Recording: The broadcast is now starting. All attendees are in listening mode.

Holly Carr: Hello. I'm Holly Carr with the U.S. Department of Energy. I'd like to welcome you to the February installment of the Better Buildings Webinar Series. In this series we profile the best practices of Better Buildings Challenge Partners, Better Buildings Alliance Members, and aligned organizations who are working to improve energy efficiency in buildings.

Today we're coming back to a topic near and dear to our hearts here at Better Buildings and that is how to pay for energy efficiency upgrades. During previous sessions we've learned about property assessed clean energy, or pace financing, we've talked about how to take advantage of utility incentives for energy efficiency upgrades, and even how to make the business case for energy efficiency internally during our session on speaking the CFO language.

I encourage you to check out the Better Buildings Webinar Vault online to find these sessions and relive them, but today we'll be looking at another vehicle for financing energy efficiency, which is the Energy Savings Performance Contract, or ESPC. ESPC's are not new, but we've titled today's presentation ESPC 2.0 because it'll be focusing on what is new in the world of ESPC's, highlighting new tools, new trends, and new sectors that are taking advantage of this financing vehicle.

We'll hear first from Don Gilligan at NAESCO, the National Association of Energy Service Companies. Don will provide a quick primmer on ESPC's, as well as his perspective on trends in the industry.

Next we'll hear from Aaron Panzer, financial ally in the Better Buildings Program with Metris. Aaron will be presenting a case study on successful use of the ESPC model in a private sector.

Then BBC Partner of Commonwealth of Massachusetts will describe how they put a unique spin on the ESPC model to facilitate energy upgrades in their state builder things.

And finally, my colleague Alice Dasek, will fill you in on a new effort here at DOE to encourage the use of ESPC's among governments and institutes of higher education. So we've got a lot to talk about today. At the end of the session we will highlight some associated resources that you might want to check out and then we are hoping to have a nice period of time for Q&A, so we

will be collecting your questions throughout the presentations and try to answer as many we can at the end.

So let me introduce our presenters a little more fully here. Don Gilligan is the president of the National Association of Energy Service Companies, which is a trade association of about 85 companies that deliver approximately $6 billion of energy efficiency and renewable projects annually. Don coordinates NAESCO's state and federal advocacy activities, promoting energy efficiency and distributed generation in legislative, regulatory, and policy forums. He's worked in the energy efficiency industry for 35 years as a consultant, entrepreneur, and state government official. Welcome, Don.

Next up is Aaron Panzer. Aaron is the director of project development at Metris. He's responsible for negotiating, financing, and implementing energy efficiency retrofit projects with customers and Metris' ESCO partners. Aaron joined Metris very recently from Pulse Energy, which was also recently acquired by EnerNOC where he led west coast business development and strategy.

Jenna Ide is the deputy director of the Energy Efficiency and Sustainable Buildings Group for the Massachusetts Division of Capital Asset Management and Maintenance, otherwise known as DCAMM I believe, for the Commonwealth of Massachusetts. DCAMM manages construction and real estate for over 80 million square feet of buildings and associated land. Jenna has led the development and implementation of the Accelerated Energy Program for the Commonwealth, which will retrofit, get this, 700 facilities in 700 days, and we will hear more about that very ambitious effort shortly.

Alice Dasek is in the office of Energy Efficiency and Renewal Energy at the U.S. Department of Energy. She serves as the state lead for the Better Buildings Challenge and as policy advisor for 27 states developing lead by example initiatives and designing sustainable financing mechanisms for energy efficiency projects. Alice is gonna be telling us about the ESPC accelerator, which is an initiative to increase ESPC's by two billion over a three-year period, and you'll also hear about that shortly.

So thank you very much for joining us all today. Before we get started with our presentations, please be sure to send your questions into us using the chat function in your control panel

today. All right. With that, let me turn it over to Don at NAESCO to kick us off. Don?

Don Gilligan: Thanks very much, Holly. Next slide, please. Next slide, please. So what I'm gonna talk about very briefly is a couple of things. First of all, give people who aren't familiar with it a 30-second introduction to performance contracting – energy savings performance contracting. Talk about the growth of the ESCO industry, what we've accomplished to date, the market drivers that we see in the public and private sectors, some information about what kind of retrofits are done, remaining market potential, and then what we see as some of the barriers to grow as a performance contractor. Next slide, please.

Performance contracting very simply repurposes money that building owners are currently spending on wasted energy to pay for capital accruals. In a performance contract, an ESCO offers a turnkey service. That means that an ESCO identifies what the measures are through an energy audit, designs, engineers, and supervises the construction of the measures, guarantees the savings and pays for any savings, shortfalls either by installing more measures or by writing a check. Next slide, please.

This is a simple graphic that just illustrates what I just said, that what you're doing in a performance contract is using money that you're currently wasting to buy building improvements. Next slide, please.

