

Alice Dasek: Welcome to the ESPC Series Webinar. The broadcast will begin in just a moment as we wait for attendees to join.

[Long Pause from 0:00:14 to 0:01:31]

Hello everyone, and welcome to the second session of the Better Buildings, five-part ESPC Webinar series. I'm Alice Dasek with the U.S. Department of Energy's Better Buildings Initiative. These sessions explore the tools and resources of DOE's Energy Savings Performance Contracting Toolkit. Today's session will take a look at the resources available to help project owners as they work through the details of an ESPC project.

In this hour, we will start off the discussion with a whirlwind tour through ESPC projects and their unique aspects. You will hear practical and immediately applicable pointers and take-aways for navigating projects from Dale Hahs of the Energy Services Coalition, who will share insights and recommendations based on his in-depth experience with ESPC projects from all perspectives. I will follow with a look at the resources in the ESPC Toolkit that can help you as you work through projects. And we will hear from a special guest, David LeMieux, from the state of Montana, about his state's experience with the tool he was closely involved in creating through the ESPC Accelerator, called the ESPC Virtual Technical Assistant. Before we get started on our program, please note that we will hold questions until after the presentation. Please send in questions through the chat box on your webinar screen throughout the session today and we'll try to fit in as many as we can. This session will be archived and posted to the web for your reference.

To help us tailor our remarks to those most useful for you, we have a couple of poll questions to start us off. When the poll question comes up on your screen, please select the one sector that most closely fits yours. And the poll is now open.

[Long pause from 0:03:45 to 0:5:25]

And the results show that we have almost half of you coming from energy service companies and another almost half coming from non-profit or research firms and local governments. Thank you. And now it would really help us tailor our remarks even further if you could answer a follow-up question on which aspect of the ESPC process you are most involved in. Again, when the question appears on the screen, please select the one response that most closely matches your involvement in the ESPC process.

[Long pause from 0:06:06 to 0:07:10]

Okay, and the results here show that more than half of you are involved throughout the process, so that will help us when we get to the individual tools, so thank you very much for that. And now I will pass the floor to Dale Hahs, who will highlight some recommendations on implementing successful ESPC projects. Take it away, Dale.

Dale Hahs: Thanks, Alice. Can you hear me now?

Alice Dasek: Yes.

Dale Hahs: Good. Good. So one more click here and these should be my slides. Thank you very much. Welcome everyone, to this second installment of the webinar series, and certainly my thanks go to the Department of Energy for inviting me to share some insights and recommendations to regarding implementing energy-savings performance contracting projects. One thing I want to make sure is a strong reminder for you – we’ll get to all of the questions that we can. Just simply use the chat feature and we’ll read those from the chat box and do our best to address them at that time. Interestingly enough, the Energy Services Coalition, whom I’m representing here, we’ve added a letter to the acronym, and I always want to point that out to people. When we look at the definition of Guaranteed Energy Savings Performance Contracting, we note very quickly that that definition includes the word “guaranteed.” And in some states and in some applications we see that slipping away.

So we’ve done our best to encourage the market to pay attention to the fact that the enabling legislation for most states requires a guarantee by reminding all when we use the term Guaranteed Energy Savings Performance Contracting and that it’s part of the fundamentals. A separate way to look at the definition is a budget-neutral approach. One of the things that’s really important here is that no new taxpayer funds are required. So when you think about the fundamental of what is Guaranteed Energy Savings Performance Contracting, using the savings or the avoided cost to actually repay the funds that were used to build the project. We won’t digress much more than that, but simply to share with you that that’s why the G is there, and how very important – this industry, this whole concept relies on not only tools but it certainly and significantly relies on people.

So I've collected some recommendations to share with you in the next few minutes and hope that you find them helpful as you think about Guaranteed Energy Savings Performance Contracting projects. My first recommendation might sound odd to you, however it's very clear. Get Help. And the reason I say that is it's really rather rare for folks to know all they need to know about understanding the legal agreement, their authority justification and rules around procurement, how to manage financing, the budget, amortization tables, net costs of financing, and then to have a complete understanding of all of the intricacies of a construction project. Over the course of time, in the last 20 years or so, we've seen folks in sustainability offices or in energy offices take these projects and programs on by themselves and we're loudly now proclaiming, "I wouldn't do that; I'd get help." If you're within the state, go interagency and get the support that you need from other folks.

