

Sean Williamson: Hello and welcome to *Becoming ESPC-Ready*, Energy Savings Performance Contracting foundational training. This is part of the 2021 Better Buildings Summer Webinar Series. In this series we are profiling the best practices of Better Buildings Challenge and Alliance partners and other organizations working to improve energy efficiency in buildings.

Next slide.

My name is Sean Williamson and I am the moderator of today's webinar and an Energy Technology Specialist at the US Department of Energy. I'm so excited to bring this content to you today to a national audience. Today's webinar will offer first-rate training on the foundations of Energy Savings Performance Contracting or ESPC.

The training is ideal for state and local governments and other stakeholders, universities, K-through-12 and hospitals looking to understand the basics of ESPC to execute building retrofits that save energy, reduce carbon, and address deferred maintenance.

Next slide.

For today's webinar I'm going to start with some level setting, an introduction of DOE's ESPC resources, Next Sam Cramer from the National Association of State Energy Officials will provide a few brief remarks. The majority of today's webinar will be lead by Dale Hahs from the Energy Services Coalition. We'll save a small amount of time at the end for questions and answers.

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We're excited to announce that today we'll be using the interactive platform called "Slido," for questions and answers, polling, and session feedback. Please go to www.slido.com using your mobile device or my opening a new window in your internet browser. Today's even code is # DOE.

If you would like to ask our panelists any questions please submit them in Slido at any time throughout the presentation. We'll be answering your questions near the end of the session. You can select the Thumbs-up icon for questions that you like, which will result in the most popular questions moving to the top of the queue.

I'll give everyone a few moments to open up Slido. If you're having any issues please message our text support time by using the Chat

function. All right give folks a few seconds to get into Slido. But we're going to kind of first engage with Slido via a trial poll. So we're going to do a couple of different polls here so we can learn more about you, our audience. Hoping that folks have brought up Slido on a separate tab or separate screen. We'll now launch our first poll.

So we really want to know more about you, our audience, in what market segment you represent. The options include state agencies or institutions, local governments, federal government, K-through-12 schools, universities and higher ed, hospitals, other commercial markets, or none of the above.

All right local government is out to a fast, early lead. It looks like state agency is slowly catching up. It looks like most of our audience is comprised of local governments and state agencies. Excellent, followed by other commercial markets and federal government. I see a couple of answers trickling in. Let's give it five more seconds. All right and with that let's transition to our next poll.

And we really want to know about the primary barriers you are facing with regards to using ESPC. So in one to two words what are the primary barriers to using ESPC from your perspective? And this will populate a word cloud and really tell us what our audience sees as the primary barriers. So let's see how this works. If folks want to type in a couple or words the key barriers or key obstacles to using ESPC, we'd love to know more. All right a lot of knowledge and familiarity, complexity, small projects is coming up as well. Okay. Getting buy-in, getting buy-in and unfamiliar kind of the two, two new entries and knowledge gaps. Great. Thank you all for that feedback, that's very helpful.

So with that I'd like to transition from our polls to our next set of slides. I really want to just dig into some basic level setting on ESPC.

ESPC is a contracting and financing method that provides upfront financing for energy efficiency projects that is then repaid over time by the cost savings resulting from the upgrade.

As the chart at the bottom of the slide shows ESPC offers operational cost savings and a net-positive cash flow from the beginning and throughout the financing term.

ESPC is a tool well positioned to facilitate building upgrades within the MUSH and federal buildings markets. MUSH stands for municipal and state facilities, universities, K-through-12 schools, and hospitals. Within the MUSH market there's a projected investment opportunity between \$66- and \$208-billion, energy savings potential of more than 200 trillion BTUs.

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A great place to get started with ESPC is with DOE's ESPC Toolkit. The toolkit provides a range of resources to enable state and local communities to learn about and benefit from ESPC. Included in the toolkit is a new resource that discusses strategies and tips for using ESPC for small projects, which is actually one of the barriers we just saw entered into that poll, so this resource could be a very useful one for the individual who entered that.

Another resource is the Performance Contracting National Resource Center. This serves as a hub for all of DOE's ESPC best practice resources and solutions.

Next, as part of the DOE and NASEO Return-to-Work Initiative, NASEO and the Energy Services Coalition are offering today's training in four states by the end of June. If you're interested in a potential future state-level ESPC training please contact myself or the next speaker, Sam Cramer.

Finally, a new tool that we're very excited about is eProject eXpress. This provides a streamlined TLR pathway for state and local governments to document, track, demonstrate the ongoing value of their energy project retrofits. eProject eXpress is not yet released, but will be released later this summer. Look for more information on eProject eXpress, including a Better Buildings webinar next month that will demo the tool.

