

### Webinar Panelists

**Graziella Siciliano** Fellow, U.S. Department of Energy  
**Abby Semple** Expert in Public Procurement  
**Christopher Payne** Deputy Group Leader, Sustainable Federal Operations Group,  
Lawrence Berkeley National Laboratory

**This Transcript** Because this transcript was created using transcription software, the content it contains might not represent precisely the audio content of the webinar. If you have questions about the content of the transcript, please [contact us](#) or refer to the actual webinar recording.

---

Sean Esterly Hello everyone, I'm Sean Esterly with the National Renewable Energy Laboratory and welcome to today's webinar hosted by the Clean Energy Solutions Center. We are very fortunate to have Abby Semple and Christopher Payne speaking on Energy Efficient Public Procurement Best Practice in Program Delivery.

One important note of mention just before we begin our presentation is that the Queen Energy Solutions Center does not endorse or recommend specific products or services. Information provided in this webinar is featured in the Solutions Center resource library as one of many best practices resources reviewed and selected by technical experts.

Now for the webinar features, you have two options. You—for audio, you may either listen through your computer or over your telephone. If you choose to listen through your computer, please select the mic and speakers' option in the audio pane and by doing that, you will eliminate the possibility of any feedback, any echo. If you select the telephone option, a box on the right side will display the telephone number and audio pin you should use to dial in.

Panelists, we ask that you please mute your audio device while you are not presenting and if you have a technical—any technical difficulties with the webinar, you may contact the GoToWebinars Help Desk at 888-259-3826.

Now we encourage everyone to ask questions throughout the webinar. We will save those questions for our Question and Answer session towards the end and you can submit those questions by typing them into the question pane in the GoToWebinar box.

If you're having any difficulty viewing the materials through the webinar portal, you can find PDF copy of the presentation at [cleanenergysolutions.org/training](http://cleanenergysolutions.org/training). You can follow along as the presenters

speak. Also, an audio recording in the presentations will be posted to the Solutions Center training page within a few weeks to this broadcast.

Now we have a great agenda prepared for you today that is focused on the key findings from Energy Efficient Public Procurement Best Practice in Program Delivery. This report was published by the Super-efficient Equipment and Appliance Deployment initiative also known as the SEAD initiative and discusses the challenges in delivering Public Procurement Programs and presents greatest solutions adapted by different countries to overcome these challenges.

Before our speakers begin their presentations, I just want to provide a short informative overview of the Clean Energy Solutions Center Initiative and Graziella Siciliano will give an overview of the SEAD initiative. Then following the presentation, we'll have a Question and Answer session and then wrap up with some closing remarks, then a very brief survey.

Now it's time to provide a bit of background in terms of how the Solutions Center came to be. The Solutions Center is an initiative of the Clean Energy Ministerial and is supported through our partnership with UN-Energy who launched in April 2011 and was primarily led Australia, the United States and some other CEM countries—partners.

Outcomes of this unique partnership includes support of developing countries to enhancement of resources on policies relating to energy access, the no-cost energy policy systems and peer-to-peer learning and training tools such as this webinar.

The support goals for the Solutions Center, it serves as a clearinghouse of clean energy policy resources, serves to share policy best practices, data and analysis tools specifically clean energy policy programs and the Solutions Center delivers dynamic services that enable expert assistance, learning and peer-to-peer sharing of experiences, and the lastly the center fosters dialogue on emerging policy issues in innovation primarily around the globe.

Our primary audience is energy policymakers and analysts from governments and technical organizations in all countries. We also strive to engage the private sector, NGOs and civil society.

Now one of our market features at the Solutions Center is our expert policy assistance. It's known as "Ask an Expert" and it's a great service offered through the Solutions Center at no cost. We've established a broad team of over thirty experts from around the globe who are available to provide remote policy advice and analysis to countries, again at no cost. In the area of Appliance and Equipment Standards and Labeling, we are very pleased to have Christine Egan, Executive Director of the Collaborative Labeling and Appliance Standards Program also known as CLASP, serving as an expert.

If you have any propulsive systems on Clean—Efficient Appliances, again the system is provided free of charge. Feel free to go to [cleanenergysolutions.org/expert](http://cleanenergysolutions.org/expert) and we also recommend that you spread this service to those in your networks and organizations.

And just to encourage to take advantage of all the Solutions Center resources at the website, take advantage of the Expert Policy Systems, subscribe to our newsletter and then participate in webinars like this.

And now, I'd like to welcome Graziella Siciliano, a fellow with the Department of Energy, will provide an overview of the SEAD initiative.

Graziella Siciliano

Thank you Sean and thank you to everyone who joined the webinar today. Again, my name is Graziella Siciliano and I work at the U.S. Department of Energy where I serve as a coordinator for the SEAD Proximity at working groups. Just to tell you a little bit about the initiative, SEAD is an initiative of the Clean Energy Ministerial into the voluntary international government collaboration. Its primary objective is to advance global market transformation for energy efficient products.

SEAD participating governments work pretty together to develop common technical foundation that will enable faster and easier adoption of cost-effective product efficiency policies and programs. The Initiative's broader market transformation efforts include collaborative work on awards program, incentives and of course procurement in an effort to further enhance in an effort to further enhance global markets for highly efficient products.

Next slide please. SEAD Procurement Activities support market transformation by leveraging the bulk purchasing power of private and public sector buyers to signal demand for highly efficient products in the market.

These efforts for service and developing effective policy instruments in advancing energy efficient procurement practices. The procurement activities provide the researching tools needed by policymakers to develop and implement programs and today, the procurement program is focused on a number of the areas including accelerating the procurement of energy efficient streetlights, improving the monitoring and evaluation of the public procurement program, cataloguing, energy purchasing requirements and lastly sharing best practices in energy efficient procurement. This will be the focus of this webinar specifically, we'll be discussing to you best practices guides for government procurement energy efficient products and services.

I'll turn it back over to Sean. Thank you.

Sean Esterly

Thank you Graziella. Now, I just like to provide a brief introduction of our Panelist today. The first presenter we'll be hearing from is Abby Semple, an Expert Public Procurement Consultant who has worked with public

sector clients in Ireland and in the UK and on procurement law development at the EU level. And then, following Abby we will hear from Christopher Payne, Deputy Group Leader of the Sustainable Federal Operations Group at Lawrence Berkeley National Laboratory. Everyone, please join me in welcoming Abby to the webinar. Abby, welcome.

Abby Semple

Hello, thank you. I hope everybody can hear me okay. I'm just going to start the slideshow here. Okay. I should say that I have two impediments in terms of being a speaker on a webinar. First, is that I'm Irish and the second is that I'm getting over a cold. So I hope that everyone will be able to understand me and if I'm speaking too quickly, please just write something in the message box and somebody will get the message to me to slow down. On the other hand, if I'm speaking too slowly and you get bored then, you don't need to say anything you can just go and make yourself a cup of tea and come back and hope it will be more interesting when you come back.