Another way to go about fulfilling this recommendation of getting help is there's a burgeoning new industry of owner's representative—folks that have actually carved out of their old different roles and private sector interests into being that owner's representative that can help you negotiate the business, finance, procurement, and engineering issues that are associated with guiding a successful Guaranteed Energy Savings Performance Contracting project. And finally, I always suggest, Read Up. Interestingly enough there have been books written about Guaranteed Energy Savings Performance Contracts and investment audits – great authors by the name of Shirley Hansen, and James Brown, have several textbooks. I always laugh with people when they call and they say, "Hey, I need some help. I don't understand a portion of this." It always looks like, "Well, what have you read?"

Also, as Alice will speak to later, there's a whole host of real effective tools now that the Department of Energy has assembled for you on your behalf, so another place to go. Recommendation number one, Get Help. So then I thought about that and I thought, huh, well that's interesting, if I'm starting the concept of engaging in Energy Savings Performance Contracting, maybe I need 1.5, which would be precursors. What do I really need to assemble before I get started? Well, under the category of Read Up, nearly every state has enabling legislation that empowers the use of this non-traditional procurement concept. However, each state's legislation is a little bit different. And unlike our friends in the federal government, it's important that you understand how your state is guided by its legislation and what's required. It's just not

okay to believe that you can do this like your neighbor, since your policymakers made a separate piece of enabling legislation for you.

Then there's – just like any world, you know, this world has got all these acronyms and definitions. I always want to relay a story. I was speaking with a rural school district one time about how to assemble an investment-grade audit, commonly referred to as an IGA, and someone was bold enough to say, "I thought that was the grocery store chain." So it is important that we look up the definitions that are in this industry and be familiar with them. As part of the precursors, you need to know that somebody is going to allow you to fulfill your retrofits in this fashion, and that's of course different between local units of government, school districts, universities, cities, counties and certainly states.

And then there's the Budget Commitment. Now that's not a budget commitment from you, because we all know, fundamentally, these projects are intended to pay for themselves. What's important here, what's a key caveat, is recognizing that the budget that is provided to pay your utility and operating costs today is counted on to remain stable. And even though you're moving dollars away from what you'll be paying to your utility company into dollars that will repay the upfront investment, that budget commitment over the term of the contract, which may be 15 to 20 years, is incredibly important to the success of how you continue to pay your bills. To have a finance strategy – well of course that's important. Whether you're going to have leases or whether they're going to be bonds. How you're going to incorporate incentives. There's a whole world of thinking there. Once again, I defer to Alice on the tool. They have a great little flowchart guide that helps you understand finance strategies and how they should be assembled.

And then, to support the concept of investment grade audit, it's become known widely known that you need to make sure that you encumber the funds to support that work. Now that doesn't mean that you have the money, but you encumber the funds from your budget, so that if for some reason you don't move forward with a project, with a Guaranteed Energy Savings Performance Contracting project, you are going to be required to have those funds to pay for the audit and receive it as a product that was provided to you. So all those things are important. Now, as you might imagine, I got through the Precursors and Recommendation #1.5 here and I thought, "Well is there anything else our attendees should know?" And well, yeah, if this is confusing or you need some help, refer to Recommendation #1 – you might remember, is, Get Help.

So Recommendation #2, Assemble the Tools. And there are quite a few of them. I think the tools that are important for you to recognize that you need are standardized documents. And from a standardized document set, solicitations – the actual RFP on how to select a provider or an ESCO. A whole host of contracts that are typically used. Base agreement between the public entity and the ESCO and then an investment grade audit that outlines the work that will be completed and fulfilled in its entirety, to result in the payment of that fee that we discussed earlier. Then the GESPC agreement, along with the schedules, exhibits, sign-off forms – lots of pieces and parts that are within standardized document sets and available for you to use. Well-vetted sets. Sets of documents that have been used from state to state to state. We think that's incredibly important for you to recognize. I do not think and never encourage one to use the contract provided by the private sector, the ESCO community. There are enough of these standardized documents and enough reasons to have those standardized documents to follow them.

And as well I should remind you that if in your state, you're a unit of local government or an ESCO based on our attendees, and you intend to do work in that state, seek first the Energy Office. They may have a program that has a standardized set of documents that's been vetted and approved for by their legal counsel and their procurement team and that certainly is the one and only set that we would recommend that you use. Further instruments and tools? Measurement and verification templates and certainly pricing guides. So among those tools – that may not even be all of them – but Assembling the Tools is important to be thinking about as your second recommendation. And of course as you might imagine, there's going to be a theme here. If necessary, refer back to Recommendation #1. Never be shy about reaching out for help.