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Please stay connected with DOE and resources for states and local governments by visiting the State and Local Solution Center, subscribing to our State and Local Spotlight, monthly newsletter, and reviewing our recently released resource guide for state and local leaders. You can also e-mail us directly with any follow-up questions or comments.

Next slide.

Now I'm going to introduce today's panelists. First, Sam Cramer. Sam supports NASEO's financing program and electricity planning initiative. He leads NASEO's state energy planning assistance and conducts research on a range of issues such as the energy-water nexus and energy performance contracting.

Next, Dale Hahs presently serves as a technical assistance provider for the Energy Services Coalition state technical liaison team. Aside from his active role with ESC Dale continues to support the continuous improvement of the nation's compendium of best practices tools, resources, instruments, and guides for guaranteed energy savings performance contracting programs and projects. Prior to this role Dale was a member of the leadership team of an ESCO for over a decade and has been engaged in energy efficiency, providing client solutions for over 30 years.

Thanks to both of our speakers for being with us today. Now I'll turn it over to Sam for some brief remarks.

Sam Cramer:

Great, thank you so much Sean and I, I appreciate the chance to be able to speak to you all with just a few brief remarks here before I turn things over to Dale.

So again, my name is Sam Cramer. I am the Financing and Program, ah, and Planning Program Director at NASEO, the National Association of State Energy Officials. NASEO is the only organization representing the governor designated energy officials from each of the 56 states and territories. We've been around since the mid-1980s and we support the state energy offices in each state and territory, as well as represent them on congress and to congress and, and in front of the administration.

We're really excited to be able to introduce to you our, our main speaker today, because he is someone that we've worked with for many years and have had a close collaboration with and with, with any, all things ESPC. Currently we've been working with DOE's Weatherization Intergovernmental Program Office and the State and Territory Energy Offices to accelerate and expand the use of energy savings performance contract financing in support of creating jobs, lowering facility energy costs, and reducing associated emissions.

And over the last year we've been doing this as part of our DOE NASEO Return-to-Work Initiative so support the nation's economic recovery from the pandemic through energy efficiency actions. So we feel there's a, there's a great role for energy savings

performance contracts play and also that there's, there's, there's a lot of potential there in the future for them to continue to be a part of meeting the administration's clean energy goals. But one of the big things we need to make sure we're thinking about is that every, is that the folks who are able to use energy savings performance contracts are educated about it and understand the basics.

So without taking up any more time I'd like to introduce Dale Hahs. Sean did a great introduction with his bio, but Dale is going to be speaking to us today about the fundamentals of ESPC and, and provide us information that we all need to know about how the ESPC process works.

Dale are you there? Dale you might be on mute.

Dale Hahs: That is always a possibility in today's presentations.

Sam Cramer: Always a possibility.

Dale Hahs: If we were standing in a room together that couldn't possibly happen, right? *[Laughs]*

So thank you all for joining and thanks a lot to the United States Department of Energy and our friends at the National Association of State Energy Officials for allowing us this opportunity. We have a lot of material to cover in a very short period of time and so without further ado Mercy if you would post my screen. There we go. Great.

So I always laugh with folks about this presentation and these slides that we're going to present. It's about an hour-and-a-half worth of material that we're going to try to squeeze into oh I don't know 40 or 50 minutes. So I've been drinking coffee all day on your behalf to make sure that we can cover a lot of content. That also means that I won't be reading a lot on these slides, but making comments to them and certainly guiding you through this little tour.

So in the form of attributions I do want to point out the Energy Services, what the Energy Services Coalition is. I may have created a little technical concern here. The Energy Services Coalition is a national nonprofit. It really is people, not companies, not states, not cities, individuals from across the nation who meet together and work to advance energy savings performance contracting. Really the power of the resources that we've been able to collect from states over the course of time and the local chapters actually meeting in person with people and talking about how these

projects work and what can be most helpful has been the biggest benefit that the Energy Services Coalition has provided to the nation over time.

I would like to start with a definition. This one actually came from 1998, Sean had one as well, but this is the use of guaranteed savings from maintenance and operations budgets. So you know what's important to recognize this is it sounds sort of simple. It's a legislatively empowered authorized vetted system with resources and tools and a whole bevy of providers. So this has been going on for nearly 50 years and we want to help you grow in your comfort level understanding performance contracting.

And to do that I'd like to point out to you that you may not want to be in this yourself, by yourself. I've often come to say if you're an engineer with a law degree trained in the rules of procurement, construction management and negotiation, with a minor in finance and accounting you know what this is really going to be easy.

So as a little side bar it's always important for me to share with that you're planning on spending this money anyway, you're going to pay the utility bill, so either you send the money to the local utility companies as a price for your inefficiency or you modernize your stuff, your devices, your systems, you get things done that you need done.

