkit for solution center there.

Next slide, please. All right. Let us know what you think of those. If you have any additional ideas on those priorities. While you're doing that, I will turn it over to Samantha Stafford, who is your account manager for healthcare. She will be covering the healthcare activities this year.

Samantha Stafford: Great. Thank you so much, Holly. Yes, this is Samantha Stafford. I'm the healthcare account manager, and Sultan Latif, as was for the food service and grocery sector, is also the lead for the healthcare sector. As Holly mentioned, we had several new partners join in 2016. For healthcare we had Abbott Northwestern Hospital, we had Hackensack UMC, and also the University of Nebraska Medical Center. Thank you to all those, and we've enjoyed having their new insights and best practices to share. I also wanted to point out in addition to a lot of the great leaders that we have in hospital systems, we are also looking to get into working with organizations that have a lot of medical office buildings in senior care communities in their portfolio. So, if that's you, reach out and let me know. We'd love to start engaging teams at those types of facilities, and establishing better resources for those.

To jump into some of last year's priorities and the kind of resources and activities around those, I can share those with you now. We had, similar to the retail, food service and grocery team, the data coming out of energy information management systems has been a huge priority and challenge for a lot of organizations. We have been working with healthcare partners in the last year to identify best practices and solutions. As you can see, we have the Primer on Organizational Use of EMIS. There's also been a few

other resources and sessions, such as Using EMIS to Detect Problems and Fix Them. Again, as Holly mentioned, these links are all available in these slides after the webinar, so please take a look, check them out. I really suggest taking a look at them.

Also, coming up in 2017, the Smart Energy Analytics Campaign, which is going to be focusing on the implementation of EMIS and also making decisions around the data from EMIS. If this is something that interests you, we're not letting that go, we're going to be doing a big campaign coming up in 2017. Also, another focus area we had was optimizing air exchange rates in healthcare facilities. This has been a huge topic for healthcare for a long time. It's something that we focused on actually the last two years. I want to point out these resources: the Optimizing Air Exchange in Hospitals session that we had at the summit was actually one of the most popular ones that there was, so I suggest taking a look at that. Also, Cleveland Clinic has had a great implementation model and video that a lot of partners have found very valuable.

Next slide. Last but not least, another priority that we had was managing the energy consumption of central plants and related equipment. Again, we have a number of resources that were developed, both written and sessions in webinars. But, I also want to point out that right now we just launched, this week, the Central Plant Resource Hub. You can check it out at that link. We're really looking for partner feedback, recommendations. If you're particularly skilled or adapt at a particular part of the central plant, please take a look at that section of this resource hub and let us know if you have any suggestions or recommendations. We really would appreciate anything that you have to say.

Jumping to the 2017 priorities and proposed activities. We are very excited that one of our priorities is integrating renewable energy. We have a renewable energy tech team that will be discussed later with Jordan. We're going to be working closely with partners that are already implementing renewable energy at their healthcare facilities, and working with the tech team to develop resources and solutions. Also, we're going to be working on leveraging utility offerings, which is going to include working with both utilities and partners. We're hoping to develop a working group to really identify some of the barriers that utilities have had in reaching the healthcare facilities in their districts, and in turn some of the barriers that healthcare facilities have had in really leveraging the opportunities that utilities have to provide them as large energy users. We're also going to be working with utilities to better provide resources, particularly around rebates or automatic

benchmarking, because a lot of these are of interest to healthcare facilities, but oftentimes they're not talking to the right people at the utility or vice versa.

Last but not least, as was mentioned before, water has become a bigger and bigger topic. Healthcare facilities in particular have had a lot of challenges in tracking their water, which has made it challenging to manage their water consumption as well. We're going to be working closely with partners to identify what those challenges are. We're also hoping to potentially develop some case studies, potentially some technical specifications around technologies that are addressing both energy and water efficiency in healthcare facilities. Again, as Holly said, we really would appreciate any feedback, questions that you have around these. If you would be interested in working with us on any of these priorities, just let us know. All right. Thank you. I'm going to hand it over to John Jameson for the higher education sector.