ESCO's install in performance contracts a whole range of measures. I don't have to read these to you. In addition to these measures there are other measures that are ouside buildings in water pumping and water treatment systems, street lighting, virtually anything that you can think of that saves energy or water can be part of a performance contract. Next slide, please.

This slide just shows the growth of the ESCO industry since 1990 and what NAESCO and the Lawrence Berkeley National Laboratory projected the growth between now and 2020. We are on a track to be somewhere between $10 billion and $15 billion industry. This year we'll probably be about a $7 billion industry. What's significant I think is that the ESCO industry grew right through the recession, which really decimated the rest of the construction industry. Next slide, please.

On accumulative basis, there have been about $50 billion worth of performance contracts done in the U.S., generated about $55

billion in savings, employed almost half a million people, and delivered an enormous amount of improvements in public facilities with no tax increases. So these improvements are paid for as I said before with energy savings. Aside benefits at no additional cost has been saving a lot of CO2, as well as other air emissions and water emissions. Next slide, please.

The market drivers in the ESCO market are largely in the government sector, so in the federal government we have mandates that are bipartisan mandates or energy reduction which date back to the early 1990s. They are periodically revised and ratcheted down. There is a $4 billion performance contracting challenge underway that President Obama started about two and a half years ago, and the other market driver is a need for capital improvements. GSA, which is the largest landlord in the world, has a very, very modest budget for capital improvements and they have these very aggressive energy efficiency targets, so they need to be able to finance them through performance contracts. In the MUSH market, which is the state and local government market – MUSH stands for Municipals, Universities, Schools, and Hospitals – again, the drivers are mandates, the need for capital improvements, and the ability to convert waste and dollars into a payment stream for the capital improvements. Next slide, please.

These slides showed the market segments that are served today by ESCO Industry. You'll see on the top that the businesses overwhelmingly deliver to public sector customers somewhere between 85 and 90 percent. From most of the projects in the lower left you see are performance based or design build projects. Next slide, please.

In terms of revenue generated by the different kinds of technologies, again the overwhelming amount is from energy efficiency with a scattering of other types of revenue. The only really other significant piece is onsite generation, either in the form of renewables or fossil fueled engines or turbines. Next slide, please.

When we published this study last year or a year and a half ago, we also published an estimate of what the remaining market potential is for performance contracting and we can send a copy of this study to anybody who is interested or you can get it on the LPL website, but there is an enormous potential sitting there just waiting to be exploited and the money – again, the money is all available because people are spending it now on wasted energy. Next slide, please.

So if we look at the performance contracting world and the growth, we have to ask ourselves, it seems kind of like a no-brainer. What are the barriers? How come this hasn't taken off in a way that just swept through the building stock in a much quicker way? And I think there are a couple of reasons. Number one is that performance contracting for many building owners seems to involve much more work and much more risk because it is a cooperative process. The building owner and building managers have to be involved in project development. Pricing is negotiated, which means that they don't have particularly in the public sector the security of a low bid process, and they don't have a lot of expert staff. Now there's also a question in many people's minds that whether the savings are real. We've handled all those questions and the federal government has done lots of work in this area, so we think these barriers are manageable, but they're quite real. Next slide, please.

The other issue, which is really a lead in to the next speaker, is that there is a real mismatch between what ESCO's offer today and what the private sector is looking for ESCO's deliver comprehensive projects that typically have multiple measures in 10 to 20-year paybacks. The private sector typically, and we have a database with Lawrence Berkeley Lab, of about 5,000 projects. The private sector is really looking for two to three-year paybacks which increase net or operating income in a short-term. Retrofits are primarily lighting and controls. They don't think they need guarantees – savings guarantees for those technologies and they don't want to incur debt on their balance sheets. Next slide, please.

So that's a very, very quick run through. Look for questions later and here's my contact info.

Holly Carr: Thanks, Don. While I still have you on the line, we did have one question that you might be able to respond to quickly. Someone was asking about the report that talked about potential market. Is that on your website that folks can access or can we post it perhaps as a link?

Don Gilligan: You can post it as a link. It's on the Lawrence Berkeley Labs website. It's a Lawrence Berkeley publication.

Holly Carr: Great. So to audience, we will make sure that that is posted as a link as part of the resources in the archives session. Thanks. So as Don mentioned, we are starting to see more examples of other sectors making use of this vehicle, and particularly of the private

sector making use of this vehicle. So without further ado let's move on to Metris and Aaron Panzer from Better Buildings ally, Metris, who's with us to describe their recent ESPC work with the customer in the private sector. Aaron? Aaron, I think you might be on mute. I can't hear you.

Aaron Panzer: Hello? Can you hear me now?

Holly Carr: There you go. You're on.

Aaron Panzer: Sorry about that. As it was mentioned earlier, I'm Aaron Panzer, director of project development at Metris Energy, and I think Don's presentation was a great segway into my part of the presentation of the webinar. Next slide.

