

Nov 18, 2025

REEF + SPLC Present: Reducing Refrigerant Emissions Through the Power of Procurement - Webinar Transcript

00:00:00

Aleisha Khan: Great. All right. , we're gonna go ahead and get started. Welcome to everyone today to the webinar. We're going to be talking about reducing refrigerant emissions through procurement power. And this is hosted by REEF, the Refrigerant Emissions Elimination For in partnership with SPLC and is part of Reef's quarterly webinar series. This is part two. part one was recorded and is up on the REEF website. So you can take a look at it there. And no worries if you missed part one. , next slide, please. So, just to say my name is Alicia Khan.

00:01:29

Aleisha Khan: I'm the executive director of Reef and I'm happy to get us kicked off here. So, next slide. and I'm also really happy to introduce my two co-presenters today. very happy to have Victoria Ellis who will be sharing work in the state of Maryland on refrigerants. Vicki has been with the state for over 10 years serving in different procurement related roles. She is currently the green purchasing program manager at the Maryland Department of General Services where she leads the statewide green procurement program. And Vicki also serves as the chair of the Maryland Green Purchasing Committee, which is an inter agency committee to advance sustainable procurement in Maryland state government. And also very happy to have Chris Verano joining us from SPLC. Chris leads the program development and delivery efforts there. where she ensures an effective and impact focused approach for advancing sustainable procurement efforts across institutional purchasing. And prior to SPLC, Chris was a supply chain sustainability manager at Cisco Systems focused on supply chain

greenhouse gas emissions, environmental compliance, learning and development, and new product program management.

00:02:50

Aleisha Khan: So with that, I'll just direct your attention to the agenda on the next slide. After just doing a little more welcome and recap, we're going to hear from Vicki about integrating the toolkit in Maryland and how that's going. And then Chris and I will talk about ways to think about applying the toolkit at your organization. And we'll have some discussion and Q&A and suggest some next steps for you. Next slide. So, just some quick uh housekeeping items. We're recording this webinar and we will post it on REF's website under events. Uh as an audience member, you are muted, but you can submit questions. for those of you new to uh Google Meet, you can find the tool to do that in the bottom left bottom right hand corner, sorry, the the nine little dots there. You can click on that and submit your questions during the webinar which you know as you think of it. Go ahead and put it in and we'll uh reserve time at the end for some good Q&A.

00:03:57

Aleisha Khan: Next slide. So just to briefly give you some background on Reef as we get started here. We are a nonprofit member funded organization. We were founded to support businesses, government, and other building owners and operators in managing refrigerants and related building assets to both stay in front of regulation as well as meet decarbonization and climate goals. And we know that refrigerants are often overlooked despite accounting for significant scope one and three emissions and having a significant potential to reduce global warming. As super pollutant refrigerants can be hundreds to thousands of times more, do you know that much more impact than carbon dioxide. as well Reef seeks to transform the broader refrigerant landscape towards zero climate and environmental impact through owner action on HVAC. So by aggregating leader buyer leading buyers voices, excuse me, we're recognizing the need for end user representation as we move solutions forward and we're ensuring that we're reducing emissions, we're lowering risk and we're reducing costs for companies. So Reef Works on a number of fronts to support building operators including education and resource development.

00:05:25

Aleisha Khan: So, our partnership with SPLC has been fantastic, and I'm happy at this point to turn it over to Chris to talk about SPLC and other collaborators behind the toolkit.

Kris Spriano: And thanks, Alicia, again. Yeah, I'm happy to see a lot of folks back since our first webinar. Welcome. , and just like Alicia, I wanted to quickly start with an introduction to the SPLC. If you're not familiar with us, apologies if this is a little duplicate duplicative of our first webinar, but for those of you that didn't join, , similar to REF, the SPLC is also a member-funded nonprofit organization bringing together purchasers, suppliers, and align NOS's to leverage the power of procurement to achieve a more sustainable world. SPLC also works to aggregate and amplify the buyer's voice for more sustainable solutions ultimately looking to shift entire markets towards that sustainable vision.