So with a couple of definitions you got to wonder does that leave any unanswered questions? Well people always ask me, "Well what is it? Is it a means of finance or a competitive procurement or contracting?" And the answer is "Yes, it's all of those." Unlike the federal model in state and local government the ESCO cannot bring money. That's a third party, a separate instrument, might be a loan, a lease, grant funds, appropriations, but the money is assembled in a separate instrument if you will.

It is a means of competitive procurement and we point that out because I hear people say, "Well it's a negotiated procurement, I'm just going to like the people and engage them." Well in the form of best practices that would not be true. The models that are most successful around the nation require the ESCO community to if you will bid into their mark-ups, their overhead, their profit, a percentage of the project cost that would be devoted to engineering and project management so that there is an active procurement to move forward as we're good stewards of public funds.

And as a means of contracting well one of the best parts about performance contracting is it is a single source, there's one company that's going to do the design, the implementation, and be responsible for the performance. Unlike traditional construction where you hear people talk about change orders required or "This subcontractor didn't work well with that subcontractor," this is all about a single source providing the work for you from beginning to end.

Now in today's world there are lots of new solutions. These terms just touch on the tip of the iceberg of what people talk about in the world, in the realm of performance contracting today. All these new are new again terms. What's interesting about that is I'm here to point out to you that that may – there may be some considerations that you want to consider to engage those other terms.

As an example I mentioned to you right up front that this was a legislatively empowered transaction. There is a statute specifically for performance contracting in all 50 states. Some of those other scenarios maybe not so much. The means of public procurement who holds the risk of performance? By the way incredibly important who owns these improvements? In other words in most public modernization when the work is done the state, the city, the county owns the improvement. But in some of those new philosophies they're held as a security interest for repairmen of the note; may not be appropriate based on your legal authorities.

Other public sector considerations well is the upfront financing debt? For some it is, for some it isn't. Is a non-appropriation clause included? And as a part of the copy of these slides that will be posted there's the internet definition of non-appropriation, but what it says is in public procurement circles if we don't have the money for our budget then all bets are off. Then there is no legal binding responsibility for that repair repayment. Although it may be it is typically a part of the enabling legislation for performance contracting.

"Whose process I follow?" "Whose contract should I use?" You know all this stuff's been done over-and-over again. We have some great models. Sean pointed to some, we have others available on a variety of different websites.

Some other considerations here, "Who should review a copy of the contract?" If someone brings you a contract and says, "Let's use mine, I've done this before all over these United States, all over

this state, all over the world. Here's the contract that we're going to use." Wow, you should find your legal authority to do a review on that contract so that it's well vetted and serves you appropriately.

Then I'm going to jump to, "Can I still use my institution's construction contract?" Because I believe this is so incredibly important interestingly enough the performance contracting models were generated based on the fact that each institution would be providing its own construction contract, so that the quality of work, the same terms and conditions that you use for your projects and your institution or your state would always be there as a part of this work to ensure the quality that you deserve and require.

So let's switch gears for a second and just get back to the real fundamentals. "So why would I do this anyway?" Well number one on the hit poll there is not enough money. There were literally five decades when people haven't had enough money to get work done, they looked to this concept of paid-for-by-performance model to help them make the improvements, the modernization, the resilience improvements that they need. Now you may have energy goals or environmental targets that you really need to fulfill and you're scratching your head thinking, "Hmm, I didn't get a lot of budget for that, how am I going to make that happen?" We encourage you to recognize performance contracting may be a part of your pathway to that success.

The need for resilience and once again today we're hearing about rolling blackouts for different reasons in the Southwest of these United States. Wow you know we're going to have to find a way to keep our systems up and alive during any circumstance. And certainly leveraging. Leveraging energy efficiency, leveraging the efficiency that I can employ through this methodology to maximize value, to make sure that I get as much done as I can possibly accomplish with incentives and grants and employing this methodology of efficiency.

So I always want to include this standing presumption, if you have all the money in there and time and ample expertise, you know what just do this yourself. Let's just slow down on that point again. You have all the money you need, all the time to afford to the projects, the design, the work, the oversight, and ample expertise to do it, just do the work yourself. Oddly many don't.

In the earliest principles we, we relied on this concept that, "I need a bunch of stuff fixed or replaced and I just don't have the money or time or expertise to do it. And that met up with a group of folks

that said, "Hey, look I've got the stuff that can save you that energy, time, and money, but you really don't have enough confidence in me that it will deliver the predicted results to buy it." So in the earliest solution the ESCO bought the stuff, installed the stuff, and you only paid the ESCO when the savings were achieved, no loans, no liens, no debt, no risk and fundamentally that's still the federal government's solution.