Recommendation #3 as a part of this process would be Select an Energy Services Company. Sounds right, I have a clear understanding, I've read up, I now have the tools in place and I'm ready to begin. And to that, I would add, nah, no, let's not make that Recommendation #3. Instead, let's defer that concept of selecting your energy partner until you've acquired an understanding of the processes and contracts. Let's make sure that we understand all of it before we get started, or, as the noted author Stephen Covey would say, "Let's only begin when we have the end in mind." And of course, there's that theme thought – if I'm not ready to tackle this concept, maybe refer to Recommendation #1.

And Number 4, Investment Grade Audits. Now this is really important. Sometimes we see the investment grade audit sort of glossed over, and I'm here to tell you that from all my 30 years of experience in energy efficiency and in the last 20 years fundamentally around Guaranteed Energy Savings Performance Contracting, the best way to define the investment grade audit is to note that it was created to replace the architect, the planners, the engineers, the designers, the specifiers – all to produce a full and complete perspective of the current energy consumption and all of the variables that impact it. So this is replacing all of the different people, all those different disciplines, and it becomes incredibly important that the detail is followed in your standardized agreement and you get it all fulfilled.

So one thing that's important to know is the portrayal of the existing systems. In most standardized instruments it talks about having a complete inventory of the systems and devices. Anything over, as an example, five horsepower, including the plug load. What's important here is looking down the road and saying, "Hmm, I get one shot to identify what's consuming electricity, gas, water, fuels today, and then I'm going to make modifications that I'll never be able to recreate." So be sure that that definition, how those devices are described, is in such detail that you could look back five years from now and say, "Oh, I get it, I see how we were using power then, how we were using water then, and I can note the changes between now and then."

Understand your tariff. It is truly remarkable how many folks enter into an energy project and they don't really understand how they're being billed. And your bill may contain a consumption component as well as a demand component, and it may have some fixed fees in it. And only when you understand that complete perspective of your tariff can you begin to understand what you need to know about how you calculate or how you see energy savings. All those things are important. Understand the consumption and all of the variables that impact it. You heard me say that – just some of them include a full listing of the load. Full inventories of the load that's consuming power and gas and water. How the weather impacts it – cooling days and heating days. The occupancy. How many people are in these facilities now and frankly, what are they doing? Is it a lab? Is it a data center? Is it an office space? Is it a school, is it a classroom, is it a gymnasium? Those descriptions can never be replaced in the future. Incredibly important to have them documented in the investment grade audit.

The hours of use. Sometime we see this reported in a very casual way. We see a school system say, “Well, let’s just use 2,000 hours.” Well for me, I want to know when we start, when we need the place cool enough or warm enough, when we end, when we can shut that off. What are the holidays? How are the facilities used during the summer? All of those things become important, looking back and trying to identify whether you’ve achieved your savings or not. And then standards of comfort. What is the temperature in the space? Forget the setpoint. Who cares what the setpoint of the chiller is set at or what the thermostat is set at for that reason. What you want to know is that within the working living space, we’re going to have this 72-74 degrees – whatever you decide. You are the owner and you should be working to guide the ESCO to make sure that you continue to maintain those standards of comfort. If they’re lost for some reason, then you’ll have to sort out who’s responsible to get it corrected.

All of this information that paints a portrayal of your consumption and the variables that impact it then need to be reconciled to your bills. What’s really important here is that reconciliation will identify any errors. Recently I was asked to look at an investment grade audit. It had a great load inventory, some devices, and it had a concept of “other.” And “other” was identified as 50 percent of the load. And I was asked whether I thought that that was an effective way to do an inventory. Clearly, no. And when you look at those variables and all of the consumption and you reconcile them to the bills, you may very well uncover for both you and the ESCO, concerns that need to be addressed up front. All of this work really goes into the development of something called a system-wide/facility-wide baseline. And I put this in red on purpose. Sometimes we see people moving forward into a construction project without really having agreement on a baseline. That would be a bad practice. So warning, not to proceed.

If in fact some of what I’ve said seems hard or challenging and it doesn’t make any sense to you, hey, you might imagine, I refer you to Recommendation #1. Number 5, Audits, continued. Defined scope of work demarcations. This work is to be paid for by savings. It’s not okay to say, “Let’s replace the chiller,” and then have somebody say, “Well the chilled water valves are all frozen and need to be replaced, but we didn’t consider that.” Make sure you understand what those work demarcations are. Review the work in the vendor submissions. Be clear on who is doing what. This is still your project, as the owner. And for the ESCOs listening, nothing could be better than having clarity of understanding with the end user, to avoid any concerns or disputes

or accusations down the road.