So, this starts by explaining a little bit about the guide and it was published in February of this year actually and so some of you may have had the chance to look at it already. The authors of this are Christopher Payne who is with us today and Mr. Andrew Weber at Lawrence Berkeley National Laboratory and myself. We're involved in preparing it.

What is the purpose of the guide? Because I think for those of us who work in this area, there is a lot of guidance out there and so what we're trying to achieve with this one? And will it really work to make sharing the experiences of the Procurement Working Group members and Graziella there mentioned that the countries that are participating in that and obviously these are countries which have a range of different experiences, have reached different stages in their development of Energy Efficient and Sustainable Procurement Policy.

It was really nice that there were benefits both for those who are developing their programs and to help with their planning and to avoid some of the problems that are brought up in the earlier generations of the programs. But also for those who have reached—in somewhat a more mature stage in cleaner and greener Energy Efficient Procurement Program and to really have a conversation about exactly what has worked, what haven't worked and what the ongoing steps are to improve the effectiveness of the policies.

I think the timing of the guide maybe quite good because some of this programs, for example in the UK and Sweden, are reaching the 10-year marks and they were started during 2003 and that's what stated that warrants other initiatives prior to that time but instead of start of the full-scale policies during that periods and so that gives a fairly long run of time over which to study the results of these policies and draw some conclusions. We're also seeing at the moment of the heightened level of international support for this initiative. So not only do we have the Clean

Energy Ministerial and the SEAD initiative which you just hear about and the UN has also recently the Sustainable Public Procurement Initiative and the World Trade Organization is launching a Sustainable Procurement Program and the European Commission is continuing to support any bring public procurements through a number of different initiatives. So, on the international level, it seems like that there is a need and the time is right ready to look at these policies and how they're working at individual entry level.

Okay, so we started out in the first chapter of the guide looking at setting policies and that quote there is I guess intended to sum up the goal of Working Group. It's not rocket science but clear, internally consistent policies that define goals clearly to form the foundation of successful sustainable public procurement programs. I'm going to talk a little bit about what's meant both by setting intents on and the goals that might be defined by these types of programs and then the issue of assigning responsibility.

I think it says today the policy has been the only parroting the picture and I guess policymakers like to think its most important aspects, people who work in different aspects in procurement chain like to say otherwise, but I think regardless of what position you're in, it's fair to say that policy is essential particularly in order to make the transition towards like life cycle cost-based purchasing away considering [Indiscernible][0:13:20] based purchasing because that's the type of change that really can't come without policy support, without budgets and on political positions reflecting the idea that how we make procurement positions.

In all of these contents, I should say that it's based on series of patterns or observations that have emerged cross the program study and the program study for the guides. That's where the lessons learned come from. So, if you're looking for a specific source of this information, refer to the primary procurement policy working group. In the chapters that follow, we have particular focus I think on examples from the US and on the EU and also quite a few from Sweden and that doesn't mean that these are the only examples of the policies we're talking about but they were the ones about which we—gathered quite comprehensive information on the case studies in terms of what policies are working.

Okay, so the first element of that policy chamber is establishing intents and if you follow this diagram, I suppose from the middle then toward around and the question of high-level endorsements—I think there were several of the countries involved have had noted that this will be a useful aspect of starting out a Sustainable Public Procurement Policy. From India, we have the example Prime Minister Singh who stressed the need to make public procurement being at a meeting of counsel and climate change in 2007 and that was seen in India to pretty technical road and in terms of theirs, Sustainable Public Procurement Initiatives.

Moving down then you'd expect to see not just some high-level endorsements but also legislative change because we all know that procurements—public procurements in particular is a highly legalistic area in most every country now and both under the WTO agreement and the National duels and ends on the EU [Indiscernible][0:15:30] European directions. But I think the conclusion that was reached to that legislative changes alone is unlikely to need the action. The policy changes have to be made and the need to be effectively communicated across all the levels. So while it certainly unnecessary elements, legislative changes would not be sufficient and to be put down into action.

For example, in the US you have the Federal Acquisition Regulations and those of you who are familiar with this document, know that it runs at over two thousand pages and the European Procurement Directives are a hundred pages each and the we also have National Implementing Rules on top of that and a very large volume of case law for the European Court of Justice. So, minor changes to these documents are unlikely to really make a big change in terms of practice on the brand.

Moving on to the policy changes aspects and—that is really where you get the focus I suppose of this study. What is the policy? How do you implement policy? Who needs to communicate it? How does it tie into existing procurement work flows? How do we train people to implement policy? So that would be looked at later on within this presentation.

Just to say a word about management support, this is an issue that comes up quite frequently and there's a survey conducted by the European Commission in 2005 and fully a third of the respondents identified a lot of non-effective support at various degrees in public procurements. So that is certainly precedes at issue in some cases. I suppose in defense of managers, we have to say that procurement is an area where they may encounter many different policies and Energy Efficient and Green Public Procurements maybe only one of the policies that which have been charged with implementing. But it's felt that if we're going to serious about Energy Efficient and Green Procurement, it needs to make a short list of all the essential policies that managers are aware of and effectively communicates to the staff.

Okay in terms of setting goals for policy, the bottom line really is it should be easier for procurers to purchase within the policy requirement than to purchase outside of them. I'm—you look in some details at what that means in terms of interrupting, let's say E-procurement systems or existing procurement work flows. But in terms of what the goals in such look like, for any policy really, you've got to have goals that are clear, actionable, achievable apparent resources, tracked effectively and which leaves room for exceptions and were justified.

Chapter 3 looks at the issue of tracking goals in more details because that seems to be actually particularly challenging area in terms of Energy

Efficiency and Green Procurements. But in terms of type of goals that we might look at when we're developing a sustainable public procurement policy—in research, we did the—there's a role for both quantitative goals so something along lines of 50% of goal and procurements must correspond to certain minimum energy efficient criteria, and also prescriptive goals that simply say certain levels of energy efficiency or equivalent below a certain level will not be purchased.

One of the problems is sometimes get the quantitative goals and is that not all procurement systems are capable of tracking the detailed attributes of every product. So, it can be quite difficult to measure this accurately and a lot of E-procurement systems, for example, that have been apparently charged and there's no fields to enter the energy procurement of an appliance that you purchase. So in determining whether or not, you've met your 50% goal, that's going to pose quite a challenge and not only for the people charged with monitoring the policy alone but for the individual procurer who doesn't know where they are in terms of achieving these goals. So in cases like that, there may be a role for more prescriptive goals such as—thou shall not purchase an appliance which pulls the lowest certain and minimum level of energy efficiency.

In terms of the goals in such, they should honestly be unambiguous but there is a need to recognize that there will have to be exceptions in special situations. An example that I'm using will be simply detached by green appliances or sustainable products and obviously those of us who work in procurement know that that's not going to be sufficient and people would have no idea how to implement a policy like that. So whether there's need to be specific and avoid ambiguity, there is also a need to allow for exceptions. So for example, if you have a requirement regarding emissions from vehicles, you may need to accept that there are certain special function vehicles which can't be covered by the same emission targets. But in general, the finding is that it's always the easiest to purchase them into the policy that outside of it.