But for state and local governments and based on our audience poll here certainly for local governments that does not apply. In fact one should be cautious and recognize that the solution for state and local governments is using the concept of performance contracting, but separately soliciting for best third-party value, a financier, could be a lease, could be a loan, mentioned some of those before. It requires a separate finance agreement, they're both typically executed before the ink dries on one piece of paper to get to the other.

In the most prominently used tax-exempt lease purchase model the public entity holds title upon installation and there may or may not be a security interest. Now that bullet may be really important for you. So while I can fly over these bullets pretty quickly, I've done this more than once, I want to draw your attention that that security interest piece and the tax-exempt lease purchase model may be really important to you.

So if I'm not going to pay the ESCO when the savings are achieved where really is the teeth of this concept called a "guarantee"? How am I ensured that I'm reaching the savings or the avoided costs that were promoted to me, guaranteed to me? Well you use a concept called "measurement and verification."

Now this wrinkle is not so new any longer and so I share it with you just to ensure that you're familiar with it. In July of 2010 there was a Dodd Frank Wall Street reform in consumer protection act passed that's applicable to everyone but the federal government. And it says that fundamentally the ESCO cannot bring you the money, cannot really recommend the best source of money. You know in fact you should find a registered municipal advisor to coach you through those financial decisions.

However, if you go get all the financial providers in the nation and you stack them up and you're trying to find the least expensive rate under all circumstances you're going to find that's a securitized transaction. In other words they'll want a lien on your facilities or on these new devices and systems that are installed, unlike

contrasting the tax-exempt lease purchase that I mentioned earlier. So Dodd Frank you should be aware.

Other principles. Well look the concept of performance contracting is that you enter into a partnership, the owner and the ESCO are together trying to achieve the same thing. Now if you find out as you work through the process of trying to make a decision on which of the ESCOs to work with long term that you just don't get along with the people and you know you say "Salt," they say, "Pepper," you say, "Hot," they say, "Cold," you know what move on. This has to be a long-term partnership. You need to be working with people that you have a comfort level of commonality with, that you understand that together you're going to do everything in your power to achieve the efficiency that you set about to accomplish together.

All the work should be required to meet or exceed the standards of you. So look it can't be too dark for me to see in my spaces, that's not savings of lighting, the lighting measure. It can't be too hot in my workspace for me to be productive or too cold in the winter. I mean these things are crazy talk. You have to establish these bands of, "This is what needs to happen for me for the full term of performance of these project that may last 15, 20 years." That's the concept is that you aggregate all the efficiency measures in such a way that the avoided cost, that the reduction in your utility and operation maintenance costs pay for the work upfront over 10, 15, 20 years.

So reinforcing the operating conditions known as "standards of comfort" cannot be sacrificed for efficiency.

I'm reminded of one of our past presidents said, "If it's too cold, just put a sweater." You know although I think he's a great guy I think it's challenging to think about workspaces sacrificing the standards of comfort in that fashion.

And finally the savings achieved must pay for all the obligations of cost each and every year. Read your state enabling legislation. It will include a statement very similar to that, hence, we try to reinforce it in these presentations.

Another important consideration about that is that the language within a proposal and the study, the engineering study that's commonly called the "Investment Grade Audit" and ultimately the implementation contract that's called a "Guaranteed Energy Savings Performance Contract" or an "Energy Savings

Performance Contract" or "Performance Contract," all the schedules, all the appendices none of that stuff should conflict or attempt to supersede your enabling statute. I make that point because sometimes language appears in those instruments that's in clear conflict. As a reviewer of same part of your responsibility is to help ensure that that does not happen.

I mentioned all the roles that were incredibly important to understand to advance an energy savings performance contract and here's a little graphic that really talks about that. I've heard people say, "Well you know you just really need to find a champion and then move forward with making a decision on who your ESCO is going to be." To that I would say, "Huge mistake." You should engage your legal authorities, your finance authorities, procurement to make sure that this is all going to fall down a path that they're comfortable with. The maintenance folks, "Hey, what are you having trouble with?" The construction folks let's ensure that this work is built to or exceed your standards. These things incredibly important.

I'm going to circle back to finance for a second. Think about this. If you are planning on your project to pay for itself in an operating budget that would have funded the cost of your utility operation and maintenance over the next pick a number, 12 years, you're going to need a commitment from your financial authorities that they will continue to provide that level or more of your budget for those 12 years.

Sadly, from time-to-time I get phone calls from people saying, "We don't know what to do. As the utility bills came in lower and lower I began as the implementing agency to see my budget reduced more and more. Now I'm struggling to figure out how to pay the note and the utility bill." Well gee you missed the opportunity to get the finance authorities engaged, committing to full-term budgeting upfront. It's a good concept to have.