00:06:42

Kris Spriano: In our case, however, we look for opportunities to do this across all common institutional purchasing, whether that's office supplies, uh service contracts, and and certainly, refrigerants and HVAC equipment, and pretty much everything in between actually. And while we do focus more broadly on environmental, social and economic impacts, we also recognize that climate change is one of the most existential crises of our time and our members agree. So it was a no-brainer to partner with Reef to see what we could accomplish together through more climate friendly refrigerants and life cycle management. Next slide. With that in 2023, the refrigerants procurement climate collaborative or RPCC working group was born with a shared goal to provide procurement resources that scale the reduction and avoidance of HFC refrigerants use. Our working group is co-led by Reef and SPLC and includes an incredible group of procurement, sustainability, and industry experts from universities, governments, NOS's, and the corporate sector. Again, all aligned in that effort to make it easy for an organization's procurement team to join forces with their facilities teams to shift towards more responsible refrigerants.

00:08:10

Kris Spriano: Next slide. In our October webinar, Liz, who's also here, Liz Swanson, our

refrigerants program manager, shared more about our working group's first output, a sustainable refrigerant procurement toolkit. And that's really intended to get folks up to speed on the opportunity, the business case, for example, around refrigerants, and really provide practical guidance and resources to both plan for and implement climate friendly refrigerants into your organizations. And these resources, , thanks to a grant and our combined work as a group, are free to the public. So, we strongly encourage you to download some or all of them really depending on where you are in your journey. And with that , Vicki is going to tell us a little bit more about her journey in implementing refrigerants in the state of Maryland. Just in time, Vicki.

Victoria Nellis -DGS-: Welcome. Hi everybody. Made it just in time. Uh my name is Victoria Nellis. I am the green purchasing program manager here for the state of Maryland. So I spend a whole lot of time uh talking about sustainability when it comes to what we're doing with procurement.

00:09:31

Victoria Nellis -DGS-: Uh next slide, please. So when we're talking about Maryland and we're talking about refrigerants, I I always kind of like to set the stage. As a state, we have a ton of facilities. We are looking at everything from owned facilities to lease facilities. We have office buildings. We cover universities, courouses, and multi-service centers. We even do, you know, like park facilities and visitor centers. So, there are a lot of different types of buildings that we have to heat and cool, right? , so when we're talking about space, we have over 110 million square feet of space. So that is over 110 million square feet of space that has to be heated and cooled with refrigerants that have varying degrees of global warming potential. Next slide please. So along with having an insane amount of different types of buildings and just absolute square footage, we have a lot of state specific requirements around our buildings. So, obviously we have, you know, the federal requirements that we look at, but for the state of Maryland, we do a lot when it comes to regulating what we're doing with our money.

00:10:41

Victoria Nellis -DGS-: , so when it comes to building stuff, we're looking at the equipment that runs the building. We're looking at the supplies that are used to clean the building. We're even looking at the landscaping that's happening outside of the

building. Like, that's all stuff that we are considering, especially in green purchasing land. , so some of the requirements that I listed here are just kind of ones that touch buildings specifically , and that could potentially impact our HVAC equipment. So like our climate solutions now act of 2022, that is where we established our net zero greenhouse gas emissions goal for 2045. , you know, we have clean heat rules that help to transition our heating solutions. Our building energy performance standards are a really big one right now because that sets which buildings are to be covered by this, but it also sets the benchmarking requirements and the reporting requirements. We have a high performance green building program that goes through and they're requiring the use of green technologies to help make these buildings, you know, more sustainable and help to reduce those emissions.

00:11:42

Victoria Nellis -DGS-: And then I kind of come into play with the green Maryland act because that established our green purchasing committee and we go through and we focus on the environmentally preferable purchasing program in the state. I included a couple other pieces of legislation just because you know it touches on some bands that we have and you know some certifications that we require but we even look at the end of life requirements for this equipment. So we have a lot of legislation that touches what we're doing here. Next slide please. So as the green purchasing committee, my job is obviously to make life easier for procurement officers, right? So we want to make the process as easy as possible for procurement to make sure that the appropriate uh requirements are built into different contracts. To that end, our green purchasing committee has created a green HVAC specification. Uh so you know I listed here just kind of some of the components that are in that specification. We have prohibited products, you know CFC's certain HFC's we require low global warming potential refrigerants we're setting energy efficiency standards we added uh leak detection systems just some different requirements around maintenance end of life and and all of that stuff.