Okay, so once you set your goals, how would go about imposing them or ensuring that the goals applies and so there should really be really exterior line responsibility and flowing from the highest level down to its individual procurers and an attempt to ownership of targets and I'm not saying that you need to get to the bottom between having the overall organization, being responsible and individuals also being aware of their responsibilities. You should be able to determine there isn't a single control sector and so in most countries, you don't have huge levels of centralized procurements and even within organizations, the procurement function can be quite deduced. So this really emphasizes the need for clear recording requirement so that everybody regardless of their position and their function, knows what is meant by Energy Efficient Procurement Policy.

There's also requirement to make sure that those don't conflict with existing duties. I'm quite possible that they actually tie in to other goals. So for example, that works with the organizations that have existing targets remitting to in the carbon footprints which may have developed out of their own sustainable developments and departments. So where possible, an Energy Efficient and Green Procurement Policy should contribute directly to that goal and ensure that the recording is in the same formats so that you can make a clear link between the purchasing that's going on and the broader targets—the productions and emissions.

We're going to talk a little bit later on about capacity and there's a need to be conscious of recording requirement in sheer volume that many public sector employees are faced with in terms of reporting on their actions. There's a need to build capacity particularly when you get into more complex concepts which is life cycle costing. There's a US costing that we're going to look at later on and in explaining that there is really to build capacity, assigned responsibility and also to change incentives for individual purchasers. So that life cycle costing makes sense to them in terms of their budgets and their recording responsibilities.

Okay, moving on to chapter two, which looks in more details at procurement criteria and I should say in the drafting of this guide, we have a little bit of discussion about using the term "criteria" because it turns that's going to mean different things in different countries. So when I use the term "criteria" here, I'm really talking about everything that would go into tender documents or indeed into a pre-qualification questionnaire which relates requirements of the public authority when it goes out to purchase. So that would include selection criteria, technical specifications, award criteria which maybe either cost-related or related to the quality or performance of the goods that are being purchased. Then also, your conditions of contract which are very often used in order to impose requirements regarding Energy Efficiency or other environmental characteristics. The bottom line there, good criteria minimize the time and product knowledge necessary to evaluate the products, cost effectiveness and environmental profile.

I have say, I'm not a hundred percent I agree with that now. I think it's true on one level but I also think good criteria builds knowledge amongst procurement stuff and so, while we don't want to overcomplicate things when we're introducing Green and Energy Efficiency criteria. I mean, there's no getting around the facts that environmental issues are complex and if those take a certain level of capacity and understanding in order to apply it, and Energy Efficiency criteria and procurement. So, obviously simplification is a great thing but I think there's also a need to acknowledge that and staff themselves will be gaining perhaps when they go to apply some of these criteria and developing knowledge that can be applied in other areas as well.



Criteria enter the level of standardization, this is another feature that varies quite a lot between the jurisdictions and represents the procurement working group. So in some cases, you may have very standardized criteria so in some countries it's said look here at the criteria, you insert them into your tender documents and this is what they look like. But in general, those need to be some skilled adjustments to fit into the individual need and the number of procurements which can be done according to complete the standard criteria is actually pretty low, I can quickly get into it. That's said, that standard criteria can be very useful as a reference source and for procurers and other people within an organization in order to identify okay what are the environmental impacts of this public category and what—how do we go about adjusting them in a way that that makes sense to—looking at a general context.

Okay, so what's involved in creating effective criteria? I'll start on the upper left hand corner there in terms of life cycle costing and this really is a strong element of the guidance. It's something that is I think becoming an increasingly frequent component of an Energy Efficient and Green Public Procurements. It's not a new idea, life cycle costing, it's been around for quite a long time and it's referred to by different names—including the [Indiscernible][0:27:20] and concepts like that. What is a little bit more recent is the idea, the signing and a cost to environmental externality such as initiatives. So this—when you start going down that line and also when you start looking at energy cost in particular, that is when the links between the environmental and economic aspects of procurement really become quite apparent. That's not to say that life cycle costing in and out itself will always mean that you choose the most efficient products but it certainly is a process that can support these type of decisions in many places.

Generally involving stakeholders and this again would merit with the procurement working group had a lot of experience and we talk—some people really detest the words stakeholders and bubble head would have been bigger would have included government private and third sectors but unfortunately, stakeholders are big enough and—but it really is something that's essential for the credibility and also the effectiveness of an Energy Efficient Procurement Policies because you simply can't go out to the market and move criteria that have never been tested—that really don't reflect any process of engagement and would suffice and indeed the people in other sectors who have strong product knowledge for example and people involved in equal labeling initiatives or people working in universities, researchers who have good knowledge of emerging technologies, for example.

So in the case studies, we'll look at it later from both UK and Sweden and there's a specific process for involving state process in developing their criteria and indeed in advising them as time goes on. In terms of metrics, this is an important issue when it comes to reporting. So obviously, once you avoid inventing completely new ways of measuring environmental

performance or energy efficiency which do not reflect what's already done in the industry if at all possible. That's not to say we're not critical of the metrics in test procedures that are already there—but really to have any large-scale procurement policy you do need to think how you're going to measure it, can you look—can you assess the process and determine whether or not it needs your criteria and that is really an essential function within a policy.

Moving down to the bottom left on transparency—transparency in the criteria setting process—it's really keen in using confidence in the criteria themselves and so there can be a tendency to given to the institutional tension and everything else, if criteria appear to come out of nowhere fully formed, there's likely to be a skepticism about them and probably reluctance to apply them in practice. So transparency is really by getting buy in from both buyers and suppliers to ensure that you criteria are effective. Transparency means different things to different people but a very basic way to do this is to publish your draft criteria on your website or multiple websites if possible and seek influence. Allow adequate time for input. That's always key and getting the complexity of some of these criteria. Also, an important stuff in some cases is that should publish the input receipt with the consent of those who needed something. That would help avoid the impression that criteria have been unduly weighed in one way or another.

In terms of tracking, we can look at this in a bit more detail later on and I should say that there is a separate guide that's been developed and within the SEAD initiative on monitoring and evaluation and that is going to be a separate webinar on that in quite a bit of time—in a week's time I think actually—but yes, I've mentioned to you new intentional function that criteria themselves have built in the capacity to be trapped in the existing procurement systems.

Finally, the whole issue of Eco-Labels, again this goes back a little bit to the metrics question of you really want to take advantage of the systems that are there in order to minimize the overheads associated with compliance and verification. So minimizing cost both for the private sector and public sector and a good example of this is the connection in the US between the Energy Management Program, that we can look up later, and the ENERGY STAR Programs. So those two really have been working hand-in-hand in order to make it easier to impose Energy Efficient Procurement Policies.