So real quickly, an introduction to Metris energy. First off, we're headquartered in San Francisco and we're a developer, long-term owner, and financier of energy efficiency retrofit projects. What this essentially means is, to use an analogy, we're essentially an energy efficiency independent power producer, but instead of selling generation in terms of KWH we're essentially selling energy savings in the form of KWH or therms, or in some cases in terms of water savings as well.

Our solution at a very high level, we call our primary product as Efficiency Services Agreement, or ESA, and I'll walk through these in more detail as we go through the slides, but essentially we fund 100 percent of the upfront in costs and that's important for all of the reasons that Don just outlined a moment ago. Payments are made based on output of the projects. Dollars per savings are locked in at that rate and we offer that flexible funding structure that allows for those critical upgrades that either might be delayed until capital is available or might never happen just because capital is never available.

In terms of a track record, we're working on numerous operational projects with Fortune 500 firms. We right now have approximately $25 million worth of ESA projects across the U.S., and then we're a financial ally with the White House and DOE with the Better Building Challenge. I'm excited to be here today. Next slide.

So a little bit more about the Efficiency Services Agreement. As I mentioned, we're kind of like an energy efficiency IPP, and with that our ESA is quite similar to a PPA or Power Purchase Agreement, for those of you that are familiar with it, where we

remove all the first cost barriers for the project where we're gonna take on all of the costs related to project development, construction, equipment, and so on and so forth. We're gonna remove that from the balance sheet of the customer and we're gonna take that ownness on ourselves. Ultimately we're only gonna be charging the customer for realized energy savings, so if you could advance forward – maybe advance forward throughout the rest of the slide.

So we're involved throughout the entire lifecycle of the project from developing the project all the way through ongoing services. As far as developing the project goes, we partner with leading ESCO's and contractors to identify energy savings opportunities and develop a service program. Now we can get involved as early or as late in the development process as required, but generally it's better to get us involved a little bit earlier on just because there might be some nuances that are involved with the financing that can be stumbling blocks later on – the later that you wait to involve us in the development process. But the middle part of the lifecycle is really where our bread and butter is. We're funding 100 percent of the project cost as I mentioned. So what this looks like is Metris is actually putting equity forward and we're combining it with debt that we usually bring forward from a bank that we'll partner with to actually fund these projects.

As part of that, we're taking the title to the EE assets, so we're taking ownership over these assets and through that we're monitoring construction, and then as far as ongoing services go we're monitoring performance. We're making sure that we're actually generating energy savings as the part of our commitment to the customer and as also part of the way that we get paid as we're getting paid on the real-life energy savings. And then we're paying to maintain the equipment as well, to ensure reliability of better equipment. Often times this looks like the ESCO that we partnered with to actually install the equipment, we'll generally hire to maintain the equipment as well. And then we'll work with the customer to identify new energy efficiency opportunities as well. So this could be expanding upon a project that we currently have deployed with a customer at a specific facility, or looking at ways that we can offer the same sort of opportunities to other facilities that that customer might own throughout the country and even throughout the world. Next slide.

So I just briefly want to help give a visual of what our structure looks like compared to the traditional performance contracting structure. So drawing up two scenarios of performance contracting – one is a very simple scenario of performance contracting. So this

is where the customer decides to fund the entire project on their own using their own cash. They work directly with an ESCO. The ESCO makes the upgrades and they have this agreement between the two of them and it's very straightforward.

If you advance forward, the next scenario is quite similar to this but instead of the customer taking on all of the ownness in terms of the financing and paying for it all out of their cash, they'll involve a third party lender. Maybe they'll pay for part of it – have the third party lender pay for part of it or all of it, but either way they're bringing in another entity to help fund this project and you still have the direct relationship between the ESCO and the customer. If you move onto the next – now this is more of what our structure looks like. So as you can see, we're just bringing Metris into the middle of this and if you advance one more we can talk through this a little bit more.

So what this structure really looks like is that we're actually moving the ownness of managing all of the capital financing from the customer to Metris, and what that ultimately looks like is there ends up being an agreement between the customer and Metris where Metris will put forward the equity and work with the third party lender to actually bring on the debt to fund these projects, and at the same time work with the ESCO in this kind of triangle between the customer, Metris, and the ESCO. You can understand what sort of upgrades make sense, what we should do for installation and so on and so forth and actually get these projects moving forward and then Metris will have a direct contract – they're the owner of the equipment with the ESCO to ensure performance contracting stays on track and the equipment is actually saving the energy that it's meant to.

And then you see this dotted line relationship between the ESCO and the customer because there's no actual contract between the ESCO and the customer. Again, Metris is managing all of this and owning all of the equipment but the ESCO is still working with the customer and there's still the relationship there in terms of ensuring that the right upgrades get made and the equipment's being maintained for the long term.

One final key point that I want to make on this slide is you'll notice 0.5 Metris is the last entity paid. One great thing about this for all of the parties involved is that Metris is actually the first one that's putting money into this. They're the ones who are financing this with the equity and then the debt's coming right after, and Metris is actually the last entity paid on this. So as energy savings

are realized, the customer will pay Metris, who will then pay the ESCO, and will pay back the third party lenders, and then Metris isn't paid until after that. Next slide, please.