00:12:56

Victoria Nellis -DGS-: So this is just to kind of give you a general idea of what this specification requires. And we created one document to do this so that that way it was

easier for our project teams to know what requirements are in place. Right? So you saw how many different types of buildings we have. You saw how many different regulations we have. It can be really overwhelming for our end users to know how all of that combines together. So that's where the specification really helps to pull everything together. Here's your one-stop shop for requirements that will cover all of your bases. Next slide, please. So, our initial HVAC specification was published in 2021. A lot has happened since 2021. So, we started the update process uh in spring of 2024. I highlight this because it took a while to get where we're at now. , our primary driving force in 2024 when we started this update was just to make sure that our requirements were in alignment with what our legislative landscape was.

00:14:00

Victoria Nellis -DGS:- , you know, the climate solutions now act was really picking up. Everything was going into effect. Our building energy performance standards requirements were starting to roll out. Reporting was starting to be required for that. So, we wanted to make sure that this specification really covered everything that we needed in there. Uh so we started the process you know pretty simply of soliciting feedback from our user agencies. We reached out to some vendors and we started talking to some industry experts to see what else we could do to strengthen the specification to make sure that it was in line with what was available on the market where the technology was going and we wanted to make sure that you know everything that we did was feasible for our end users and our vendors as well. During that feedback process, I happened to stumble across the SPLC and reef toolkit. The toolkit was, you know, just getting ready to uh, you know, be finalized. They were looking for the last round of reviewers.

00:14:54

Victoria Nellis -DGS:- , and it seemed like a really great opportunity to go through and use some of these resources. And I cannot pretend to be an expert in refrigerants. I don't pretend to be an expert in HVAC. So, it was really exciting to know that experts contributed to this because then I'm getting language that I know is going to, you know, be in line with what we're where we're trying to go. , so I was able to kind of pull some language from the toolkit, pull some resources from the toolkit. We, you know,

combined everything together in our draft and we sent everything out for, you know, those final revisions, you know, final feedback, to make sure everybody was happy with everything. Our specifications always go to our attorney general's office so that way they can review and approve for legal sufficiency. Uh so our draft our final draft was brought up uh when we do our specifications our committee reviews it and they vote on it for approval.

00:15:48

Victoria Nellis -DGS-: I don't get to just unilaterally decide what we do. But so our draft was brought up last week in our committee meeting and it was approved. Everybody was happy with it. Everybody loved the comments. so our new specification has been approved. The new updated documents went out to all of our state agencies and along with sending that final draft to all the state agencies. I was also able to pull some resources from the toolkit. so the one pager document that just kind of talks about, you know, why we're looking at refrigerants and why it's, you know, a good place to to look at. and then that spreadsheet, that tracking spreadsheet, uh was an absolute essential tool that I absolutely pulled out and sent that out to everybody. , so I I was really happy to hear that everybody was good with the language that we put in from the sample specifications and the sample contract language, but I was also really excited to hear that people were looking forward to using that tracking spreadsheet because I think that was that was a hesitation for some of our reviewers while they were looking at this was okay well how do we do this?

00:16:54

Victoria Nellis -DGS-: , so having that tracking spreadsheet was a really great uh starting point. One of the big things that we pulled out of the toolkit language-wise was making sure that all of our future HVAC equipment has leak detection. , so we wanted to make sure leak detection systems were going into place because that's going to make sure that it helps us meet , you know, all of our different climate goals as well because we know that our equipment isn't going to have as many leaks because we have the system going into place. , and because HVAC equipment has such a long lifespan, we really wanted to make sure that this got put in now before we got too close to, you know, hitting where our net zero target is, so that that way we have some time to make

improvements, but we know that some of this equipment may be still installed in 2045. So, we wanted to go through and really kind of get moving on it now. Next slide, please. So, we had three main goals with going ahead and you know, kind of starting to go through this process.