Then there's the whole concept of pricing transparency. This industry was fundamentally built on the concept of a guaranteed maximum price with completely open books. I can see everything that you paid for, if you're the ESCO, and then we're going to apply the overhead and the profit. When that's done, these projects just work famously. A guaranteed maximum price, not a fixed price. If there are cost overruns, unfortunately, those need to be managed by the ESCO. But if there are under-runs, which we saw recently in a big way – LED fixtures came out at one price and then before they were implemented, the price went down. Those under-runs should be passed back to the owner, in fairness. Commissioning plans, measurement verification plans, this term of reporting – all of these things come into the recommendation of make sure you've completely and with detail fulfilled the investment grade audit. And if that's hard, Get Help.

Recommendation #6, to accept the IGA. I think this is important for all parties. I'm often accused of not being a proponent of GESPC because of these cautions. I just love it when every project is a successful project. If you're not happy with the work effort that you've received as a part of the IGA, sever the relationship. Pay for the study if it was a viable study, but if this doesn't look like an organization or a set of people that you can work with for the next 15 years? Wow, I wouldn't go there. And it's important for you to know that the standardized templates all say that this is part and parcel of the agreement between the industry and the owner. If that's hard, Get Help.

Recommendation #7, Construction. Well, they should just be built to meet or exceed the quality of any other construction project, whether you're a city or a school or a state. It's hard when we hear people say, "Well this is a GESPC project. We don't follow any of the typical construction rules. We don't have construction meetings or minutes." To that I say, bad practice. Let's make sure that the construction processes are exactly the same or exceed the level of those from your traditionally appropriate fund construction. Once again, the theme, if you need help, get it.

Recommendation #8, this M&V thing. Well this is really important. The plan should have been provided in its entirety in the investment grade audit. That means that what you have the ability to do before you move into a construction contract is know exactly how savings are going to be proven. And to that, I say, not good to stipulate all the savings. It's good to have the scientific proof, so

that you're validating the persistence of savings, and allow everyone to look at the project from the stellar work that it's able to achieve. There are folks today that say, "Well, maybe let's just not have measurement and verification at all." Well I say, as a recommendation, it is in fact the proof that the guaranteed performance contract works and that the savings did pay for the work performed. Those M&V reports are important. And another great tool that I'm counting on Alice to talk about is eProject Builder, which may give for the full term of the agreement, a place to host those reports.

Recommendation #9. Well now it's time. Now it's time to select an energy services company. I understand enough about this to know what's expected. I can share with my new partner the instruments we're going to follow. I can share with them the expectations I'm going to have as an owner, so that there are not disputes or differences of opinion. Now you're prepared to select one. When you tee up, "These are my expectations and these are my instruments," then you put a solicitation out and you get the responses. I encourage you to enter into the oral agreement or oral interviews and make sure that you have a comfort level that your ESCO, your new provider, is in alignment with your philosophies on how to build these projects successfully.

Finally I have this slide that I'm often told, "We don't know what that funny little creature is." Well that was intended to be a rubber duck, and a rubber duck now has a chicken head. And the reason why I have this silly little pictorial is to establish within your head as attendees that sometimes a duck is not a duck. That is to say, there are folks today that are offering, under the guise of enabling legislation of Guaranteed Energy Savings Performance Contracting, other products. Maybe they're savings as a service or lighting as a service or contingency agreements or a whole host of different products that the ESCOs have developed that may be granularly particular to you. But you need to make sure that they fall within the guide of your enabling legislation and that you're planning on managing your project with the instruments and contracts that best fit.

So I hope that those recommendations provide for you a little bit of a key insight. There's my contact information and e-mail address – that should be posted. And you know, I would be glad to look forward to fielding your questions at the end. So Alice, back to you.

Alice Dasek:

Thank you very much, Dale, for those tips and recommendations. And now we'll move on to our next section, the discussion of DOE's ESPC Toolkit. Understanding that there are many details to manage in an ESPC project, and as you just heard a few of them, several years ago, DOE began offering regular assistance to facilitate ESPC for state and local governments who are interested in leveraging this mechanism. Four years ago, DOE launched the ESPC Accelerator, one of the first of several similar initiatives DOE offered to enable energy efficiency. So let's take a look at the Accelerator, quickly.