So real quickly, I've hit a few of these points already in terms of value. Again I can't stress it enough, we help customers avoid the capital outlay. We will pay for all of the upfront costs and then in terms of reducing operating expenses, our contracts are set up where we're charging customers a set rate that's below their current utility price, which is going to immediately improve your bottom line, so it's an immediate win for the customer in that we're able to do that. And I'm happy to answer further questions about that as we get into Q&A.

Services agreement, again it's designed to be an off balance sheet solution. All the customers that we've worked with, and we've deployed this in the field several times and we've seen how this works this way, it's a services agreement so you get to move things off balance sheet and you get to count all of the money that you would be paying Metris as op. ex. and essentially it'd be similar in the way that you would treat a standard utility bill.

And then we enhance reliability of operations. We want to make sure the equipment works. We want to make sure that it's going to be reliable for the long-term. Next slide, please.

So I'm not gonna spend a lot of time on this. Don had a similar slide as well. Just on the left, typical project scopes that you might see would be included in a lot of different types of our projects. This is an all-inclusive lists. Same thing with project profile on the right-hand side, and we have flexibility as well here. Some of these numbers here are just kind of general terms but there's flexibility. There's way more room there. We have the opportunity to be flexible and these slides will be distributed afterwards so you can read through these more later. Next slide, please.

And finally I want to talk about one of our deployments, or several of our deployments in action, a real-life case study. So we work with BAE systems and with BAE systems Metris has financed EE improvements at five locations. Four are fully operational. One of the contracts was actually executed last week on Wednesday, so that's a great project that we're excited about. And additional sites are being added to this ongoing multi-facility initiative all the time. So far, including the project last week as part of this program we funded approximately $10 million worth of project and some of the

elements included across the variety of these projects in our lighting, retrofit, building automation, DCV, boilers, chiller replacements, so on and so forth.

The ESA terms, they can vary across all the different projects we work on. For these ones, I think four of them are ten-year projects. One of them is an 11-year term, so at the end of that the customer BAE can decide if they want to renew for us continue doing monitoring or if they want to do a transfer of ownership at that point in time. The ESA rates, they're set – they vary by site and again they're below utility rates. Savings, we're seeing savings around $1.1 million annual across all these facilities, electric 3.8 million kilowatt hours saved, 195,000 therms, 3,750 tons of carbon saved, and again we cover key maintenance in honoring services. Next slide, please.

So finally, this is my email address. Please feel free to reach out to me if you have any questions or if you're interested in possibly being a customer or partner. These are links that will be included in the slides that you will receive, which will help you get started if you want to come to our website and reach out to us. Thank you very much for having me.

Holly Carr: Thank you, Aaron. I know we got a couple of notes from some of our audience members out there saying I have a project I want to talk to you. So hopefully you all will be able to connect, and again we'll provide contact information at the very end of the presentation as well for all of our panelists. Great project. Thank you for sharing that with us. Aaron has also provided some additional slides as an appendix to this presentation, which we won't go over today, but they will be included in the archives, which goes online in a week or so, so we'll let you know when that's available.

A quick reminder to folks to send in any additional questions you may have through the chat box and we are collecting those actively right now. Let's turn back now to one of the more traditional types of ESPC customers, the government. Jenna Ide with the Commonwealth of Massachusetts will describe how the commonwealth has implemented a novel twist on the traditional ESPC model, actually serving as a quasi-ESCO to state agencies that would like to implement energy efficiency improvements in their buildings. So Jenna, I will turn it over to you for the full story on that.

Jenna Ide: Great. Thank you. Next slide. So I'll be talking about sort of the financing for large projects and programs. The Commonwealth of Massachusetts and DCAMM have been working on ESPC programs for over 30 years. I'm very familiar with these programs and a lot of success throughout the state in both communities and the state. Our agency in particular manages projects for all executive offices and the court and other secretaries, but we do not manage projects for towns and municipalities.

I put this in the context of where we are right now with the accelerated energy program, which is part of the accelerator program. Because a lot of our sort of difference and different approach to finance, it came out of not only this but the era stimulus, which we took advantage of. We do have accelerated energy probes, 700 sites, 478 are underway are complete – of that 156 are complete, but there are 93 sites that we found out there was nothing to do at, so to give you some context. Next slide, please.

Here's the history of our program. You can see on the graph it actually goes back like I said to 1986, but we don't have as much data going back there. You see in general the graph, hard to read some of the numbers but they're pretty high levels, but not really high until we got to leadership and executive order 44 was signed, which required comprehensive upgrades of all facilities over 100,000 square feet, and that's about 100 facilities.