00:17:55

Victoria Nellis -DGS-: one of our big obvious goals was to make sure that we're increasing compliance. Not only are we increasing compliance with green purchasing, but we wanted to make sure we were increasing compliance for all of our different programs and all of the different legislation. We wanted to be able to help the building uh energy performance standard targets. We wanted to be able to help the green building council meet, you know, their requirements. We just wanted to go through and make a document that really helped increase compliance across the board. We also wanted to, you know, implement things that were going to save money in the long run, right? , you know, by going through and having that leak detection system in there, we don't have to spend as much replacing refrigerants because hopefully we're not getting as many leaks that we currently have. , you know, we wanted to make sure that there was proper inventory tracking. We wanted to make sure that everything was being maintained properly.

00:18:44

Victoria Nellis -DGS-: We wanted to see cost savings in energy efficiency. , so, you know, one of our goals was obviously to help save money where we can. , and then, you know, the obvious goal was to reduce emissions, right? Anytime we're doing anything with HVAC or building systems, we're always looking at different ways that we can reduce our emissions to help, you know, meet our sustainability goals in the state. Next slide, please. So as you can imagine you know with a state with a lot of facilities there are a lot of challenges in doing pretty much anything in sustainability but then we also have some particular challenges related to just HVAC. So one of the biggest challenges that we encounter is just the decentralized nature of our procurement units around the state. so decisions are happening from all over the place. I don't have one person that I go to and say, "Hey, when this decision gets made, make sure this is included. I

00:19:38

Victoria Nellis -DGS- have to make sure I'm covering all the pertinent parties, right? So leadership has to understand so that they're setting the appropriate uh priorities. Your project managers have to understand that way the appropriate equipment's included. Your fiscal managers have to understand so that that way budgets are set appropriately. The procurement officers have to understand because they have to make sure that all of the requirements are set that are compliant with all of the state regulations and whatnot. , so there's a lot of people that need to be impacted with this. , you know, we need to make sure everybody has the proper training, everybody has all the right resources, everybody gets to provide their feedback. , so that's a big challenge that we have that we're always working through. , another big challenge that we run into, uh, just kind of in general is not about all of our properties are state owned. So, we're also trying to juggle the lease properties and making sure that they are in line with our requirements to the extent practicable.

00:20:38

Victoria Nellis -DGS- , and then, you know, there's always the consideration for the cost of the equipment, the maintenance, and the disposal. So, you know, we're always looking at how we can reduce the life cycle cost of everything. It's a big challenge of just making sure that we're being cognizant of the cost of everything and making sure that the benefits outweigh any additional cost. and then when it comes to HVAC in particular, a big challenge we have is determining who exactly is responsible for tracking the refrigerants. A lot of my stakeholders were really excited to see that tracking spreadsheet, but I do know that some of them have started to question now like, okay, who exactly is going to be responsible for completing this sheet and verifying it's done and and monitoring this? So, that's something that we're starting to kind of work through and figure out where that fits in. educating the various levels of stakeholders is always something that we struggle with. But when it comes to this particular category, educating the stakeholders is even more imperative because there are so many different stakeholders involved that are not typically in the green purchasing umbrella.

00:21:45

Victoria Nellis -DGS- , so like we're now looking at building managers a little more closely or people in our facilities groups are having to kind of be included in this training that they aren't typically used to being included in. So that is something that I don't think it's going to be a huge challenge for us, but it is something that, you know, we're very cognizant of when it comes to this particular category. , and then another thing that we just really have to kind of keep in mind when it's coming to HBAC is there are a lot of requirements and those requirements tend to cause some confusion. , you know, we have our Maryland Department of the Environment. They're the ones that are responsible for compliance and reporting for the building energy performance standards. Our green building council, they're the ones that are responsible for making sure that the appropriate technologies are included in new construction. Then you've got the green purchasing committee brella. So we're trying to make sure that you know state money is being spent on the appropriate sustainable things.