Okay, so when you get to the Criteria Setting Process, the first step I suppose is really to decide in the scope in terms of what products will serve as well as what they will cover in the program. You came into quite an interesting process for this actually and supported by women [Indiscernible][0:32:54] I know her and others during the working group and they went through prioritization process, which is being used in other countries as well, to determine—if you're going to develop a policy on

Sustainable Public Procurement—how to be focused on effort? Do we try and cover the full range of products and services purchased by the public sector? Do we focus on those that have the highest expense? Do we focus on those which have the most dramatic and important environmental impacts that we're concerned about?

So there's a process to be taken there. Sweden also has an approach to select product groups and those taken to account environmental impacts, the public sector sales volume, also the potential for improvements which I think is the important one and finally there's a sort of general question "Is procurement an effective tool to bring the markets?" So, that's going towards the question of market transformation which is really looking at leveraging public procurements. So that's—we're not just talking about the volume of good services published or purchased by the public sector but potentially much broader changes within the market driven by those public sector taking it by steps.

Once you decided the scope of coverage, you the need to set your targets. So you need to determine the energy efficiency levels or ranges and which deliver the life cycle properly—which deliver the life cycle process effectiveness. So an example I have how this is done in the US context is that some collects energy performance data on a full range model and then analyzes the data to determine the life cycle cost-effective levels of performance, and that normally corresponds to the top 25% of products on the market and we'll look at that in a bit more details later on.

The targets obviously could be in terms of the individual energy performance levels. They could also be in terms of what you're trying to achieve with the criteria overall. But in general, once you get to the criteria level you need to be thinking then per product or per service. The review function is something that really needs to be build in to criteria from the start I think because obviously your targets need to evolve as the market does. An example of this I think is from the Korean context is they have implemented Mandatory Energy Efficiency criteria since 2005 and by 2009, they have those for eighteen product groups, and by the end of this year they're planning to have those for over a hundred products. The standards are being updated every year. So they are setting quite challenging targets and they really have a mission in order to double the size of their public procurement spans and that's driven the review process for their criteria as well.

Finally, the modify—I mean modify just means partly the criteria themselves once you've gone through your review process but also you need to modify your procurement systems in order to capture relevant data linked to the implementation of these programs. So very—it's a basic example of how this is done in Malta is that they have a form that they use to approve all tenders. So it's really just—it's not—as far as I understand E-procurement is literally just a paper-based or an electronic form that needs to be used to group tenders. Obviously, most say—that's a more

manageable and tough and bigger jurisdictions, but this was modified in order to include information about compliance with their Green Public Procurement criteria. So that's a good example of great basic modification which simply enables tracking the criteria to ensure they're being applied.

Okay, the next slide is on FEMP and I think I'm going to hand over to Christopher here.

Christopher Payne

Thanks, Abby. I'm going to talk a little bit about US experience with Energy Efficient Product Procurement through the Federal Energy Management Program. So Abby mentioned a little bit of background history on policies, the US, procurement of efficient products released FEMP from the Energy Policy Act of 1992. FEMP started issuing guidance pursuant to that policy in roughly 1995 so we're coming up on twenty years here in the US trying to encourage the purchase of energy efficient products.

So the way that the FEMP program really began and has developed wants to try to identify specific product categories that procurement efficiency should focus on, so earlier how do we focus, for example our first focus actually was an assent program for computers called ENERGY STAR. ENERGY STAR was just an [Indiscernible][0:3:09] that time and we recognized that government purchasing could help support the development of the ENERGY STAR Program by kind of giving the big customer.

So we created these specifications for product categories. We looked at the distribution of performance in the market about energy consumption within a given product categories. So for example, in the ENERGY STAR-cased computers we looked at computers and their range of energy performance and found that there was in fact range. We now identified a specific level of and we said, okay. Above this level of energy consumption, we're going to disallow that. We wanted below this level of energy consumption and as Abby mentioned earlier, the guiding principle there is about a top cortile of performance in the market. So we go through that analysis process for all of the product categories that we cover and then set that at target energy performance.

Important component of setting that level is that we want to make sure that we're not lacking in specific manufacturer products so we don't want to expense in that particular kind of technology for example. Because many manufacturer has developed an innovative new product solution that we serve while encouraging that. We don't want a lot of federal agencies to be purchasing those and so when we set the criteria for purchase, we always make sure that multiple manufacturers can meet that criteria to provide this diversity of supplier in the market.

Currently there are about eighty different product categories that are covered, about sixty of those are covered by the ENERGY STAR products, the remainder are covered by two other programs in the United

States; one is the FEMP designated program. FEMP actually identifies some product categories of its own that are not currently covered by ENERGY STAR, commercial lighting would be examples of that, electric commercial chandeliers would be another example of that. Large commercial building products that the ENERGY STAR does not currently label. Another example of that would be the WaterSense Program which is an EPA program trying to identify water efficient fixtures and of course we all know that water and energy efficiency, we try it together and the energy tendencies of hot water. So agencies are also required to buy the WaterSense called byproducts.

So an important of this slide I think is the idea that FEMP over the years has developed a mechanism to a) identify the product categories that are going to be covered and b) identify the performance within those categories that will be deemed efficient and it is through that process that we can provide information for all buyers about what is meant by green and give them a little more specificity so they can just focus on the specific products we've identified.

Back to you Abby.

Abby Semple

Okay and thanks very much for that, Christopher. Good job [Indiscernible][0:41:41] about program and the links to ENERGY STAR and I think I should say ENERGY STAR obviously has an international recognition at this stage and [Indiscernible][0:41:49] as well there was a policy I believe in 2008 related to Public Procurement and to ENERGY STAR. That system has very much been taken on board internationally.

Moving on to another example here. Here we go, another example related to criteria. So this is the UK Government Buying Standards which have been invented since 2003. I mentioned previously the prioritization process that was gone through in order to cover these. They cover twelve, what are called high-priority product and service groups and I should say that these cover multiple criteria, so it's not just energy efficiency and they also look at things like materials, recyclability, and use of resources and so a broader range specifically about environmental impacts linked to these products and services. They are mandatory presenting them of their departments and their agencies and their voluntary for local governments. So there's varying levels of take up within local governments and authorities for this criteria. They also developed dividing it into three levels. You've got your basic mandatory criteria, you have best practice and you have class leader.

This really lights organizations to say "Look, we may only be able to meet mandatory criteria at certain product categories [Indiscernible][0:43:22] on top of the markets and [Indiscernible][0:43:25] to check with their requirements. They are linked as well to the EU government or Green Procurement criteria and that process have been quite influential because different departments in the UK draws upon the background before it's

published by the European Commission which I think many of you may be aware of and which really do give quite a thorough analysis of the product and its impacts and market itself. So that has been used in the UK as well as the resources for product review of these criteria.

The draft criteria are published for our stakeholders to review and they're also given a partial impact assessment and I think for other jurisdictions, it may be quite interesting to look at those impact assessments as well because they were taken to account what really are going to be the cause of implementing of these criteria based on what we know about market and then what is going to be the environmental—what environmental gains can we expect and based on their implementation. They're given a full assessment after the stakeholder feedback is received and that includes an analysis of the market capacity to actually deliver products and services which meet the criteria.