However, at the same time that we were trying to, you can see a lull in our program, ramp up our program, we needed to go out and we were trying to ramp up our program and then ARRA came and we tried to – the tele-financing program that we use for all our programs went out for a re-bid and we did not get any successful bidders. So the state was in a little bit of a quandary. We didn't have the money to be able to do projects, so we tried to go out and develop a model where we would use private financing sources. That also ended up happening right under the economic crash, which sort of put us in another pickle where we didn't have really where are we gonna find these funds.

We had started conversations about using bond funds. For years our administration of finance had commented that why are we paying higher finance rates when the state of Massachusetts gets one of the best bond ratings in the country. Why aren't we using our own bond? So we basically were forced, but in a good way, to find a solution and our solution was to basically figure out how we can use our own bond funding to get service energy projects. So

we have this huge ramp up we were working with with ERA and then later on with AEP. Next slide.

So in 2010 officially the commonwealth created the Leading by Example Initiative, a permanent low cost funding mechanism and it's basically taking the normal procurement of or a bond authorization, and some of them are paid by the taxpayers, it's called GO bond, general obligation bond, and some are paid back the savings. Some of you may know that those revenue bonds, the savings are essentially a revenue, so they are off cap. They're allowed to sort of go forward as projects without necessarily effecting the tax base or cutting other programs. And just like any other ESPC, the client agency pays the CIP debt service through energy savings, and then they agree to commit to pay back those annually. So it's very much, as you can see there's a theme with all of these is that the model of the ESPC is very adaptable and can be applied in many different ways in financing structures. And so this is basically as we pointed out is really us taking on the ownership of some of what the ESCO might do. This program is used for all different kinds of projects. Next slide.

Any state agencies that incur energy or water projects, a wide variety of state-owned projects, but they need to help achieve the goals and save money. The term can be up to 30 years 'cause those are the highest bonds. I've never seen a 30-year project yet. Most are 10, 15, or 20. Projected annual savings must be greater than 1:1 ratio. That's a conservative. We're very conservative with our savings projections. That's one of the things we've been sort of considering updating as we move forward, and savings are independently verified either through the ESCO and guaranteed or through our own consultants who verify. They come out of the operating budget and need to be allocated every year to fund these, and as I said the bond comes from the treasure using appropriations authorized by the legislature. Next slide.

I had three slides. You can go through these next two. Just sort of showing the difference of how interest rate matters and the other thing I wanted to point out is, so if you go to the next slide, and next slide, the first one was best case and then better case and then even better case is that as you decrease the interest cost, that money is now available to help the project and you can do more and more sort of what we would call deferred maintenance or high payback measures. Many of our buildings need quite a bit of repair. We can also combine effectively what we would call a cap and non-cap or the general obligation bonds or the bonds. Because we're basically behind the scenes using accounting methodologies

to sort of move the money around, we can advocate that – well, the agency's gonna be paying $5 million of a $10 million project to replace boilers. Well these boilers would have had to have been replaced anyway should we give them $2 million, $3 million, $4 million of bond money instead of $10 million. So we're able to leverage and of course you leverage utility incentives and we've actually been able to be *[inaudible]* we're such a really robust program really negotiate with the utility for a higher level incentive than any other projects are able to get. And we're also able to rope in all kinds of other types of savings, revenue sources such as demand response and renewable energy credits.

This is sort of the very basic cash flow that we use. We do more sophisticated models but I tried to simplify things. We also need to account for additional maintenance and MMV, which most likely won't be debt service, but paid annually to the company that we do the construction with. So the long and short is, the lower the interest the more you're able to bring in for additional sources of funding, the bigger the project you can do, which means for many people deeper savings and more things get fixed. Next slide.

So I wanted to bring two examples of projects that we are able to move forward with and I think it sort of opened up the model for us. Our program, we use not only energy service companies but also contractors, energy designed build processes, and so in this project we are able to achieve very high-energy savings and greenhouse gas house reductions. It's a sheriff. It's actually fairly new but actually somewhat inefficient for its age, and we're able to combine PV solar thermal and new heating system to really create sort of a nice cohesive structure. They got $4.3 million and had an estimated savings of over $367,000.00. So a real sort of showing up how we put a lot of combinations together and we are also able to support them with some different maintenance monies for the boiler, some of which even though this fairly new facility had already started bailing. Next slide.

So this is another project and it's from the Better Buildings website that we really sort of showcases where we're able to sort of push forward and do a lot more with our projects. It's an old state hospital, former Danvers state hospital. You can see the really old boiler plant was near almost a mile from the facility and it traveled up and leaked the whole way you can see there. We have about three feet of snow here and it would have been melted in the winter here. It was an embarrassing waste of energy and we studied and studied and studied, but unfortunately you had to move the power plant, you had to move the boiler, and that would require new gas

lines and all kinds of new utility lines, which always killed the cash flow. So we really to be able to pull together utility incentives, bond funding because we knew this boiler was near failure, and then a huge amount of CEIP for – it's like a $24 million project. It's not only at this Hogan site, but also another site where we combined cogenerations.