00:22:44

Victoria Nellis -DGS- So there are a lot of different groups that all kind of overlap in this sector and that is something that you know we're trying to make sure we put out as much good information as we can to help the agencies and the end users really know where their questions can go, where they can find additional resources and and who's there to help. Next slide please. So when it comes to getting ahead of the challenges you know there are plenty of challenges. So basically one of the big approaches that we're taking is just trying to provide you with the documents and resources as fast as we can. So that way you know as people are starting to hear about the new requirements they say oh I did already hear about it. I did get this resource already. So they can kind of start to work through that. you know our new specification hasn't even been posted to the website just yet. So we're hoping that by going through and sending an email out to you know the pertinent parties.

00:23:41

Victoria Nellis -DGS- We can try and get ahead of that information. We are also working on providing training on the different requirements and the resources that are

available so that way we can have recordings available or we can have you know like help sheets available for when people inevitably have those questions and they say I don't understand how to do this. We want to have all the appropriate training so that way there's something that they can go to to help themselves first if that's the avenue they want to take. Another one of the things that we're trying to do to get ahead is just making sure that these requirements are built into the solicitations as quickly as we can to make sure that all of our future contracts are compliant. I mentioned that some of this equipment, you know, if it's installed now, it could potentially still be in uh in 2045. So we really want to make sure that everything we're doing now helps us meet those goals and helps us stay compliant even going forward.

00:24:36

Victoria Nellis -DGS- and then another thing that we're trying to do to get ahead of these challenges is just to really encourage our agencies to start tracking uh their inventories and whatever they can about refrigerants now to really set those baselines because once you set the baselines now you've got that room for improvement and you know where your starting point is. So, it makes it a lot easier to see where you're going and start to make that map. And with that, I think that is all I have

Kris Spriano: Thanks, Vicki. Really really great information for those that are starting and and so helpful to get the inside scoop on how things are going. especially with you know refrigerants being such an emerging best practice in tackling greenhouse gas emissions. It really sounds like you are busting silos I would say in creating new processes to to really make this happen and very glad that you know that that our resources were helpful. Uh let's see Lindsay next slide please.

00:25:47

Kris Spriano: So, let's say that you're not working for the state of Maryland, but you're super excited about the opportunity and you're wondering really how your organization might get started on this journey. Well, when new members join the SPLC, one of the first things that we like to share is how taking a strategic program approach can really help to ensure both efficient implementation and meaningful progress over the long haul on really any type of sustainability related initiative. And it's a concept that even climate friendly refrigerant initiatives can benefit from. So, we're going to talk a little bit

about that next. Next slide. oftentimes sustain sustainable procurement activities or any sustainability activities for that matter begin from more of a grassroots kind of perspective. For example, you might have an environmentally minded facilities team member that's already doing an initial pilot project on refrigerants leak prevention and that's a great way to demonstrate that initial business case and get started, right? , but up until now, maybe it's just been that. It's been a pilot project standing on its own alongside many other seemingly disparate buildings and procurement related projects and initiatives.

00:27:11

Kris Spriano: Next slide. A strategic program approach really brings these projects and initiatives together, much like Vicky illustrated when she talked about all the different policies that she listed out that are related and really builds that in alignment into a set of strategies, policies, and activities that are further embedded into your organization's business processes and meant to improve the environment, society, and our economies. while really delivering on those traditional organizational or operational benefits like for example cost savings or regulatory compliance. Next slide. A strategic program approach is really able to give those additional legs to the important initiatives that might already be going on independently but at the same time are able to engage the organization more strategically to do more in a prioritized way. And some of the characteristics of a strategic program approach are listed here on the left. Again, Vicki, you mentioned a lot of these already, right? , but the important really quick summary of this regardless of the program is taking a holistic view, being diligent at prioritizing your strategies involving executives.