From an oversight perspective I want to mention this too. Several folks engaged in energy savings performance contracting these days are working hard on establishing an entire business of oversight providers or owners reps if you will, a national training to ensure that if you want help, if you want an ally, someone with experience and expertise to assist you in implementing these projects that there will be a ready, available list for you to procure from.

And finally, having agreement on this ESPC team, from your approving authorities. Sadly from time-to-time folks go through the concept of producing a project, doing all the studies that it involves, teeing-up the measures, assembling the energy savings, all the hard work of establishing a great proposal and then take it to the city council or the county administrators. And they're scratching their heads going, "What, what, what is this? What do you want me to be doing with this? I've got now three-inches of papers and you want me to read through and approve a concept?" Be sure that you start with educating them on the concept and empowering you with the opportunity to move forward if you meet statute.

Whose paper should I use? Well you know what there are 13 or 14 states that have standardized performance contracting documents, pre-vetted instruments in your state. What an amazing thing. Attorney Generals in those states have reviewed, modified contracts and they're available for you to use. So if you're one of those local governments or K-12 or university wow go there, use the vetted set of contracts, it's a great resource for you.

For other folks I often do hear this question of, "Well we don't have any, so whose state should I look at?" Which I smile and say, "Well I don't know. Let's figure out which state has the same state constitution and the exact same language in the enabling legislation and then we'll know whose documents to use." The chances of that happening are none and none, so you need to find a model.

We point to one in the Energy Services Coalition not because we created it, but because it is an aggregation of the most successful state's paper. In other words, these are the instruments that states are using in the states that have prequalified providers and pre-vetted contracts and other instruments. So another set available for you here.

So if I'm trying to figure out how to get ready well what exactly do I need to do to get ready? Well let's start with this. All the entities that could affect, all the utilities you need to go collect, like three years of utility bills. While we would normally say three years of utility bills I would encourage you to recognize three years of normal utility bills. Just by the way three years, because one could be high, one could be low, that's why you need three to get an average.

On the other hand if you had a year where you weren't in your facilities very often it's an excursion from normal. So now you need three years of normal utility bills so that you can build something that's typically look like or called a "baseline in a facility profile."

And as you see in a little note there, before you go off digging through the file cabinets and storage boxes to find the old utility bills, contact your utility representative and see if you can get a download of that data. Big point here, you'll still need a sample of every one of your bills. You need that sample so as to be able to look at the tariff and how your utility bills are constructed.

Now you see a little flag in the upper-left there hopefully. That's sharing with you a concept called "GESPC-U," the university of all things guaranteed energy savings performance contracting. I'll point to that reference a little bit later on in this presentation, but there are 25 individual lessons in any length of oh 8 to 15 minutes in the form of podcasts or you can download the scripts that take a much deeper-dive into many of these topics.

So some other things that you need to do is you need to understand your utility bill and how you are charged. That to say the only thing that you pay for in many folk's utility bills is not consumption, there are riders, taxes, other things that can't be impacted by efficiency and you need to understand that bill. There may be demand charges, actually a fee for using power during certain parts of the day that you may be able to figure out how to avoid. Your efficiency may accomplish that and it may not. So if you don't understand the bills from each of your utilities now is a great time to do that. You can go to your utility representative have them explain it. Frankly, all the ESCOs are typically glad to try to help you understand the construct of your utility bill so that you can see the efficiencies in real time.

Then there's always this pre-project checklist. Wow, there's a little bit of everything there. I'm not going to read it for you. You can see it, but nearly a list of everything. If you compile all this information you are a better partner. You're getting a kick-start forward. You should also make sure that one of the lists is what's not working correctly? "Where is it too hot and too cold in my facility?" "What have we been having trouble with, we know we need to replace?" "What have we had on the deferred maintenance list for five years, but we just can't seem to get the funds for it?" Those lists bring all that together, you will be three giant steps ahead.

Then there's this concept of picking partners. So there's three real partners on this slide, the energy services company and owners rep and the financier, not necessarily in that order by the way. I would encourage you that if you believe that you're going to engage an owner's representative go get them first. They can actually help guide your decision-making process, not help you make decisions, but help you be informed about the decisions that you need to make about hiring an energy services company and guiding you through this little myriad of Dodd Frank so that you're reaching out to the financing community and seeking registered municipal advisors to get you the right information about money, when to get it, best opportunity, and so forth.

So owner's rep first in my opinion, energy services company generally next, and financier early and often. Don't fall into the trap of putting the financier at the very end of the project, only when you need money. It doesn't make any sense. They can help you. They have experience in these projects as well and may be able to offer solutions like, "Huh, let's don't fund an escrow account all at once, because rates seem to be moving in a downward trend" or "rates seem to be increasing daily let's fund the entire project now in escrow" and then allow the owner to be in control of how it is leaked out to the energy services company through their invoicing.