John Jameson:

Thanks Sam. This is John Jameson with ICF, account manager for the higher ed. sector and I work closely with Sultan Latif at DOE. As you can see here, this is our list of current higher ed. members in the sector, covering about seven percent of the national floor space. Always looking at numbers, so if you're on the line and not currently a part of membership, but interested in some of these opportunities, please reach out. We'd love to have you join.

Next slide, please. Here we have listed three of our 2016 sector priorities, starting with continuous commissioning and controls optimization. We worked fairly closely with our energy management information systems teams on some of this work. You'll see a few of these resources are hyperlinked. You probably won't be able to click on them now, but in the meeting followup you'll be able to follow these links directly to webinar slides and some audio-recordings. We did have a webinar on fault detection and diagnostics featuring Michigan State, University of Iowa, and also a summit session with the University of Miami on some of what they've been doing with their energy management system and really using that information to actively implement energy efficiency measures.

Also, the launch of the Smart Energy Analytics Campaign coming up. We already have had five higher ed. institutions join, which I think might be the most of any sector, so well done everyone. And always look to add staff too, so if you're interested, I think there's more coming up in this webinar itself. Also, just had a team call with Michael Deru at NREL on Central Plant Resource Hub,

which Sam also mentioned. A great interactive tool online. Again, looking for feedback on that, so if you get a chance to peruse through it, please let us know what you think.

Improving facilities benchmarking. You'll notice that this is going to be a 2017 priority for us too. This has really risen to the top for our sector. We're working with a lot of sector affiliates right now to see if we can do more on benchmarking. We know there's a tremendous variety of space types among and within buildings in higher ed. Leveraging our collective data tools and data gathering, we're hoping to really advance this priority. That's kind of where we are right now, just collecting those different data fields that each organization collects.

Also, just addressing campus growth. This has come up a lot with partners; the continued expansion of facilities. We did hold a summit session on campus growth and focusing on space utilization efforts, and sharing equipment as well, especially in laboratories. You'll be able to follow those slides in the followup.

Next slide, please. Here's our 2017 priorities. As I mentioned, improving facilities benchmarking is sitting right at the top. We're collaborating with those organizations. One of the tools we hope to leverage for this is the Building Performance Database, which is a DOE tool. Of course, it's got a little, unique twist to it, and that is that as opposed to ENERGY STAR Portfolio Manager, you can allocate space type within a building by percentage. So, you can say it's 50 percent lab, 20 percent classroom, 30 percent office, something like that. That breakdown can really provide a more accurate depiction of what your building is.

Also, we have a smaller group within our steering committee that's looking to approach the ASHE group, which works in the healthcare industry on what they've done with EPA in surveying healthcare institutions and using those results to help develop an improved one to one-hundred ENERGY STAR score in Portfolio Manager. We're really hoping to learn from some of what they've done to see what can be applied to higher ed. If you're interested, feel free to get in touch with us afterwards.

Priority number two here, engaging occupants through EMIS. We do have a workshop coming up at Lawrence Berkeley National Lab on October 25th, so if you're in the Bay Area and interested in attending, that is a great opportunity. You should be receiving an invite in the next couple of days. If you're already in the Bay Area, we'd love to have you there.

Holly Carr: John, I'm just going to jump in there, because that particular workshop is not just for higher ed. folks. It's open to all of our Better Buildings partners across sectors, hosted at LBNL. Great opportunity to visit the lab and get some super info. If you are in the Bay Area in any sector and you'd like to join, let us know.

John Jameson: Yeah, and not just the workshop, also a tour of the FLEXLAB facility, which is a really cool, innovative facility that leads some cutting-edge research in building energy efficiency. There's some fun activities going on too.

We'll be promoting some of the case studies people have already done on this topic including some of UC Berkley's work. As I mentioned, we've got five universities already onboard with the Smart Energy Analytics Campaign.