It was a three-year initiative that ran from January 2014 through the end of 2016. The 25 partners included 18 states, six cities and one school district. And the goal of the Accelerator was to support ESPC investment, hopefully of \$2 billion. And I'm pleased to report the partners exceeded even that ambitious goal and they recorded \$2.1 billion in ESPC investment over that time period. This next slide, you can take a look at your leisure, the areas of activity in the Accelerator. But today I'd like to focus on the final area, Area 3. Each partner elected one barrier to ESPC investment to work on resolving over the Accelerator period. Very often the barriers identified by partners in this and other accelerators are common to those of other state and local governments. And accelerators then adjust the solutions and resources to be universally applicable and make them available to other public organizations facing the same barriers. The solutions form the basis for the ESPC Accelerator, of what is now known as the ESPC Toolkit.

Here you see the homepage for the Toolkit. DOE combined solutions coming out of the Accelerator with other ESPC resources into one package. And to make navigation as easy as possible, the Toolkit is structured along the lines of the ESPC decision-making process that we heard from state and local partners. That's why you see the categories here of starting out with Considering ESPC, then moving on to Implementing ESPC and so on.

Today we are here to focus on the second section, Implementing ESPC Projects. This section includes resources that help the user with several aspects of performance contracts, like financing, procurement and data tracking – some of the things that Dale mentioned earlier. I'll provide just a one-sentence description of each of the tools, for a basic introduction, and then we'll focus on taking a couple of them and looking at them in greater detail. So the first one listed here, the ESPC Virtual Technical Assistant, I mentioned at the very start of our webinar. The Virtual Technical

Assistant or VTA lays out each step of developing and implementing an ESPC project and does it in five phases, with detailed, step-by-step instructions and links to resources that are needed at particular points in the ESPC process. So that might be of particular interest to the more than half of you that responded that you are involved throughout the process and not in any one particular step. So it's nice to see first all of the steps laid out beforehand, so you can see an overview of the process and kind of see the end in sight, and then go back and take each phase apart and look at the detailed, step-by-step instructions.

Next is the Financing Decision Tree that Dale mentioned. And here it's an interactive tool where you can answer a few questions and it helps users select the form of financing that is best suited to their particular rules and conditions. Next we have Best Practices for Selecting an Energy Services Company, and this document compiles strong practices for each step of identifying and then selecting an ESCO that is suitable to the project that you're working on. Next we have Model ESPC Contract Documents, and they are templates for an ESPC contract and the companion documents that Dale enumerated earlier, that enable users to structure ESPC projects in a consistent way so that you reduce the ESPC project timeline and transaction costs. And of course, as templates, they are absolutely available to modify and customize for an individual jurisdiction's rules and conditions.

And then last but not least we have eProject Builder, which many of you have probably heard of, and it is a database tool that provides consistent tracking and reporting for ESPC project data. And this enables project owners to make the business case for ESPC when they look at the data points that are important to them, to negotiate strong ESPC projects and to standardize project results reporting. All important in the ESPC process. And now I would like to demonstrate a couple of the more involved tools here, to explain the details, and I'll start with the ESPC Virtual Technical Assistant. Today I'm happy to present David LeMieux, who has joined us from the state of Montana. He was the partner that raised the question that resulted actually in the creation of the ESPC Virtual Technical Assistant. And David is here to share his experience with the development and deployment of this tool and give us an update from the perspective of one year out after the close of the Accelerator.

And David, I have pulled up the Assistant live online and you should see it momentarily. And please let me know, as you speak, if you'd like me to click into a certain section.

David LeMieux:

Okay, thanks, Alice. Yeah, so this started out with Montana being in a situation where the State Energy Office didn't really have the resources to educate the EPC customers. And so we partnered with DOE and worked with Alice to develop this tool. So essentially what it is is an EPC 101, if you will – a very simplified way of providing the information as a clearinghouse, so that people can go step-by-step through an EPC project without missing critical steps. And we were seeing this in the field, as some customers didn't really understand all of the components that were required. And so the VTA was really just to come out with a way for everybody to quickly understand, what are the basics of EPC; what do I need to do to carry out an EPC project?

So on a high level, here's the situation. You have a customer working with an Energy Performance Contractor. They're also working with a financier and, in all states, I believe, an Energy Office or the equivalent of. So the problem is that the customer has generally a very variable level of technical understanding of what an EPC is. So they don't know even really what an owner's representative is why they should get one. They don't understand the full role of what an ESCO is, and more particularly, they don't even understand what are the elements of an EPC and which element comes first, second, third, fourth and fifth. So what we've ended up with here is the Virtual Technical Assistant – on the bottom there are five elements there, and they're really left to right, number one, two, three, four and five.