Then there's this concept of investment grade audit. Now I pose for you there very quickly, is this a study or a proposal? Now in your own space probably sitting by yourself raise your hand if you ever paid somebody to provide a proposal for you? Likely not a lot of hands went up. On the other hand you are willing to pay for an engineering study, you're willing to pay for a complete understanding of what is consuming utilities, energy and water in your facilities. Why? How come? When? What's doing it? What can be more efficient and what cannot? Ultimately then taking that smart information from this very scientific study and migrating some of it into a proposal for you to make a decision about. That's an important concept.

In many projects today people say, "Well they're the same. The study and the proposal they're just the same." They are not. Pay for a study. Get what you need from that study. Understand everything about the consumption of utilities and what can be done to make them more efficient, including operation and maintenance and then ask for a responding proposal to move forward.

Then there's this concept of complexity. Some of you actually put that in your, "I can't do this, it sounds far too complex." And I propose to you that we have let many of the investment grade audits be too complex. Now look you really want those folks to be incredibly smart and do remarkable engineering mathematic equations to understand to the best of their ability what can be guaranteed to be more efficient. But then you should require that it's readable, understandable so that you could pass it to a supervising authority and expect them to read it and go, "Wow, I can't really get through this gobbledygook of math, but I see here that if we install this it should pay for itself in X-many years." Wow, it should be explained. I've often said if a third-grade math teacher can understand an investment grade audit and explain it to others the right job of presenting the material was made.

Who needs a load study? "Gosh we were just going to replace the chillers and a few lights and motors. I don't need to know what the energy consumption is of all those computer loads and devices and lamps and fans and... I just don't need it. We're not going to do any of that work." Really? Ask yourself in 10 years how you go back and get that complete load study from today after the work has been performed? You get one shot at getting a picture of what's consuming what in your facilities before a construction and it occurs that's right before construction. It is a baseline of what consumes what, when, and why and all the variables that impact it. That's an investment grade audit.

This standards of comfort concept and here's a little hint, don't be satisfied by someone saying, "I need a range of set points for temperature." I don't know about you, but I really don't care what you have to set the set point at, what I want to know is in my working environment today it's going to be between, pick a number, 73 and 75 degrees Fahrenheit, that's what I want to know. I want to know my space temperatures and I want to know that those are accomplished everywhere. The fact that Brenda's been complaining for three years that it's too cold in the summer and too hot in the winter, now's a great time to fix it.

Okay and then there's assessing roles and responsibilities and risk. Part of the investment grade audit is making sure that you understand what your role is as an owner, what roles are for the ESCO community, and who is accepting what risk of the project. Most public-sector folks are going to say, "Look we're going to continue to maintain and operate our stuff." Okay, but you need to understand what your accomplishing there and be striving for the same level of efficiency that was proposed to you in the project.

By the way you may have noticed in the little flag that there are five lessons no less in GESPC-U about IGAs. I encourage you to have a listen.

Then I know this stuff is going to change in my facility, we're going to add people, people are going to move away, we're going to change the square footage that's offered for a gymnasium or an office space, we're going to add some more computer labs, those things we typically call, be called "material changes." Gosh we all know they're going to occur. The science of performance contracting known as "measurement and verification" always saw forward to know that those changes would need to be made. So count on it to occur.

Defining the scope of a measure. I was never more disappointed than I saw a project where the steam traps were replaced, if you are in a winter climate you know what that is, but the valves and strainers were not, wow. "So I'm going to replace the engine in this car, but not the transmission and I hope I don't have a problem with the transmission later." Maybe that's not a good idea. Maybe the scope should have been, "Let's replace the drive train that encompasses all of the drive train, the transmission and the engine."

Understanding that that plans for startup, commissioning, and measurement and verification, they should all be in the investment grade audit. All this stuff is presented prior to you making a decision about an implementation contract.

And finally from that interment grade audit you get a proposal that talks about what measures are included, which ones were left out, and includes all the details of how to move forward.

Then you have the all-important contract that shows up for you. It incorporates that study or the IGA. Remember, one source, so all that design work gets incorporated into this implementation contract and includes your terms and conditions, no one else's; provides for an order of precedence; defines the purchase of services; how billing will be done; when people will be paid; the review process that you will have and so on and so forth.

Generally, it includes a non-appropriations clause and a construction contract that may be incorporated as a schedule that outlines all the pieces and parts of how to have a great implementation process.

So whose process is this construction project? Well I'll leave the list there for a second and tell you it's yours, it's the same one you've been using over-and-over, see that you get it is my best recommendation.

Invoicing. One of the things that we often hear is, "I sort of lost control of how this project worked. People started billing me by the percent that they thought I was complete." Well now look if you're a public steward of funds it's one thing to estimate what percent completion you're at, it's another entirely to approve an invoice where you haven't seen evidence that the work has been fulfilled. We want to make sure that you recognize you should see that evidence.