Lastly, energy efficiency and climate action plans. As you know, many campuses have drafted climate action plans with specific targets. For some schools, those targets are coming up faster than others. Beyond maybe some of the low hanging fruit, what can energy efficiency really tackle on campus. We'll be at the Second Nature Climate Leadership Summit in February presenting with UC Berkeley. Beyond that, just working with our affiliates in the sector, ASHE and Second Nature, and seeing what roles can we continue to have energy efficiency play in this. Of course, we'll be promoting the work that our schools are doing, some of the best case studies in this sector. That is it for higher ed.

Holly Carr: All right. Thanks very much, John. We'll jump right over to Andy Mitchell in the hospitality sector.

Andy Mitchell: Thanks, Holly. Looking over our overview here of hospitality, we have 17 percent of the total market floor space nationally. Not as high as some of the other sectors, but we're working on that. Partners listed to the right there, and a special shoutout to our new partners: Loews Hotels with their 23 locations nationally, and Las Vegas Sands, who is a Challenge partner and signed on to the Alliance also.

Moving on, let's have a look at the priorities we were focused on for last year there. These sound real familiar. EMIS, benchmarking, and financing for solar at hospitality properties. Probably the biggest media sensation that hit over 2016 was the Better Buildings SWAP Program that we released last spring and produced with Whole Foods Market and Hilton, one of our top hospitality

partners. Many of you have probably seen this, but it's really exciting. It's really energetic and fast-moving. The premise is three short webisodes. The energy teams from Hilton and Whole Foods trade places, and each advise the other on different energy efficiency measures in the stores. It's got a lot of, like I said, high energy, a lot of zip, a lot of pep. It's fun to watch. I highly recommend checking it out. They are very easy to find if you go to the Better Buildings website. They'll jump right out at you. A good way to spend some time at work, have a nice break, and also educate a little bit. I encourage you to check those out. A good way to see Better Buildings' leaders in action.

Moving on to our 2017 priorities. Basically, you can split these up into two, and those again will sound familiar. Number one, evaluating energy and water efficient technologies as well as other technologies. This is probably a good lead in to our next section of the open house here, where Jordan will tell us about the technology solutions team. It was good to hear it come up with our steering committee of hospitality partners as well. Basically, they were focused on – you see the things in the blue box there – PTAC next generation units. Those are the packaged terminal air-conditioners you see in every – or most – hotel rooms that you walk into. A huge opportunity for energy savings there, and we look forward to working with our partners on that.

The final point there is enabling franchisees to implement efficient operations. You see in our roster right now that there are a lot of leaders in the industry. They're well represented. They include major international brands, hotel management companies, and hotel owners. We'd like to spread across the spectrum and get leaders from smaller companies and limited-services hotels. Small business owners from around the country that may not be able to prioritize energy efficiency as highly as they would like, but when they do, and they step up, and they offer that experience to their peers, it can really resonate. That's going to be one of our goals for recruiting, and we're working with AAHOA and AH&LA. That's the Asian American Hotel Owners Association and AH&LA. I believe that wraps up our sector priorities and activities section. We can move onto the next portion here. We will hear from Jordan Hibbs, who is taking over for me in this seat as the technology solutions team lead for DOE. Jordan, take it away.

Jordan Hibbs:

Thanks, Andy. Hi everyone. This is Jordan Hibbs. I will be taking over Andy's role with coordinating the Better Buildings Technology Solution team. As was mentioned before, when participants join Better Buildings, they're grouped according to

their sector, such as retail, hospitality and so forth. Then they can choose to participate in one of seven technology teams, which are listed here on this slide. The websites are hyperlinked here, except for the Building Envelopes one, which will be coming out shortly.

Each team is led by a subject matter expert and the content of each team is driven by member interest as well as objective research by the Department of Energy. What do these teams do? They meet throughout the year for short team calls, and they discuss relevant issues that fall in line with the main reasons that participants joined these tech teams in the first place, including access to objective experts, peer-to-peer learning, and recognition opportunities. In the following slides, I'll go over the plans for the teams for 2017, and we'll also share information about four technology adoption campaigns, which are really opportunities for us to all show that certain identified, high-impact technologies related to lighting, HVAC and building data are market ready and make financial sense. If you are interested in learning more about any of these teams, we encourage you to contact your account manager or really anyone here on the Better Buildings team.