So in One, really it's an outline, the Project Planning, is for the customer to get educated. Just the very basics of what EPC is. And it's before the ESCO even gets in involved. It allows them to do an in-house survey of, "Okay, we're considering to do an EPC project. What is that project and what components do we have?" And without being energy experts, it provides them some guidelines for what is an energy savings project and how does that pencil out. So they don't end up looking at all new windows in a school as their only energy conservation measure. They look at other needs and more of a broader spectrum. It kind of helps guide them into better understanding what they want to do at their facility and what really they should be looking for under the guise of Energy Performance Contracting and what falls under that umbrella.

So it also guides them into getting their bills and understanding what their invoices are and identifying the stakeholder team, and really kind of drilling down into the basics before they get the

ESCOs involved. What is the project scope, and what are our goals? What kind of statement of work do we want to set up? In all of the components of the Project Planning phase, which is step one here, on the left, really lead into the second portion, which is the ESCO Selection Process. Because when they understand the kinds of projects they want to do, they can better serve that up into a request for qualifications that they can send out to the ESCOs. So that streamlines the process but it also says to the ESCOs, “Hey, this is really what we think we want.”

Now, the ESCOs can certainly come in, look at their facility and say, “Hey, you may have missed this. You may want to consider X, Y and Z, additional,” or, “You may not want to do one of the components you included.” So that kind of opens up the door, but it brings the customer in from a more educated perspective. And particularly working with their owner’s representative, they’re in a better position to negotiate and set up the RFQ process and ultimately select the ESCO in the second stage.

So now, in the Project Development phase – this is the middle block there – this is where it’s really the investment grade audit, where they’ve selected an ESCO. And what does that involve? So it’s really finalizing what that statement of work is going to be. What components are really going to be the energy components? What are the ECMs? And understanding how the project’s going to be funded and financed. And most critically, defining what the M&V stage will be. Dale talked about this, but it can’t be emphasized enough, that without a really good definition stage in the IGA of what M&V is going to be – what are your baselines, what are your elements, how are things going to be measured? – then, essentially, you don’t really have a true EPC. So we’ve seen that as a real problem, and it’s mostly just because the customers are not well educated on what they’re getting into. So that’s the intent of this tool, to make sure they’re following a process and prepared to negotiate and understand that’s what is appropriate to do. Because that’s part of the overall process.

In step four is the Project Implementation phase. This is where the ESCO actually comes in to the facility and contracts are signed. And at this point you’re doing the work under your Energy Conservation Measure listing. So once that work is done, it includes a discussion of commissioning and how that’s taking place and then where the ESCO comes in and does training for the facility operator, which is really part of every EPC. A lot of customers don’t understand that that’s something that they’ve purchased and that’s part of what a real EPC is – how to operate

and maintain their facility.

So these are components that are designed into this tool throughout, to really prevent pitfalls where you get, you know, the cart before the horse or you just miss a component altogether. You don't miss out on a critical stakeholder like legal or some upper-level stakeholders that have to sign off on the financing package. All of those folks should be involved at the beginning. Another critical element is talking with the state energy offices at the very beginning. It's difficult for state energy offices to do much about a project that may have gone sideways because contracts were signed but they didn't even know about what the project was. That goes back to Dale's, I think, overall thesis – Get Help where you're not sure about what step to take next.

The last phase of the VTA is your Project Performance, and this is a phase where you're doing annual M&V reports, where the ESCO is – they're following protocols that should be in the rules section of your overall program. And so I just highlight that as well. Essentially you're looking at three components that define your overall program. The foundation is enabling legislation and your statute. And then a layer over those are the rules that really define and outline what your program looks like. And then finally your standardized documents overlay that as well, and then some of those standardized documents include some required documents. So that's how we set this up.

Essentially, in summary, the VTA provides you these five steps. The first two steps are kind of doing everything in-house, and then the Project Development phase and then step three is your IGA. That's where you work with the ESCO and negotiate what the statement of work really is and how that's going to be financed and what really, critically the M&V is going to be and how it's defined. That really sets up the rest of the project, so in step four you have the EPC in and then in five you have your performance M&V stage. So I hope that's enough for now. I think we're running out of time, Alice, so I'll hand it back to you.

Alice Dasek:

Okay, thank you very much, David. And one thing I would just add to the Virtual Technical Assistant is that it's available as you see it here – interactive for folks, for any project builder, to kind of pop in and follow the steps. We also have it available in a Word document, in a separate section of the Toolkit, for any state or local government that would be interested in setting up a program or some kind of help for their project owners, and they can then customize it. There are sections where it is indicated that you

should include your own state legislation or rules that will help you.