The criteria cover both technical specifications and also award criteria and contract performance clauses. So both the mandatory minimum that suppliers have to meet and then—criteria in which additional marks are available in the procurement process. Over in Sweden, a somewhat similar process, it's also started in 2003 and again, to say—if not that there were no initiatives prior to 2003 probably in this area, [Indiscernible][0:45:11] going to be particular programs started to adhere and develop the methodologies that we use now. They cover forty product groups and they're not mandatory but they actually have quite a high rate in take up amongst local government. So over 75% of local governments are using these criteria in Sweden.

As with the UK buying standards in which these criteria take multiple environmental factors into account, the criteria again similar to the UK, they have different levels so they have—the basic criteria which are still in advance of the legal minimum requirement that might come from environmental legislation. Then they have advanced criteria which target the top 25% the market and spearhead which is [Indiscernible][0:00:00] class leader category.

In terms of development of the criteria in both and expert group which draws together representatives from industries, the public sector, e-collate the organizations and also specialists who may have given hidden their knowledge of the products and services in question. The criteria defined to be flexible and the procurers can decide which elements are relevant for their tender but most of them would include prior requirements as in some flexion criteria related to the organizations themselves and the technical specifications or criteria and contract terms. On the final criteria then subject to an external audit or quality assurance. So I should say that in the case of both some codes that reaches the Swedish Environmental Management organization and UK, the requiring standards, all of these criteria are available online at [Indiscernible][0:47:00] and EU Green and Public Procurement criteria. So I would encourage people to actually have

a look at the criteria and to see to what extent they might be relevant in terms of their own policy will be quite interesting to compare it with the contents and individual products and services.

Okay, in that spirit SEAD has also prepared a catalogue on Energy Efficient Product Requirements. This covers fifty four unique products and it draws upon the participating governments such as Canada, Denmark, India, Mexico, Netherlands, Russia, Sweden and the US. That is developing as quite a comprehensive resource and you can find out more about this on the SEAD website if you go to [www.superefficient.org](http://www.superefficient.org) and then click on the procurements section and you'll find it in there. Eventually, they are aiming to do about this contingency analysis for each country and to explore the possibility of filling the gaps that are there, the classifications in some other countries and stuff and interesting initiative that follows.

Okay, moving on to training, the focus of this chapter really is how to design and deliver effective training with limited resources. It may sound like the most unnecessary when we say resources; that they are limited because public sector resources are always limited as are everyone else's resources for that matter. But I think if it's not too much of a cliché "in the current environment of [Indiscernible][0:48:41], it is really essential to think about targeting training in a way that that's going to make the most of the—generally quite limited resources that are available. The basic principle in term of training is that it should really see to embed energy efficient procurement and green public procurement in existing procurement processes.

The objective of that is to minimize the burden of compliance and to maintain purchasing efficiency. So efficiency is always—primarily popular term in government [Indiscernible][0:49:18] and I think in some cases, the Green Public Procurement Program have suffered from a perception if not for the [Indiscernible][0:49:25] but they are either complicating already complex processes or adding to costs. So in terms of—one of the big tasks for training in this area is to stress how these steps can be implemented within existing processes and also to look at aspects such as life cycle costing which can emphasize the cost efficiency of Energy Public Procurement.

For the first step, for anybody involved in trying to design the training program is to really understand the process themselves because I've mentioned to you that procurement processes are complex. They also take many different forms. We're going to look later at the different work flows and [Indiscernible][0:50:07] program procurements. Whatever materials that are developed, there's a need to making transferable so that they don't just sort of target very narrow area but they can be used within different organizations and also ideally adapted to reflect different procurement work flows.

In terms of using existing expertise, Christopher when I hand him over, giving him a few minutes, is going to talk a little bit about how this [Indiscernible][0:50:35] and one example which host about expenses with US. When it's great to top expert trainers going in and telling people everything about energy efficient towards sustainable public procurements, there's also a need to acknowledge that there may be deep sources of knowledge within organizations already and to really use that wherever possible and to make the most of the training budget.

Online training obviously noticed, we do not think about doing anything about having online elements and modules are really I think—giving the demands of people's time and that doesn't make sense to have modules that can be done either at different times or which can be undone if necessary by different people if that's the way that the training programs settles. Coordinating updates—so this is to make sure that training ties in to policy updates in particular, so that you don't go developing a wonderful training program but meanwhile policy has changed and you have to wait until the next time you get a budget or time to update your resources to coordinate that. So that's the basic thing to think about in terms of timing.

Certifying trainers to develop standards for that, we're going to talk about the approach of training the trainer as well, which can be effective in making use of resources. Ultimately, I suppose that the reason of any training program is to eliminate the need for training. So I've already mentioned this idea of embedding these procedures in organizations by changing the purchasing structures that are there.

I'm going to hand over to Christopher again to talk a little about House of Representatives case study.

Christopher Payne

Thanks Abby. US House of Representatives from 2007 to 2011 basically, there was an initiative to Green the operations of the US House of Representatives through Green Capitol initiative. As a part of that initiative, there was a focus on procurement to try to affect the purchases of the House of Representatives and all the things that are used to do business. It included trying to target products that were certified under EPEAT, I'm sure most people at this webinar are familiar with, and the important thing that I want to emphasize here is going back to the training circle that Abby mentioned earlier identifying the procurement process and making use of existing expertise was a big issue here. What we found was that when we did an analysis of the procurement of electronic products or the members of the House of Representatives and their staff, it turned out that there were a small [Indiscernible][0:53:46] really about a dozen staff who were assigned the responsibility of making purchases for a set of representatives.

The contrast of these electronic pump products ended flowing through about a dozen people. Those dozen people were quite familiar with the



market from the electronic products they were looking at but they weren't familiar with the specific environmental attributes they were associated with EPEAT. So training that small number of folks about EPEAT and how to find information about EPEAT qualified products and how that tied to the products that they were then offering when the members and their staff were asking for electronic products made it very simple to implement as successful program. So the key there was a) to understand the procurement process and recognize this sort of critical path of these dozen actors who had significant input in the purchasing process and then b) to make sure that the staff who use that set of a dozen actors recognize their expertise and work with them to make the purchases.

What we found was that in many cases, that was happening already but there would be some cases where a staff member might want to go off on their own and purchase something that wasn't recommended by this [Indiscernible][0:55:29] of a dozen folks and what we would see is that the procurement process would slow down on that case, the appointment might not fit in well with the equipment that was available perhaps. So this combination of identifying the [Indiscernible][0:55:46] expertise and then encouraging users to make sure they were using that expertise really drove a successful implementation of this requirement for EPEAT certified products.

Abby Semple

Okay, thanks very much Christopher. I think Sean mentioned about the [Indiscernible][0:56:09] and we will have to find questions at the end. So if you have any questions either for Christopher, or myself and these two—because neither one would do our best to answer them at the end.