Post-construction services, oh sure there'll be some. Warranty support, you should know who to call, when, what can be provided. You should recognize that a measurement and verification report should provide scientific evidence that the savings that were planned to be achieved have been accrued or in guaranteed energy savings performance contracting the ESCO must step-up to the plate and illustrate that the guarantee had teeth. That they were responsible if in fact it is their fault.

When people make mathematical calculation problems it is the fault of the ESCO. Change something in the facility, well you may need to work that out and determine whose changes they were. Make the scientific changes in the savings projections and move forward.

So recapping the steps, yep learn everything you can. Maybe even reach out for that owner's rep. Fulfill an investment grade audit and then make sure your implementation contract includes all the rules, rights, and responsibilities. Then I often tell people, "Be sure to collect and maintain all the pertinent documentation," "Wow, okay, but where am I going to put all that stuff?" Huh, you could put it on someone's laptop, you could put it in a central IT repository, but you could also put it in eProjectBuilder.

If you're not familiar with that please become familiar with it. It is a great free web-based centralized resource for you to hold the salient information about your project and all of these files. And as Sean mentioned and I'll just allude here coming soon, very, very soon, eProjectExpress, the new streamlined pathway for entering data and reporting from eProjectBuilder.

Look states tell us every year, "I need a way to tell my governor and my legislator about the good work that was achieved in these projects," look to eProjecteXpress to help you get there in a simple, user-friendly way. You can save your customized report and print them any time you need to with updated information.

For a little bit more guidance here's where you find GESPC-U. You know when we put together this compendium, these 25 lessons, we were pretty proud of the material and now we've heard from states who tell us things like, "Wow, I had no idea someone could collect that much good information about these projects in one simple set of messages." So we want you to be familiar with that.

You know Dale this all sounds hard. Yeah, it's pretty complex, but on the other hand consider this, nationally we do over \$7 billion of this work every year in an industry that's nearly 50-years-old now. The model instruments are there, the program design is well vetted. There's an army of capable expert providers to assist you and a new burgeoning industry of third-party owner's reps. You know what you can reach your goals. Success is just around the corner for you. Get that stuff fixed. Reach your targets. Use performance contracting.

Well that's a little bit more even than the time that folks counted on me today. I promised you we'd be covering a lot of material quickly. Certainly want to thank you for the opportunity to share with you and look forward to any questions that might come forward.

Sean Williamson:

Excellent. Thank you Dale. You can sense a lot of energy likely from the coffee I know that you consumed to, to get ready for today's webinar. Really appreciate you bringing so much expertise and high level of energy to today's conversation. I don't know if folks can sense it, but Dale's put a lot of information in about 45 minutes and really appreciate how quickly and efficiently he went through that.

So at this time I would like to invite folks to type in any questions they may have into Slido. We've got a couple that are showing up here via our screen share from Slido. If you joined late you can go to [slido.com](https://www.slido.com) and enter #DOE to submit your questions for our speakers.

While folks go through that process I'm going to start to direct a few of these questions to you Dale. Let's, let's kickoff right at the

top here with a really interesting workforce related question. A question about how local community colleges can potentially play a role in workforce readiness and utilize ESPC programs.

Dale Hahs:

Yeah, I'm glad to try to answer that and then I'll defer to Sam as well. Honestly, in my working career, which is relatively old now, I had the opportunity to work with a number of community colleges in fulfilling projects. We found that bringing forward a group of students, giving them an opportunity to understand the work that was going to be completed, how the math was done, how efficiency paid for these projects was incredibly important. We could share with them different pieces and parts, different roles that they might play, that they may wish to be in fact engaged as an energy engineer or a lighting resource provider or in one of the subcontractor roles that really fit well across the nation and frankly many are needed in those roles to help do the kind of professional work that gets involved in these projects.

For some they wanted to look at things like, "Wow, can I learn how to program these ladder diagrams of control sequences?" Lots of opportunities. You simply need to reach out to that ESCO community and say, "Hey, if you're going to do work here we want you to show us how to get engaged with the curriculum that we can support."

Sean Williamson:

Great, thank you Dale. Next let's kind of jump to the distinction between energy service agreements and ESPC-U. You touched on it in the beginning a bit. I know it's pretty complicated and requires more than time we have available, but some quick thumbnail differences between the two for our audience, Dale, would be much appreciated.

Dale Hahs:

Yeah, yeah. You know it's always a challenge for me to answer that question because it is relatively complex. So in the case of the energy savings performance contract there is a piece of enabling legislation and there is in fact typically a well-vetted model publically available contract that you can review. It talks about things like termination considerations, penalties under short-term termination. It talks about securitization. There may need to be a non-appropriations clause in your contract as a public entity. We can't always find those ESA contracts even though we hear of them being provided in public sector, so it's challenging for us to vet those agreements and see if in fact they hold up to some of those different pieces of litmus.