So really the cost of new natural gas at Hogan Center in Danvers for one month is what the facility used to pay for two days of oil, so that gives you a sense of how much money they were wasting. But I think they know it's really as somebody else mentioned it's really about the financing. Probably 50 percent of our work on our team is pulling together the package. Not only the feasibility, what the information is, getting the client on board, but also pulling together the financial package. So any type of financing you can bring to the table is going to help. Next slide.

So the advantages and disadvantages – I won't mention all of these things. I talked about the finance rates. It can be off cap. It's good for planning lots of projects and long-term programs because you're able to search the cure, a lot more money. It's also good if you don't like to go out and take out debt from a bank if you have your own sort of funding that you want to use. It's the mechanism that you don't always have to go outside to find the debt servicing. An interesting tweak that we discovered that we didn't really realize was it allowed financing to be separated for procurement project decisions.

So when we first started working with ESCO's on these, they were very much trying to keep into the 10, 15, or 20 year, but we were able to really open up to a lot more higher payback measures that really needed to be done 'cause there were chillers that were failing, windows that were really leaky and horrible, and so because we're able to take away some of that risk of the financing, we were able to open up discussions to a lot of measures that didn't used to be on the table as much. We don't have to have a guarantee or we can from the sort of formal ESPC guarantee. But we do require a certain amount of quite a bit of risk management through our whole study construction and M&V and training process.

Some of the downside, it's not readily available. It's not gonna be for everyone. You need to do a fee up front work to sort of create the process. There may be some debt service limits, so some auditors for higher ed. have seen it still as debt service, but they would have seen tax exempt lease purchase also as debt service,

but it's just how people see it - operating cost versus as debt. The only other disadvantage, which is not a disadvantage is you have to learn is that the mass – we basically have become a lender who needs to manage repayment. It's more risk on us. We have to sort of file all the paperwork, get everything sorted, make sure the payments are made, but that it's mostly a learning process with that. Next slide.

So this, along with a robust green communities program, which is our sister agency Department of Energy Resources manages the green communities programs to really accelerate ESPC's and energy efficiency of all kind of upgrades throughout all the 351 municipalities in the state. And so between these two things, we really – and ARRA and now our *[inaudible]* program, we've really been able to ramp up and it's one of the factors that has helped Massachusetts to come in number one for four years. So I think if you're gonna ramp up and you're gonna accelerate, you've got to find the resources and the community of contractors, consultants, and financing to really help make it happen and I think this new program, which we call CEIP is one of those pieces that helped. Next slide.

And so a little bit about the future – we would like to develop more and more robot models like the cost analysis to capture the savings from other sources. We're very conservative to try to ensure that the agency has a good service but we believe we will capture more of the maintenance savings and replacement costs. More consistent models for predicting CIP spending repayment as I talked about, that sort of management repayment. We are using now using this for non-building upgrades, so it's road lighting kind of lighting. So treasure has been marketing the green bonds effectively and it's actually led to some better competition for what they call green bonds. Incorporating more M&B in training, post construction – maintaining the gain.

I think this is any energy efficiency project can take on no matter what model you have. Measurement verification training with post-construction activities are really important and you want to incorporate in anything you do. Of course it doesn't really fix the issue of governmental entities not budgeting enough for rate increases or low growth, so it doesn't really fix the sort of whole governmental problem of your rates are going up every year. Even if you save money you're still gonna have to pay more money if your rates go up enough, which in Massachusetts it's hitting us hard.

I think Don mentioned this, but it's just encouraging more participation. It's always a little bit of a challenge to get agencies on board taking on repayment. They'd much rather be pushing general obligation bonds funded by the taxpayers but it's very difficult sometimes to get them on. Many agencies are very on board. Other agencies are very difficult. So that's another thing is just the more and more participation we get and the more we're able to really give them – deliver them a package that meets their needs I think has been successful. Next slide. I think I'm done. Thank you.

Holly Carr: Okay, great. Thank you very much. That's a super example of a state government success story here. If you are a state or a local government or a higher education institution in the audience today and inspired by what the Commonwealth of Massachusetts has done or would like some assistance trying something out yourself, Alice Dasek here at the Department of Energy has some great resources for you. And I'm gonna turn it over to Alice to tell us just a little bit about the new ESPC accelerator program that we have at DOE, what it offers, and how organizations can get involved. Alice?

Alice Dasek: Great. Thank you very much, Holly, and thanks everyone for sticking with us here. The ESPC accelerator as Holly mentioned is the newest member of the Better Buildings family as one of the accelerators and you've heard today some great successes in ESPC projects coming to fruition in different markets, and we've seen really how ESPC can help advance energy efficiency retrofit projects that might not otherwise have happened because of a lack of upfront financing. And the public sector often faces that barrier to achieving its energy efficiency goals. So about two years ago the president issued the kind of action plans and ID'ed the access to ESPC as one way to advance energy efficiency goals and called for a national investment goal of $2 billion in ESPC. And so responding to that call, DOE has brought forward the ESPC accelerator specifically to help expand access to ESPC and unlock some of those energy efficiency retrofits in public buildings across the country. Next slide, please.