Next slide. We are very excited about our newest technology solution team, the Building Envelopes team, which is going to be led by Melissa Voss Lapsa from Oak Ridge National Laboratory in Tennessee. The Building Envelopes team focuses on building envelopes, which include walls, windows, roofs, foundations. It's really of particular interest to designers, architects, and really anyone involved in new construction projects. The team will be hosting a kick-off open house webinar, which will be held on November 9th. More information and registration information will come out soon, but really all of you are encouraged to join in on that call.

In 2017, the envelopes team will be developing their peer working groups, generating resources and sharing information from real building demonstrations. We're really excited about this new team and the potential to save energy from building envelope technologies. Please do contact the tech team lead or any of us here at the Better Buildings group for more information.

Next slide. The Plug and Process Load team is led by Rose Langner out of the National Renewable Energy Laboratory in Golden, Colorado. This year the PPL team will continue existing efforts to better integrate plug and process load control technologies into building control systems. The building team will also be developing the guidelines and structure for hosting short

demonstration videos of plug and process load control products. These plug loads are of particular interest to commercial office buildings with a lot of desktop plug-in equipment, and is also very important to zero-energy building design.

Next slide. The Refrigeration team has a new lead, Justin Elszasz of Navigant Consulting based out of D.C. Bob Zogg of Navigant served as our team lead for many years, but is retiring in October. This year, the Refrigeration team will release a refrigeration toolkit, which will be a single source for resources supporting energy efficiency and alternative refrigerant. They'll also be securing additional case studies on refrigeration control, retrofitting open display cases, and alternative refrigerants. If you're interested in providing information for a case study on refrigeration, please contact Justin or any of us on the Better Buildings team, and we can get you connected.

Next slide. The Renewables Integration team is led by Jay Paidipati from the Boulder, Colorado office of Navigant Consulting. The team will continue this year working on resources related to solar on commercial buildings. We will be starting off the year by hosting a team call with Whole Foods on solar PV and roofing later this fall. The team will also spend time this year focusing on energy storage systems, which most people agree is the next logical step associated with renewable integration.

Next slide. The Energy Management Information Systems team lead is Dr. Jessica Granderson from Lawrence Berkeley National Laboratory in California. Over 2016, her and her team started recruitment for the Smart Energy Analytics Campaign, which has been mentioned a few times throughout the presentation. This year, the EMIS team will focus on that campaign and continue coordinating real building demonstrations. They will also be developing a resource showing how energy use data can be used to optimize building performance and detect problems that waste energy and money. If you're interested in learning more about the campaign, once these slides are sent out, you can click on the link to learn more or contact any of us here at Better Buildings.

Next slide. The Space Conditioning team is led by Dr. Michael Deru, also from the National Renewable Energy Laboratory. This year, the team will be releasing and building upon the Central Plant Resource Hub, which is a web-based tool that organizes energy savings resources related to central plants. The team will also be providing ASHRAE Guideline 36 application resources.

Next slide. The advanced Rooftop Unit Campaign is part of the Space Condition team and is a recognition and guidance program. This year, the campaign will also be presenting awards at the 2017 PRSM conference and will continue recruitment for the campaign. The campaign will also be developing results of automated fault detection and diagnostics for RTU demonstrations.

Next slide. Our last slide here is on the Lighting and Electrical team, which is led by Linda Sandahl from the Pacific Northwest National Laboratory, which is based out of Portland, Oregon. Two categories of lighting in recent years that merit specific emphasis include interior troffer lighting and parking lighting. Each is subject of an adoption campaign. The first here on the slide is the interior lighting campaign, which is a guidance and recognition effort with a goal of researching one million troffers replaced or newly installed by April 2017. AS of August 2016, the campaign has reached over 680,000 troffers. So far, the participants have saved \$13.5 million in annual energy savings. This year the campaign will be developing case studies of the winning sites and will continue in building demonstrations with ten advanced lighting control demonstrations.