Okay, so moving on to another example, we have an example from the EU which used the approach called “Train-the-Trainer” which I mentioned before and this is a program that took place on June 2008 and 2010. The idea of train-the-trainer obviously that you—you don't have a massive budget for training so you chose individuals and I believe we refer to them as “nodes” in the guide. So people who based their role and function, and also ideally based on their personality and ability to engage people can create multiplier effects and reach a lot more people and the new panel with your limited training budgets. I should say there are some doubts initially as to whether or not this model would work. It wasn't certain that the trainings themselves would necessarily be effective trainers and they might be excellent at conducting procurement but they might not necessarily be excellent at applying trainings to others. However, the experience with this quite successful and you can see them both adapt to the similar approach and for other programs. What seems being effective in terms of targeting key policymakers and also in procurement environmental specialists.

Okay, so what were the lessons learned from this review training programs in the guide. I have mentioned, you're looking to maximize your budget by targeting specific nodes or individuals who have the ability to influence

and create multiplier effect, and making a connection between the policy and the available purchasing tools and resources. Training really isn't a isolation but it's connected to what people have coming to them in terms of resources. Maintaining focus on work flow efficiency we're going talk about just a little bit in the next chapter and finally that materials should be more genuine and transferable so you are really getting the most of what goes into those goals into developing training resources.

Okay so work flow. Again, I think this one of these terms that we sent a little bit of time debating when we're developing the guide and—what is a work flow? It's really just the steps that the procurer need to take I order to authorize and conduct procurement. Those who us who work on procurement know that there's no one size fits all and there are many different procedures available in most cases.

There is a step—at the eighth section, identify what are the work flows we're trying to purchase? That will vary depending on what you're talking about and relatively straight forward supplies or you're talking about more complex and construction projects even through the things like public-private partnerships and concession arrangements and there is a role of course, for Energy Efficient and Green Procurement in all of these areas but without a good knowledge of what the work flow is will be very difficult to target them effectively.

In terms of working with the e-systems, so obviously electronic systems are really becoming indispensable in terms of procurement and sometimes this is imperative of why their business management system or sometimes the dedicated system is just for procurements,

But, really we find that these are not just tools, they actually shape the procurement process itself and because they determine what information is available and can be used, in support of Energy Efficient, or Green procurements. So, when we talked earlier about setting goals, and again—if there's no way to track those goals using the systems that are in place, then they become effectively meaningless.

There's also really a need to go beyond buyers or procurers because it's quite rare that procurement process doesn't involve some inputs from users. Whether that's gathered constructively at the outset, or gathered to be a complaint after everything is bought, which is something I think we all have some experiences of both. But, really a policy should seek to build supports amongst other people who will be using the products and services in question and that includes monitors, it may not be directly involved with procurements, but who may be responsible for example at the budget holders relating to procurements. Finally, adjusting contract templates, so there is still a role in many procurements for standard terms and conditions, and so this, we really need to look at what we're doing to these documents, and do they effectively incorporate in our criteria.

Okay, so what are the steps in this process? It does involve a certain amount of first hand research, I would say because, it's important to understand the workflows, and the systems not only in terms of how they're designed and how they function on paper, but how they function in practice. So it's very difficult to understand what people do day-to-day in procurement without actually speaking to them and gaining an understanding of their jobs. Once you've done that first hand research, you can go away, and are able to design more appropriate resources, which should really be integrated with the workflow that you've identified rather than being stand-alone tools.

There's been a role obviously to evaluate the effectiveness of those tools, and we find—in many places the best design tools are still under-utilized, because they—there might just be a few things that it's guaranteed and there may be a need to look inside in a pilot basis and to evaluate their effectiveness, and then to go back and be prepared to make some changes the way you've designed to work your resources. I think it is important to evaluate usage rates of many of these tools because otherwise, why design a tool that's not going to be used?

Finally, once you got your tools and resources, and done; you really want to look at the scope of using them and how can you harness selective buying power. Centralized purchasing although it's used to varying degrees in different jurisdictions can be quite an effective way to introduce policies related to Energy Efficient Procurements because you have a critical mass effectively and once you developed an approach that works, why not roll it out on a larger scale?

Okay, just a couple of quick examples of how workflows can differ, and yet both have potential to contribute to Energy Efficient Procurements. So, in the UK the Government Procurement System in the last few years has consolidated on energy contracts, and they've actually realized the saving of over fifty one million pounds and part of that has been targeted at developing renewable energy capacity as well. On the other extreme of a different type of purchase, we've got in the US is purchasing card and in the guide we look at that as how these have been used by the federal government in the US. Also, with the quite a high potential for savings, and these are very linked to low value purchases in most cases.

So, the point of these two studies is really to say “Look, you've got two very different types of procurements, both with a big potential, both to save money, and to save energy, but not surely the approach you would take and to introduce an energy efficient procurement criteria would differ quite significantly between these two workflows about why the understanding of the process is absolutely key.

Okay, moving on to the final chapter in the guide and I have mentioned we do have a separate guide on monitoring and evaluation developed. I encourage you all to have a look at that one as well. The webinar, that

would be on 25th of September, so that's going to be Wednesday but the element of tracking and performance, we have them there- the steps that are involved.

So, obviously we need to link the tracking to the target that has been fixed and in the EU we set the targets and that 50% more procurement which imply than the course of PPP criteria by 2010. Unfortunately this proved quite difficult to track effectively, and part of the reason for that is that when notices are published in the efficient journal of the EU, they don't contain any information generally about and the actual criteria is being applied.

There had been work undertaken by the commission subsequently and to track performance and to track and keep [Indiscernible][1:05:44] perhaps if when the target had been developed and there have been more [Indiscernible][1:05:50] some measures and half to save assessing time in terms of that process.

Go beyond contract language, so for example, again going back to the EU, and sorry for the number of EU examples but it's the jurisdiction I'm most familiar with. So, numbers of the published in 2011, and which they're quite interesting because they take different approaches to measuring procurements not only energy efficient green procurements, but other aspects of the procurements as well. Since we're looking at the methods used by those studies, and they have everything from wide-ranging surveys to econometric studies regression studies, and then interviews, there were quite few interviews conducted with procurers, and analysis of those notices that I mentioned a publishing official journal

I think there really is a role for qualitative research in this area, because not everything gets captured notices, and survey responses that we have a role of the interviews as well I think would be very valuable and impact in that information. Unfortunately [Indiscernible][1:06:59] are more expensive, and time-consuming methods [Indiscernible][1:07:03]

Data consistency, and then—I mean I think it's an issue we all think about in our work. We need to be able to gather clean data make sure we really are getting enough clear picture of the following procurements. Any new e-procurement system should really involved—it should include the capability to record energy efficiency or green criteria, and upgrades consistent systems. So, that is something to keep in mind and when we're talking to our IT departments.

Work with vendors, this actually becomes more important as criteria start to address supply chain characteristics. So, moving along—moving from your top to your suppliers and the supply chain which has been approach that has been taken by many upper authorities now. For example, to look at the use of hazardous chemicals, or to look at working conditions, and then if you're go into the social realm I think there is need to anticipate these requirements on to trying to find responsibility persistent to

[Indiscernible][1:08:09] on monitoring, and that is an advance function of the tracking system.