We would always point you to your supervising authorities. Here in one hand I have a vetted ESPC instrument in process and here in my other hand I have this things called an "energy service agreement." If you're attorneys general, your legal authority read between the two they may help you figure out which one is most applicable to your application.

Sean Williamson: Great, thank you Dale. And then let's, let's jump to this question about common pitfalls and I, I, I see the other question here about PACE and ESPC and we'll try to address that with a resource, but as a final question to Dale before we start to close things out, Dale curious if you have any, any cautionary advice on pitfalls you've seen states or local governments fall into? If you're willing to share details of a specific scenario that could be very helpful for the audience.

Dale Hahs: Yeah, you know I'm a great fan of Stephen Covey, the writer, and I've often remark that Stephen said, "It's not only knowing what to do, it's knowing what to look for." So he'd make a bullet list of look out for's for his concepts and projects. I always find that a rewarding concept.

The things to look out for are shortcuts in the process. Look these well-vetted instruments are well-vetted tried-and-true for a reason. When I'm in a room and I've been in some or on the phone in some occasions and someone says, "Look your project doesn't really require us to complete all the steps of an IGA. We're going to shortcut that, make it a little bit easier and faster for you." Flags go off in my head. In fact they sort of look mushroom clouds. You know each step is there for a reason. And while you may not be able to see it today, if you're planning on your project paying for itself by savings over the next, pick a number, 12, 15, 20 years you best ensure that you have access to all the lines of all those pieces of paper as you're going through this process. That's a really big one.

The other one that I see that I urge people to pay attention to is escalations. Now we all might imagine in our own mind that the cost of operation, maintenance, and even utilities may go up over time. We've seen it happen, we might expect that it will continue. However, when I suggest to you that we should use a 2, 3, 4 percent increase year-over-year for the next 20 years in the cost of utilities you are in effect agreeing to the risk shifting from making savings to yourself as an owner. You're saying, "My budgetary authority will plan on providing me a 4 percent increase year-over-

year for the next 20 years regardless of what happens to utility costs.

So if they come down in your state for some reason and your energy savings performance contracting has an increase that year, really, you think your budgetary authority it going to continue to provide you those funds? Be sure about that.

Those are a couple of quick common pitfalls. By the way vetted instruments, owner's reps I must have said it 30 times for a reason, if you need a Sherpa to climb this mountain we have knowledge of where to find them and we encourage you to not climb the mountain on your own.

Sean Williamson: Wonderful. Thank you Dale.

Just to address a question here, not, not expecting you to provide feedback Dale, but I just want to say with regard to the intersection between PACE and ESPC financing it's a complicated question that we unfortunately do not have the time to get into. As a starting point I'll encourage folks to visit the Better Buildings Financing Navigator, which does a great job of explain the taxonomy of these different financing tools and comparing them side-by-side, so that could be a great place to start.

And then yes our slides from today will be published and shared with all registered attendees within a couple of weeks.

So if we could move onto our final set of slides. I would love to just close out at this point. Excellent. All the resources mentioned today are listed here. You can click on these directly when viewing the slides or you can copy and paste and go to the Better Buildings Solution Center directly to find many of these resources.

Next slide please.

As mentioned this webinar is part of the 2021 Summer Webinar Series. We have a great lineup of presenters and presentations through August. Visit the Better Buildings Solution Center to learn more about each and register.

Next slide please.

Our next webinar is coming up on Thursday. We hope that you will join us for this webinar titled *Boosting Industrial and Manufacturing Efficiency and Resiliency with CHP*. Join us for an

interactive conversation focused on strategies for industrial and manufacturing sectors to meet clean energy goals through the installation of combined heat and power.

Next slide please.

We're also excited to announce the 2021 Better Buildings: Progress Report is now live. Learn more about our partners, solutions, and key program updates by downloading your copy on the Better Buildings Solution Center.

Next slide.

To watch recordings from the Better Buildings Virtual Summit the previous Better Buildings Webinar Series or technical presentation from our National Labs visit the on-demand webinars library for all our previously recorded presentations are archived.

And with that I'd like to thank our panelists very much for taking the time to be with us today. Thank you Dale, thank you Sam for sharing your expertise and time.

Feel free to contact our presenters directly with additional questions or if we couldn't get to you questions during the Q&A period.

I encourage you to follow-up. I encourage you to follow the Better Buildings Initiative on Twitter for all of the latest news.

You will receive an e-mail notice when the archive of this session is available on the Better Buildings Solution Center.

Thanks everyone, have a great afternoon.

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