So here we see the current partners. We stand at 21 partners right now with 15 states, 5 cities, 1 school district. We are open to higher education institutions as Holly mentioned, as well as K through 12 school districts and these partners have currently committed $1.7 billion toward the $2 billion, so we're very close and we have others who are in discussion that would like to join as well. Next slide, please.

Briefly about the program structure, and I won't go too much into the detail – we can leave that so we have room for question and answer during the call, but certainly I will be happy to answer any questions off line. Working toward the $2 billion investment goal, we have brought together those 21 partners to kind of pull their decades of ESPC experience and expertise. That's really one of the benefits of coming together in this group. And we decided to tackle three of the most frequently cited barriers to implementing ESPC as a way to if we bring down those barriers that we would move ESPC forward and therefore unlock those retrofit projects.

So we chose the three that you see here, really the barrier was a very complicated ESPC process so we chose to look at how to streamline that and that would help cut the timing to a project and therefore transaction costs as well as an added benefit, and we chose for each of the barriers a flagship activity, and so in this case one of the process steps is the documents, all of the complicated documents that are needed to put a contract in place, including the RFP for the ESCO's and financial documents. And so we had a three-phase process where all of our partners participated, along with other sectors of the market. We had representatives from ESCO's financial institutions, think tanks, and the public and private sector participating in that view and the result is a new kind of 2.0 set of modeled documents that you can find on DOE's state and local solution center, and there's a link at the end of this presentation.

The second area was a question of how representatives in state and local governments felt empowered to negotiate very strong ESPC projects, so we called this barrier kind of empowering the market and really providing the basic information, as well as more advanced information to really help those state and local government representatives put together the strongest ESPC project possible and get comprehensive energy efficiency retrofits that would move them toward the jurisdictions and energy efficiency goals. And the flagship activity here was really looking at testing the new database eProject builder, which is heading also into its second iteration and looking to not only track, but also manage ESPC projects.

So we have accelerator partners participating in giving feedback on how to tailor this product for the public sector. It was previously housing projects that were primarily federal government sector, so now we are really expanding access to the broader public sector and having additional projects entered, and as Don mentioned

earlier in his presentation there are now close to 5,000 projects there and that will help benchmark projects and really help people understand the best project that they could put together.

And the final area that we looked at are there are two types of barriers, but they were very individual – two partners – and the two categories that they most often fell into were some process questions that were not contract related as we addressed as a group and then the other was really what we call education and outreach, which is getting at talking to all of the people involved in your ESPC project approval chain and making sure that everyone was comfortable with the process, understood the process, and could help move the project to completion and to execution. Next slide.

I'm gonna skip the three next slides because they really just give detail that I've really gone through quickly on that summary slide, and if you could go one more, please. This is my contact information. So I flew through the program structure very quickly but I'm happy to answer any questions or talk to anyone offline in more detail about the accelerator and the kinds of technical assistance that is available through the accelerator. You can also visit the accelerator webpage and the model documents at the links at the back of the PowerPoint deck. So thank you very much, and I'm happy to field questions with the rest of the panelists.

Holly Carr: Okay, thanks very much, Alice. I think on our next slide here we have some additional resources for folks and here we go. Yeah, so these are hyperlinks to case studies from Metris, additional information and direct links to some of the materials that Alice spoke about for the ESPC accelerator, so if you're interested in that program or you'd like to just check out those resources and documents to help support your ESPC program you can come straight here once this is posted. Let's go to the next slide. I think we have additional – I think we have a couple of slides of resources. And then yes, Massachusetts has provided some direct links to their program, to their treasures green bond program, and a list of the resources and examples that are provided today.

Let's move on to I believe our Q&A. So we had a number of great questions and not a whole lot of time, so I'm gonna try to cover a few things and then a lot of questions I'm really glad to hear are folks who are working on ESPC's or have specific questions for our panelists, and I really encourage folks to please contact our panelists with your questions if they're not answered today because I know they would be very happy to chat with you and share their information.

We did have one question about the information that Don provided regarding the cumulative savings for ESCO's and how long has that number check into account, how many years, and the answer is 25 years. So the past 25 years of ESCO is captured in his statistics. In terms of Metris, I had a couple of questions for Aaron from our audience – actually many questions, but I a few I'm gonna ask. What areas in the U.S. do you operate? Do you operate in all states and also do you fund projects outside of the U.S.?

Aaron Panzer: So just to rattle off a list of states, and I'm not sure I'm gonna cover them all, but we're working in New Hampshire, New Jersey, Illinois, Hawaii, New York, essentially we can work wherever we need to in the U.S. or internationally. It's just a matter of making sure that the economics stand out.

Holly Carr: And along those lines, we had someone ask what the project size limits were for you and/or your ESCO partners to be interested.