The second campaign for the Lighting and Electrical team is the Lighting Energy Efficiency in Parking Campaign, or LEEP for short. The campaign has over 140 participants and has been going on for years. The campaign is a joint effort between the Department of Energy and industry partners. The lead organization on this campaign for the last year or so has been the Green Parking Council, a group which is now part of USGBC. It has been exciting to see this go from the DOE high impact technology list to a stand-alone effort, expertly managed by our great team at USGBC. If anyone on the call has upgraded their parking facility lights or is considering it, this campaign is a great resource.

This will conclude our update for the Technology Solutions teams, but please do reach out to anyone of us on the Better Buildings team, as well as the leads that have been listed on these slides for more information on how to join either the teams or the campaign. Next slide.

Holly Carr:

Thank you, Jordan. Yes, if you are not already involved in any of these teams, as Jordan said, we'd like partners. Partners can select a team. You can definitely participate in more than one team, as many as you'd like. With that in mind, please consider participating in our market solutions efforts as well. To tell us about that is going to be Cindy Zhu.

Cindy Zhu:

Thanks, Holly. The Market Solutions teams are focused on creating resources and finding solutions to non-technical barriers to increasing energy efficiency across the building sector. A few of these working groups have activities and new resources out this year that I invite all of you to take a look at, and also to contact us if any of these areas are things that your organizations are having trouble working on or may in the future be working on.

First up, we have green appraisals. An appraisal is a third-party verified assessment and valuation of a building. We have found that appraisers in the industry are not properly incorporating energy efficiency into a building's value, and thus high-performing buildings and really energy efficient buildings are not getting their higher value demonstrated across the market place. We have worked with appraisers, we have worked with lenders, and we have worked with building owners to develop resources that these multiple stakeholders can use and ensure that a high-performing building is properly valued.

The relevant resource here is we have developed an owner's guidance for ordering high-performing appraisals. What this is, is information in checklist form of what type of building-level information, energy information that you should provide to your lending organization when you would like to order an appraisal on a building that you are about to sell or purchase. Or, possibly a building that needs to be appraised for internal reasons. If you would like to get involved on this, we are looking for owners to pilot this guidance with us, on your next appraisal, and publish a case study of how it was useful with DOE.

Additionally, we have been working on developing training for appraisers to better understand energy and how it can be incorporated into their valuation practices. This course has been developed and piloted this year. We are also in the process of converting the in-person training into an online version, which will make it more easily assessable for folks across the country. You can get involved here if you would like to host this training course for your in-house valuation people or if you would like folks to go and participate in the course.

Next up, we have a project on the impact of energy factors on commercial mortgages. We understand that energy currently is not being factored into the standard commercial underwriting process. We believe that there are missed opportunities there, and we have great scientists out at LBNL and UC Berkeley School of Business

that have been looking at how can we assess energy factors, such as energy cost and consumption volatility, and determine whether it has an effect on a commercial mortgage risk of defaulting. We actually premiered for the first time results from this analysis last week. This is now posted online and the transcript can be reviewed, the slides can be reviewed, or you can watch the recording. Our researchers were very excited on the outcomes of their first step at analysis and have found that poor performing buildings, either because they are inefficient or because of operations, do have a higher chance at default. The loans have a higher chance of defaulting, and they have found some statistically significant evidence for that. Very interesting work that will continue to develop and work on bringing the information to the broader public.

Finally, the third project I will talk about is right here. It's called linking high performing buildings with financial performance of the organizations that are investing in them. The barrier that we're seeing is that the empirical evidence connecting energy efficiency, sustainability factors, and these buildings having better financial performance is hard to do, because of the barriers to getting access to data from various real estate companies. What we are proposing is that DOE is developing a non-commercialized, but still secure data warehouse that will connect academics working in this real estate research world with the financial and building level data that different real estate companies hold, which is highly proprietary and hard to access publicly. Not able to be accessed publicly. We are looking to really catalyze research that will connect high performing buildings, sustainability features with say a building's capability of leasing up faster, of various absorption rates of tenants, and other various variables that could be very interesting and really could provide insights on decision-making at the asset and portfolio level for the real estate industry.