00:28:38

Kris Spriano: whether that's you know the attorney general, whether that's your sustainability director or your chief procurement officer assigning resources and training to the program and really measuring and reporting results on an ongoing basis. Next slide. So if you're rooted in procurement, you're most likely familiar with many different strategic procurement programs like category management programs, supplier onboarding programs. A strategic program for something like climate friendly refrigerants is really no different. It just puts a strategic planning process ahead of more

tactical activities. Again, enabling those efficiencies and meaningful results. Next slide. Next slide, Lindsay. Thank you. So, here's some of the benefits of taking a strategic approach versus going forward without one. Ultimately, the benefits coming out of the approach really again helps to scale your work by specifically integrating responsibilities and related activities into an appropriately broad set of internal stakeholders, giving them permission to work on projects that offer a sustainability related payback, which extends well beyond just the typical operational goals such as cost reduction. Next slide.

00:30:06

Kris Spriano: And since 2019, SPLC has been coaching organizations on how to develop a strategic program again related to sustainable procurement. But ultimately, the output of what we call our strategic program planning process again can be applied to establishing a refrigerant program as well. That output includes what you see here on the right hand side. A three to five-year vision for what you want to accomplish. Identification of your largest impact priorities and a set of strategies to address those. And finally, an initial set of both short and long-term goals and projects for execution. And while we won't have time to walk you through this planning process for your organization, we did want to share some excitement around the idea of leveraging this approach again to build that strategic program for your organization's refrigerant activities. And Alicia is going to talk more about that next.

Aleisha Khan: Thanks Chris. so this is what we want to do here is as Chris said kind of put refrigerants into this framework and see how that could look for you.

00:31:22

Aleisha Khan: So, you would want to start there at the top. I love that the idea behind the vision is to have a really ambitious vision to really drive you forward. And it's also a good excuse to remind you or to share with you that the way to use this is really iteratively. So, you're not going to create a vision necessarily that's perfect the first time around or neither, you know, all the other parts, but you want to start with something really ambitious and then move forward. And if you need to go back and tweak it, then that's totally allowed. But you know, starting here with something big like leveraging the power of procurement to reduce greenhouse gas emissions related to refrigerants, reduce your

operational costs and prepare for regulatory compliance. So moving on from that one of the most needed and common places to start your journey in managing refrigerants is with an inventory shown there in the prioritization approach box. So you can't manage what you can't measure.

00:32:40

Aleisha Khan: I'm sure all of you have heard that. And many companies and organizations don't have a full accounting of what refrigerants they use and where those refrigerants are. And this is why we wanted to provide an inventory workbook as part of the toolkit as a resource. Now once you have that accounting in many ways the actions you take are going to be related to either life cycle refrigerant management which would be preventing refrigerants from getting into the atmosphere and it's going to look like actions to prioritize leak detection set up a tracking solution for high global warming potential or GWP refrigerants prioritizing systems with higher average leak rates. things along those lines. The other bucket of actions is going to be focused on new and replacement equipment and systems. So this is going to look like identifying ahead of time which is important. Uh the least harmful options you have available looking at the life cycle cost for refrigerants and that includes paying attention to the phase down of high GWP refrigerants which we'll talk a little bit more about in a few minutes.

00:33:59

Aleisha Khan: working with vendors, developing policy and guidance, things like that. So, for our example, we'll assume that an inventory is where this example company or organization needed to start. But now, what next after you've done that? So, having multiple strategies or focus areas helps you break down where you need to go so you can make progress. It recognizes that many organizations and companies are complex and can have many layers. Vicki did a great job of explaining what that looks like in the state government. So it's really important to customize your strategies based on what you're working with. But we can talk through some examples and these are you know these can be sequenced they can be overlapped as it makes sense. They're really ideas for our discussion and not necessarily mutually exclusive. So the first example strategy centers on building support and buy-in. So think about opening up discussions to those involved that you work with people that can support and slow down achievement of

your vision and figuring out and asking what their concerns are.

00:35:24

Aleisha Khan: understanding what do they value, what data do they need to see as you move forward and projects you know follow or following under this uh strategy can focus on strengthening buyin. So, for example, building a business case around cost and savings. , creating a working group which can really help long-term to have a group that's connected together and conducting targeted outreach and education to fill knowledge gaps. So, in support of that you could set a goal for launching a working group by mid next year for example. A second strategy that we're showing here is around developing and implementing policy which is really critical for consistent adherence to actions that support your vision and projects can include clarifying existing and upcoming federal and state regulatory requirements with compliance steps to avoid confusion. Again, you heard a lot about that in Maryland, how there are a lot out there that people are paying attention to and the last thing you want is to create one more thing that just gets mixed up with all of that, but instead you want to create that cohesion.