Okay, so in terms of the lessons learned, and it would serve as really need to use tracking intelligently and to improve compliance rates over time which is also ultimately the purpose if not just to say where we got to how do we get to where we want to be based on current levels of performance, and to set targets and which is smart in nature. There's a need to use multiple tracking methods, organized and qualitative as well as constitutive research is needed and really, that the world of IT systems is obviously essential in this whole area, and I'm willing to update them, and also support tracking.

Okay, so that brings us to the ends of the slides and I think it was about fifty pages long but if I have to give a summary in four brief bullet points. It does offer recommendations, or lessons learned, and linked to existing programs, on Energy Efficient and green Public Procurements. It covers with some detailed policy, criteria, training, work load and the question of tracking on the question of tracking, so that was really most essential aspects of any policy program and it includes quite a few links to resources, and just a thank you to everyone who contributed to the guys because it was quite an empty process of speaking to people, and getting their comments on drafts and things going back to them to get case studies. So, all of those who contributed are acknowledge  
[Indiscernible][1:09:50] okay, I think that ends my contribution. Thank you.

Sean Esterly

Thank you Abby, and thank you Christopher for the outstanding presentations today. We do have some questions that came in from the audience and I want to remind all the attendees today that you can submit your questions through the question pane on the GoToWebinar panel.

The first question that I received is when identifying efficient products of innovative suppliers, how do you ensure that other suppliers in the market can meet the minimum standards that you proposed? Abby can you have that?

Abby Semple

Yes, sure I can have a go at that. It's quite interesting actually, I've been doing quite a lot work in the area of public procurement of innovation, which is sometimes seen as being separate from Green Public Procurement or Energy Efficient Procurement although they obviously has some intersections. So, I suppose there is—I think there is some tension between the idea of who we want to capture the real cutting edge of the market, but at the same time we want to encourage other suppliers to come along behind it. Also to ensure from the public sector perspective that we're meeting our other objectives such as value for money and having useful levels of competition for contracts.

So, I think some of the programs we looked at have tried to address that by having different levels of criteria. So, for example in Sweden they have

the spearhead criteria which are really aiming at, at the cutting edge and off the market where it's—criteria for other product groups are designed to be met by say the top cortile and so opening that up further.

So, I think it's really up to the individual purchasing organization and to do a bit of market research, put a marketing engagement and determine are these criteria suitable for our needs and is that—what it's like to be left off at competition we're going to get with these criteria? Then to choose the one that is most appropriate in circumstances. I don't know for Christopher is you want to add anything to that?

Christopher Payne

Yes, thanks Abby. I think I would echo what you said. To me, I think it's important that the mandatory requirements of products of a given environmental attribute be seen as one tool in a broader toolbox of public sector procurement policies. So, I think it's an interesting question and perhaps I would lock it a bit by saying that [Laughs] I think in that situation where I would recommend, and in fact we've faced this issue in the US, is that if the attribute that is making a particular product in question attractive, is unique to a specific manufacturer.

I would not recommend that the part of a mandatory procurement program but I would things that Abby mention why the technology procurement, or both procurements. So, there are definitely procurement tools, policy tools that can be use to bring new innovations into the market by either guarantying a buyer for specific kind of technology, that may not be currently available, or guarantying a large enough subcontract that a client's small production line can be wrapped up to bring down cost by achieving [Indiscernible][1:13:46] scale.

So, I think the combination of that set of procurement tools is where you achieve that most effectiveness, and in those situations are like what you get is those innovative products coming to market being successful, and then [Laughs] seeing competition, and bringing multiple manufacturers on board. When that happens you can start then requiring on most part of your mandatory process.

Sean Esterly

Thank you Abby, and Christopher. The next question is in the more generally on both of you and it's, "Which products are the most common to require for green purchase?"

Abby Semple

Yes, that's quite a difficult one and to tackle actually. I think in this slide that I put up in terms of the work Steve had done in the cataloging effort they're trying to do, and I think that might give some indication of the products which are commonly included in these different programs, and we use to have in the EU the idea of, okay what do you start with simply buying recycled paper, and things like that. I think to be honest that's too simplistic of an answer to give at this stage because it really depends on the organization on what is being purchase, and I spoke a little bit about the prioritization efforts that have been undertaken and in different

countries particularly in UK and Sweden, and those would always be based on multiple criteria's.

So, looking first one at the environmental impact, or energy, and consumption, if it's just energy that you're targeting, and looking at both the volume and the nature of public sector spends and so even if you have requirements that are make up quite a large total amount if it vary the first half different types of organizations in slightly different categories of products. It may be very difficult to develop common criteria that can be used.

Then, also looking at—okay, you might have a large public sector spend but it's actually a tiny percentage of the total markets and from the supplier's perspective, then, your influence over the market and really may not be that great and similarly if supply chains are vary and diverse cover a lot of different countries, and you may need to ask, okay what parts—what aspects the supply chain can we meaningfully target and so all of these considerations, I think would be left open and prioritization exercise.

Christopher Payne      Abby, I completely agree and I want to echo something that you have said early on your presentation. I think that there is a large roll qualitative research in understanding public sector particular in assistance. I strongly advocate that [Laughter] people investing now research so that you can understand better exactly what is happening in your procurement processes. So, that you can make better and more effective public policy decisions and I think that Abby you hit the nail on the head that there are live variety of convectional factors lead to determining what can be a product that can have significant impact well from a public sector use perspective, "Do we purchase a lot of these? Is there a lot of difference in the market between a "good one," and a "bad one?"" and impact in terms of "Okay." If the public sector is able to buy all of these, will they change what is produced in the market, and that's one of the big reasons that this public sector procurement programs exist. Doesn't make a lot of sense to put a program in place if you know you're not going to be able to have an impact. So, again, using the information that you draw from research about your own country's procurement processes, is really critically important in implementing a policy that can be effective.

Sean Esterly              All right, thank you.

Abby Semple              Yes, I agree about that. I just want for the point to make is that, oh sorry just one further thing to add.

Sean Esterly              Okay.

Abby Semple              ... in this guide, and I put in this webinar, we're kind of looking at a meta level we are talking about designing policies, designing programs, but I supposed for the individual organization, or even the individual person who want to start doing something about energy efficient procurements and we don't want to overcomplicate it. I mean, what you need to do I suppose is look within your own organization, what is feasible and what

would be the effects, and while there's a role for policymakers and doing a privatization and that's not to say at an organizational level you can make an informed decision about what areas we're going to focus on as well.

Sean Esterly Right, thank you guys. My next question that I received is, in your view what role does international cooperation imply in supporting energy efficient, or green procurement?

Christopher Payne Well.