And then the next tool that I wanted to quickly also demonstrate, because it's something that I believe is important to know that there are features involved – please note that here the Decision Tree may not function properly in Internet Explorer. We do have it pulled up in Chrome for you, so that we can demonstrate the functionality. And in the Decision Tree, you answer a series of questions as the project owner, on behalf of your city, your county or your state. And then below this dotted line you can determine, based on the questions you answered, which of the financing mechanisms are appropriate for your conditions. And this came about from an ESPC Accelerator partner who had financing options available but wanted to make sure that they were not missing any – that they were really taking all into consideration. And so by answering the questions, they were able to determine which of the mechanisms, based on these questions, would be most appropriate for their project.

And I did want to point out, while these don't look like they're live links, you can click into the individual options, and the idea here is that we explain what the mechanism actually is and then provide some pros and some cons to consider as you are deciding which one is really good for your project.

And so now I would like to turn to your questions. And I know we don't have a lot of time, but if you haven't already, please type your questions into the chat box on your screen and we'll try to fit them in now.

Jen: Great, so the first question we have is, “Is there a rule of thumb regarding estimating costs associated with the investment grade audit?”

Dale Hahs: That is an interesting question. I think historically what we saw in buildings was a spread between 9 and 16 cents per square foot. As most of you probably know, Energy Savings Performance Contracting really had its roots in buildings, and today the model is being used outside of buildings and in larger stadiums and for other forms of infrastructure. So anytime it leaves the dollar-per-square-foot, we suggest that that separate entity, that separate application, is negotiated. I hope that's helpful.

Jen: Great. Someone wanted to know the name of the books that were recommended by James Brown and Shirley Hansen.

Dale Hahs: Hmm, well that's interesting. I believe that you would fall them all under the title of Energy Savings Performance Contracting. The ones that I walk around in my library and look at? *Investment Grade Energy Audit, Making Smart Energy Choices*, to mention a few. Searching those by Shirley Hansen and James Brown, you might find that that's the only literature that they've produced, so I would point to that.

Jen: "How can you require a performance guarantee without continued measurement and verification?"

Dale Hahs: Alice, would you like me to address that?

Alice Dasek: I would.

Dale Hahs: I'm not sure I know the answer. There are situations where I've seen owners and end-users fully stipulate a guarantee, that the owner and the ESCO have agreed that forevermore the savings have been achieved. I think that's a veiled, poor, bad-practice effort, but that would eliminate measurement and verification. In the guide that we mostly use in the industry, *The International Performance Measurement and Verification Protocol* that's been around for about a decade now, there are some variables that are stipulated, but certainly not whole measures or whole projects. So I would say the answer to your question is, you can't. There are states now and large widespread programs in some places that say, "Look, let's use the first three years or five years and scientifically validate the persistence of savings and then consider whether we should drop away from any additional M&V."

Jen: And actually on the topic of M&V, someone wanted to know, "Who can do M&V and does the same company have to do it?"

Dale Hahs: Historically the energy services company not only has fulfilled the project but they have done the measurement and verification. There are a few states, if memory serves me correctly, that requires a third party being listed to do measurement and verification. The challenge, frankly, is that once you enlist the third party, you really need to get them very close to the ESCO. There may be assumptions that they don't understand. It provides some challenges, but it does give you third-party reference-ability. The industry is focused moreover on the fact that with complete transparency in how the plans are written, and relying on the science of measurement – measurement and verification should be clear, obvious and transparent.

I would add to that, that if you're reading a measurement and verification plan that cannot be understood by a non-technical reader, you need to redirect the author. It's one thing to know that the calculations need to be there, some of them very sophisticated. It's another to rely on that as an assumed practice. Ask for lay language to help you understand your plan.

Jen: Great. "Can private sector organizations use these tools?"

Alice Dasek: I think I'll take that one. This is Alice. And I would say absolutely. It could be that you are working with a state or local government that asks for clarification on the process, etcetera, and if you can take, for example, the Virtual Technical Assistant and customize it for the way your company shares information or organizes the project into phases of work, then that would be maybe a very helpful starting document, followed by of course a discussion and clarification. Just as well, the Financing Decision Tree could be something that the client could use, again, in the process of determining what is the most suitable mechanism that they can use for their project.

Jen: Great. "Is there Virtual Technical Assistant Montana-specific or can it be applied across states, enabling state legislatures' structures?"