00:36:41

Aleisha Khan: , and also you want to create some clarity around where any of those references may fall out of date. So where should people look to for guidance and kind of buttoning all that up in an initial policy to collect feedback can really support buy-in and give everyone confidence in moving forward. So a third potential strategy is around collaborating with and empowering your internal facilities and operations staff. And maybe some of you are facility staff and know how critical it is for getting this right to have these people who are working on equipment and really know the problems and the details and often the solutions at the table for a project and effort like this. So ideas for projects include understanding what the need for training is. , as Vicki also pointed out, the breakdown of roles and responsibilities across staff for refrigerant management, who is going to do what, who's going to do the inventory, take action, etc., and working together on the associated costs and climate impact.

00:37:57

Aleisha Khan: , when using a life cycle approach or total cost of ownership, you know, what's what's needed? What do people need to know to change practices? Is it data? Is it education? Do you need to do pilots? So goals can focus on training. You can also set a goal to implement a pilot project to explore what total cost of ownership looks like. and you can track costs and savings and share those out. So finally another example of a strategy is a focus on professional services. This is talking about equipment and system providers, equipment manufacturers, other service providers and can have a huge impact and avoid quick turnaround decisions when you don't have the time to shop around and you're choosing from what's available. That is not the place you want to be. You want to have your decisions made beforehand. And service and equipment providers really react to market demand. So, it's important to set your criteria and communicate that to them for how you're going to engage in contract services.

00:39:08

Aleisha Khan: And just to put a point on it, you know, an important part of Reef's work is making sure that demand from owner operators is recognized by the service and manufacturing industries as well as in codes and standards because we really know what a significant driver this is to shift the market. Uh next slide please. So a final word on metrics here and you know thinking about ones that demonstrate how refrigerant conscious procurement creates measurable impact across emissions costs and uh compliance. So for emissions it's critical to have a full understanding of where emissions show up. Even if you're just looking at maintenance through the end of life, you're still looking at installation, operation, and system retirement as key points in time to account for emissions. If you're using tools for carbon accounting, it's also important to know whether or not they include refrigerant emissions. Energy Star portfolio, for example, does not account for on-site or fugitive emissions from HVAC, although it's acknowledged by EPA as an important contribution to your GHG footprint.

00:40:28

Aleisha Khan: , for cost, we've mentioned total cost of ownership a few times. And for refrigerants, this is not just about the cost of a system or selecting a system with lower

GWP or global warming potential, but also the cost of refilling systems to replace leaked refrigerants. It's about the cost of high GWP refrigerants that might be being phased out and those costs are going to rise over time as there's less and less of it available on the market and might even get to a point where you need to replace your system to use a different refrigerant before you're ready to replace that system. So that's an added cost. And for compliance, , the AIM act has tracking and recording requirements that become mandatory in January, uh, 2026. And so an inventory will help you understand where those requirements may or may not apply to you so that you can set up the needed systems and processes. And, , you know, that'll get you ready before , before you're actually required , to do that.

00:41:43

Aleisha Khan: And it's just in a couple months. So, , and we can share information on that as well. Uh, next slide, please. I think that we're all kind of wrapped up here. , so that's our presentation. And we wanted to, we've got, , a good 15 minutes , for questions. And I thought I saw a question in the chat, but now I'm not seeing it. So, I don't know if any

Kris Spriano: Yep. Beth Alicia, does the state of Maryland have a centralized purchasing system? This is for you, Vicki. How do you ensure contracts are compliant such as with the HVAC spec?

Victoria Nellis -DGS-: That is a fun one. Uh so Maryland does not have a centralized procurement system in some areas. So like our university system of Maryland, they have their own processes. They don't go through our centralized procurement. smaller dollar sort of contracts don't go through our centralized procurement. But if you're doing major renovations, say you're building a new building, that is going to go through our centralized office of state procurement.