Abby Semple [Indiscernible][1:19:28] [Laughter]

Christopher Payne [Laughs] from my perspective, I think there are two primary roles that are placed. One, I think, there's a market aggravation question. The United States is a very large country, a very large economy in, so when the United States federal government says, "We want to buy that," that can have a pretty substantial impact on many manufacturing in vendor community. Smaller countries can have smaller impacts, and so in those circumstances, I think it can be extremely helpful to magnify the market impact by coordinating on an international level as the US done.

I think the other aspect of it that I think about is the increase in globalization of markets, and I think this in the area where no natural collaboration of the public sector side can really have a big impact in helping to identify common criteria for identifying the environmental attributes of products. So, we can all agree that you measure a refrigerator by its annual to one hour consumption. We can differ on the specific test procedures of the year in each country for how to measure in kilowatt-hour consumption, but, at least if we all agree that, "Hey, that manufacturer should tag a level," when they're shipping to our country that includes in the kilowatt-hour consumption, or include that information when they provide the vendors, they'll include it on their website, or whatever.

I think having those standards available that can help us identify environmental attributes in a consistent manner, is an example of international collaboration that can really help public sector procurements of environmental products take off.

Abby Semple Yes, absolutely. I mean I think, trade in international supply chains or international, and procurement itself is increasingly internationalized – I mean, increasingly, professionalized, I mean, I started going to these international conferences on sustainable public procurement four or five years ago, and I just been so impressed by first of all the passion that people really bring to this topic, and on those of the level of commonality between organizations from different parts of the world if you're trying to implement these programs.

So, I think the games are really potentially enormous for us, and I mean, international corporations—sometimes, if you can get cooperation going



on in an international level, it actually facilitate things at the local and national level as well. So, I've done work with [Indiscernible][1:22:17] our local government association and you can sort of transcend with different levels of government by trying to get things doing a mid-national level sometimes. So, I think it's quite encouraging in that point of view.

Christopher Payne One final point Abby just to [Indiscernible][1:22:34] stimulated something to me. One thing that I have noticed is that particularly with electronic procurement systems. So, the people [Indiscernible][1:22:47] fast of the worlds who are developing, or government-wide public sector procurement tools. There are actually relatively small numbers of companies who are providing these tools. I think if governments can agree on some standards for the procurement of the tools they use for procurement [Laughs] that can really help leverage some of the tracking, and environmental attribute identification things that we talked about earlier in our presentation. So, I think that's another right [Indiscernible][1:23:20] actions cooperation is in identifying, and making clearer to the – the vendor manufacturer community the desire for these capabilities in the systems we use to make purchases.

Sean Esterly All right, thank you. We only have a couple of minutes left. I do have one last question that I wanted to present to you. Have you noticed any changes in the focus of energy efficient public procurement programs over the years?

Abby Semple Yes, thinking about that one, I'm ...

Christopher Payne I think I can speak a little bit. From the US case, I think, I would identify two things. One is the shift from complexity to simplicity. So, in the early years we were thinking about the idea of moving away from first class, and sort of best price to life-cycle cost, that they kind of best value, okay? In the early policy act of 1992 basically said to federal buyers, use life-cycle cost to make your decisions about procurement and the answer to that is kind of an eye cross, head-scratching – well, jeez, what does that mean? How do we do it? It sounds complicated and it cannot be complicated. So, what we were realized over the years is we don't want to be burdening the procurement official with a complicated process to try to identify what product that they're suppose to be buying.

I mean the procurement official's job is to meet the procurement needs of their agency, and want to get these things process quickly, and so they don't want to take the time, and often don't have the tools, or the data available, so do a full life-cycle cross analysis every time they have a requisition at their desk. So, a big move that we've seen over the years in the United States is a move towards simplicity and that happened in two ways; one, thankfully, the energy start programming the availability of labels so that one could easily say that's an efficient product, the one that has the label on it. If you buy one with the label, that's all we're asking for you're done. So, that was—that was extremely helpful

[Indiscernible][1:26:00] that this helpful in that regard, and of course there are other eco labels out there and are similar.

So, I think that movement toward—get away from the idea of trying to do complicated decision analysis kind of structured the policies of the analysis is down at the central level, and then make it easy for the buyer. That's one big shift. I think that's tied to the second big shift which is early on we saw an effort to try to identify which product categories would be the appropriate product categories to cover, and should we cover computers or should we cover refrigerators, should we cover lighting, or should we cover boilers? Early on our program, the answer was "Yes," [Laughs] we should cover them all. To some degree, we do cover them all, I mean, product categories today in energy consumption is a pretty wide range in the set of category.

What we've realized is that covering enough product categories are useful, but making sure that the procurement of products within those categories is actually meeting the policy levels of resetting is very important and what we seen frankly in the United states, is that we're not getting great compliance with these procurement requirements. So, I think over time, we shifted away from a focus solely on identifying the efficient product to buy over recognizing anymore now that identifying how to support the purchase of that product is equally important.

Abby Semple

Yes, I mean, I'd love to say that the EU is during the same way in terms of living from complexity to simplicity but, I fear that we may actually be going to the other direction, and when in terms of a new directives coming in and I think, certainly absolutely, there's a room for very simple criteria that are simple to apply. I guess, when we talk about procurements, it really is a very large category of activities. So, the approach that works for purchasing, and computers under a direct contract is very different from what's going to work under a 20-year facilities management contracts and which is part of the private finance initiatives.

So, while simplicity certainly has value to it and that does need to be a recognition or I think it's a different types of procurement the people are undertaking. At times, the question of what I would see as having change, I think, at least in the UK and Ireland there has been a move towards applying criteria-energy efficiency not only in contracts that are directly awarded by public authority itself but also in other arrangements that may enter into.

So, for example, in passing on minimum energy efficient requirements to contractors, and that they [Indiscernible][1:29:20] their subcontractors. That's maybe a product of [Indiscernible][1:29:24] increase types [Indiscernible][1:29:26] and so on, and so expanding the scope of application of energy efficiency criteria but I'm afraid maybe not necessarily can be perspective and simplifying things but it's certainly has some appeal.

Sean Esterly

All right, thank you again to both Abby and Christopher. We are at the end of our time so before we go, I just like to ask our audience to take a minute to answer a quick survey on the webinar that you give today. We have three short questions for you to answer. Heather, if you could display the first question, please and it is, "The Webinar content provided me with useful information, and insight." The next question please, Heather, "The Webinar's presenters were effective." Then, the last question, "Overall the Webinar met my expectations."

All right, thank you for answering our survey. On behalf of the Clean Energy Solutions Center, I just like to extend a thank you to our panelists, Abby and Christopher, and to our attendees for participating today's webinar. We've had a great audience today, and I very much appreciate your time. I invite all the attendees to check the Solution Center website over the next two weeks. If you'd like to view the slide, then we can do a recording of today's presentation as well as any previously held webinars.

This way you can find information on upcoming webinars and other training events. We also invite you to inform your colleagues and those in your networks about solution center resources and services including the no-cost policy support [Indiscernible][1:31:40] day and we hope to see you again on future Clean Energy Center events, and that concludes our webinar.