Aaron Panzer: There's not necessarily a project size limit. It's just a matter of making sure again that the economics pan out and so there's definitely a flexibility to go significantly larger than what you saw in that slide, or I think it said $3 million to $10 million. We can go a little bit lower, but we can go significantly larger as well in terms of contract size. It's very much on a case-by-case basis. And then in terms of term length of contract, typically we see them in the range of about ten years but we can go longer on that as well. There's definitely a lot of flexibility in the way that we operate.

Holly Carr: Okay. And we did have someone wondering what the tax implications were of Metris taking title for the energy efficiency assets – implications for the customer or maybe for you.

Aaron Panzer: I'd have to go back and follow up and give you a probably more detailed answer, but again as you mentioned I'm fairly new but what I can tell you is that we have had the accounting reviewed with the big four accounting firms and verified and so it's all been verified by the bigwigs up there. But again we can get you some more information to share with the audience on that.

Holly Carr: Great, and I would encourage folks again to reach out by email. For Jenna, just a couple of questions. How does the Commonwealth typically verify savings from your own projects?

Jenna Ide: That's a good question. So we do have traditional performance contracts, which the savings are verified by the ESCO and there's a guarantee. For the energy designed build projects, those projects we have sort of a very rigorous process from the very start through our own third party consultants who developed the project, designers that we sometimes hire to verify, and then we do have measurement verifications where we might do some of the pre-work during the study and then require the contractor and then the agent to do the measurement verification at the point during construction and then the point of commissioning. And sometimes we have post-construction measurement verification, but usually for only a few years.

We have a pretty robust history of doing these and found that really once everything's up and running you tend to have very successful projects and you get at least 95 percent of your savings, if not significantly more. And we're very conservative in our balances so we've found that what that allows us to do is put more money into the project. We also found that that point of commissioning is probably one of the most critical points and there's been a lot of coordination with also new construction projects where commissioning is actually a very critical point to make sure it meets the basis of design.

So I think really having that coordination we found that that commissioning and that really first year is critical to ensuring savings. And then of course there's the importance of measurement verification is really probably the most powerful tool for your facility operators to see that when things are going up and down, they may need to operate it differently, they need to make some changes, they may need to make some updates so I think we're still a learning process and still moving, but as far as all of our projects have, once they're up and running, have met their savings or better.

Holly Carr: Great. Thank you very much. I know we had one question here regarding GSA. Someone I believe from GSA who was saying that they can only use ESCO for their common core systems and can't assist the agencies with their outdated equipment. I'm wondering if you had any suggestions of an avenue that they might be able to pursue to improve operation in those agencies.

Jenna Ide: So I'm happy to talk with anyone more in particular, but I think what we found is that some people can be very reluctant in constraints and really the power is in leveraging funds, there's a lot of power in that. You're not able to get more money unless you're

able to offer to say that sort of boiler example of $5 million to $10 million, and I think offering grants or utility incentives – I think what we've been able to show also is that we've been able to get agencies and others to agree sometimes not because they don't really like the debt service, but they really want their windows replaced and that you will find that when you replace the window it's the number one favorite measure and they don't have to constantly up and down heat and radically change, so they really save more than on paper but that's really hard to quantify.

However, people really know that they're important so really what you have to find is that you have to convince people that these projects have so many benefits from carbon reductions to thermal comfort to upgrading systems that are failing to literally some of our boiler plants are not meeting code and so there's so many ways in which these really benefit any organization that goes forward and I think you really have to open up that conversation to not just about saving money but really about – of course saving money, but a whole host of other benefits, improving maintenance, etcetera.

Holly Carr: Great. Thank you for that, Jenna. Now John if you could head to our next slide. We're at the 4:00 hour and I want to let folks know what's coming up next. In March we have a session coming up on franchise energy efficiency. We'll be talking to IHG Hotels, as well as Dunkin Brands, both highly franchised organizations and they'll be talking about how they encourage and support energy efficiency in their franchise locations. That's again the first Tuesday in March, on March 3 from 3:00 to 4:00 PM and there's a link to register to that session.

Skip on to the next slide, John, please. Alright. And here's the contact information. I'm gonna leave this one up as we finish up today 'cause I know there are lots of folks that wanted to speak to our panelists so I encourage you to contact any of our panelists by email and continue the conversation. That's what these sessions are all about is kind of getting out good ideas and new ideas and sparking conversation between folks, so please do that.

And with that, I'd really like to extend yet another thank you to our panelists for taking time to be with us today and share your success stories. If you'd like to learn more about the Better Buildings Challenge or the Better Buildings Alliance, please check out our website or feel free to contact myself or Kristen Taddonio, also listed here, to learn how you can participate in either of those programs and I encourage you to follow us on Twitter as well for all of our daily updates on what's going on here at the Better

Building Program. You will receive an email notice when the archive of this session is made available online, which should be within about a week or so. So thanks everyone for participating and we hope to see you next month. Bye.

Aaron Panzer: Thank you so much, Holly.

[End of Audio]