Several ways to get involved here. We will send out a resource that summarizes this project a little bit better and sort of lays out what are the asks, who's going to be involved. We will send that out in a followup e-mail, so you can get a little bit more information there. We have actually been working on a pilot of this project over the summer, and we will be previewing results and also discussing the larger project as a whole either in late October or early November. Finally, if this is an area that you're interested in participating in and really driving industry research and industry findings on sustainability and finances then please reach out. Let us know if you want to get involved, and if you want to join us in developing

this initiative. All right, and finally we'll have Holly discuss the Leased Space Initiative.

Holly Carr:

Great. Thanks, Cindy. You heard a little bit about the Leased Space Initiative earlier in the webinar. We are going to be doing a lot of focus work this coming fiscal year with Lawrence Berkeley National Lab and a number of other partners to really kind of move the needle in leased space efficiency. We developed a report that came out in April on this topic, and now it's time for action. If you are a tenant with a large portfolio of leased space or you are a landlord leasing out space to lots of tenants, we would love to work with you and get your feedback on our proposed efforts this year, which will likely include recognition both for tenants and landlords around portfolio level energy efficiency in leased spaces. This work is just getting started. Feel free to message us in the webinar, if you'd like more information, or certainly reach out to me or any of your account managers or leads on this one as well. Thank you very much.

Let's move to the last bit here. A few other ways to get involved as a Better Buildings Alliance partner. Developing a case study with us. There are a number of case studies that we are hoping to do in our technology teams and I mentioned the new opportunities to do showcase projects and implementation models with us. Tell us about your successes when we talk to you on the phone, or send us an e-mail when something great happens. We'd love to know about it and we'd love to share that success with other folks. We're also always looking for success stories and best practices to share in our Better Buildings webinar series, through our peer-networking calls with tech teams and sector teams and market solutions folks. If you are interested in sharing those stories on the phone with folks, let us know.

Also, something a little different is the opportunity to serve as a reviewer for DOE funding opportunities. As you may know, DOE provides a fair bit of funding each year for energy efficiency efforts, both in emerging technologies and also in market share information work. We need reviewers who have their boots on the ground and are doing this work, to participate in the decision process for these grants and cooperative agreements. That is always an option as well. We'd love for you to invite your colleagues to join the Better Buildings program.

Finally, next slide. We always welcome our alliance partners to step up and commit to the Better Buildings Challenge, which is

that 20 percent energy reduction across your U.S. portfolio commitment.

Next slide, please. These are lots and lots of ways to stay informed through our social media and our outreach via e-mail. Next slide, please. Finally, I'd like to remind folks – or you may not know that this is the first Annual Energy Efficiency Day coming up in October. We actually don't know the day. I think it's October 5th, if I'm not wrong. From 1:00 to 2:00 PM. This is the Twitter handle that you can use to share your energy efficiency success stories, or links to a case study or success story on your corporate website, or link to your showcase projects or implementation model, if you've already got one up there. Just show off what you're doing in energy efficiency.

Next slide, please. All right. If we have any questions out there, feel free to send those in to us. If we receive anything – given that it's 4:00 now – if we receive any questions that would be good for the entire group to know about, we can put an FAQ together and send that back out to folks. Otherwise, we will certainly respond to questions on an individual basis. This last slide here provides you with contact information for all of our account managers and sector leads. Please feel free to reach out at any time. We encourage you to take a look at the Solutions Center and really get in there and use those resources to your advantage. Thank you very, very much for taking time to care about the efforts and the plans and the opportunities to participate in the Better Buildings Alliance this year. All the best to you. Signing out.

[End of Audio]