Alice Dasek: Oh, thank you for that question. We absolutely made this – we originally started, of course, working with Montana to create it, but have made it as universal as we could. We have inserted language where appropriate to say, "Now go look at your legislation and fill in a paragraph on X document." And same with the Word document version, where we say, "In order to fill it out and make it complete, there are places that are indicated where you need to go search for things." And they're pretty specific on what you need to search out. So then if they're not clear, you can always ask and we can help you with that. But they're pretty clear about who you need to talk to, whether it's the finance department or your legal department or whoever has that very specific information that can be filled in, to make it truly your own for your state or city.

Jen: There's a question about whether there are guides available for ESCOs to follow.

Alice Dasek: So, not in our Toolkit. These came primarily out of the Accelerator where we were working with public sector organizations. Dale,

perhaps you know of some more kind of industry publications that would be suitable for the ESCO side of things?

Dale Hahs:

Thanks, Alice. Many of the State Energy Offices have established programs of their own. Some of them have written guides to help both parties, public and private, walk through the intricacies of Guaranteed Energy Savings Performance Contracting. I know of no specific written books outside of Hansen and Brown that are written in a fashion to say, “Consider this; manage risk this way.” But those books do a fine job of pointing out lots of things that are grand practices to follow. The other reference that I’d offer for that consideration I think would have to be the *Federal Energy Management Program Guide*, which, while you have to provide some customization and adaptation away from federal speak, it is certainly a strong universal guide for successful programs.

David LeMieux:

If I can add to that Dale, I think that the – at least in the state of Montana, we set up what the requirements are in the rules section, so the ESCOs clearly understand the International Performance Measurement and Verification Protocol is one requirement, and those documents are all available. _____ is also outlined, and I think there are some other guidelines there as well. But they put the ESCOs on notice directly for what protocols are required for doing EPC in the state. I imagine other states have similar rules.

Alice Dasek:

Are there additional questions, or –

Jen:

Yeah, there’s a question about the international implementation of energy saving technology, specifically in India. I don’t know if anybody on our panel actually is able to speak to that.

Dale Hahs:

I would certainly defer. I know that there’s a significant amount of global uptake, and there are a couple of organizations that are guiding that. One of them is **EVO**, who has long hosted IPMVP, and a couple more. Honestly, if – Alice, I think you’ll have to field the e-mail question and we may be able to provide some resources there.

Alice Dasek:

Mm-hmm. Sure, yeah, EVO is the only one I would’ve been able to name. So, great. And maybe with that we should wrap up with the questions, or maybe if there’s one more, we could squeeze it in?

Jen:

Sure. There are quite a few folks interested in getting the slides, and we will circulate those after the training. Last question – “Do

we typically generate enough savings to pay for the total cost, including IGA or additional capital?”

Dale Hahs:

The answer to that is a loud and profound yes. In many states the enabling legislation requires that all costs, including the study – frankly, in some states, including the full term of measurement and verification be paid for by savings. The idea here was to create a program that could be funded by those same utility bills. So the importance of no additional tax appropriations is incredibly important. They do work that way. They fit within terms. Unfortunately there are some things, I think David mentioned – you know, windows may fall out, roofs may fall out. But the aggregation of short-term payback savings with long-term payback savings really works to make a successful infrastructure modernization for many.

David LeMieux:

And in our study, in our review of the literature from other states, we’re finding that over half require 100 percent of the energy savings to pay for the projects.

Alice Dasek:

Okay, well thank you. I think you said that was the last question. With that, I’d like to thank our two guest speakers, Dale Hahs of the Energy Services Coalition and David LeMieux from the state of Montana, for taking the time to be with us today. Please feel free to contact us with additional questions that occur to you after this webinar or if we weren’t able to get to your question during this Q&A period, like the question about measurement and verification in India. You will receive an e-mail notice when the archive of this session is available online. In the meantime, I’d of course like to invite you to visit the ESPC Toolkit that you saw today at the link that you will find on Slide 9 of the first slide deck, and we hope that today’s session gave you a good understanding of the first set of resources available in the Toolkit as you work through ESPC projects or if you’re helping someone else go through the same process.

Please also mark your calendars for the third session of this ESPC Toolkit series, scheduled for June 14th at the same time of day. We will be discussing the next section of the Toolkit about establishing an ESPC program, and we hope to share with you some valuable information about making ESPC a regular tool in your state or community, for carrying out energy efficiency projects. Thank you for attending, everyone, and we hope that the tools and recommendations you heard today serve you well in your ESPC projects.

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