00:42:52

Victoria Nellis -DGS-: , but regardless of what the value is of the contract or the procurement or solicitation, whatever you want to call it, , we have a process in place. It's called our green purchasing checklist. And basically, anytime a solicitation is supposed to be developed, the green purchasing checklist is supposed to be completed. That checklist will go through and ask, you know, just some basic questions. What are

you trying to purchase? Does it fall in any of these categories? , you know, did you include a green purchasing specification? And then the scope of work along with that checklist comes over to my office and then we review it just to make sure that the appropriate green language is being included. And then for a checks and balances sort of thing, we do have a centralized posting system. So, we have email and marketplace advantage where all of our solicitations get posted and then I have the ability to run a report from that as often as I want.

00:43:47

Victoria Nellis -DGS-: I usually do it quarterly. , and then I go through and I look to see, oh, okay, are there any projects that look like they should have had green purchasing requirements? And then I reference our checklist spreadsheet just to make sure like, oh, okay, yes, this contract's supposed to have green purchasing. Yes, they submitted this checklist. It was signed off on November 18th. Everybody's good to go. and then if we identify some, check some projects that oh hey this should have had a checklist there wasn't one completed we reach out to the procurement officer and say hey what happened here. so that's kind of the way we do that to ensure compliance with our contracts.

Kris Spriano: Thanks Vicki. Great question. Beth, how are you doing?

Aleisha Khan: I have kind of a question for both of you, Chris and Vicki. I guess you know for Vicki in Maryland if you know how it's going, but also Chris for your experience with other companies applying this kind of strategic approach.

00:44:45

Aleisha Khan: I'm really curious about this situation that Vicki you were talking about with multiple agencies and in doing a lot of international development work. I would always run into that in other countries that you know groups weren't talking to each other and in the government and even you know donors wouldn't talk to each other and NOS's weren't talking to each other. It's just kind of a common problem, right? And I'm wondering, you know, how much of an issue that is for this for sustainable refrigerants and you alluded to that a little bit, Vicki, and that there's different programs at different agencies where there is some overlap. And I'm wondering if you see maybe a clear or semi clear pathway forward to avoid any overlap or over any issues with that. And then

Chris, if you've seen that with other uh organizations and companies trying to navigate that

Victoria Nellis -DGS-: Yeah, it's always a problem trying to juggle the overlapping sort of requirements. , and especially in Maryland, I think that sometimes the overlapping requirements create confusion for people because they don't know where to go or who to talk to.

00:45:59

Victoria Nellis -DGS-: , so you know, a prime instance is refrigerants because, you know, when you hear HVAC equipment, you think, oh, okay, this is going to fall under the building sector, but our green building council, their focus is on new construction. So then, okay, well, where does that HVAC equipment fall if I'm just doing a renovation? Does that fall under this group? Is this just something that we report as part of our building energy performance or does it fall under green purchasing? It can get a little confusing. It is something that we're kind of starting to work through. , because I think this is the first big category that we've really encountered that overlaps so many different areas. I do think that having the specification at the green purchasing level is helpful because we touch all procurements.

Kris Spriano: What you

Victoria Nellis -DGS-: Green purchasing looks at everything from your \$2 pen that you're buying to your \$20 million construction project.

00:46:56

Victoria Nellis -DGS-: We have a hand in all of that. , so I think that's kind of our nice starting point and then, you know, just reaching out to all of the other programs and letting them know, hey, we set this. , and I included all of those other programs in this the feedback process of like, hey, I need you guys to weigh in on this to see if there's any particular requirements you need me to make sure I build in to cover your program as well. What I think that is going to help us going forward is just you know being really cognizant of what other programs there are and then making sure that they provide their feedback for us.

Kris Spriano: Yeah, thanks Vicki. I'll build on what you mentioned and to answer your question, Alicia, absolutely. Many organizations are challenged by decentralized

purchasing models and how do you herd the cats, right? Vicki, you mentioned that you pull reports to see, you know, to audit it sounds like.

00:48:01

Kris Spriano: we've definitely heard other organizations you know do approaching it that way as well as actually building that step even before it goes through into their procurement platforms, but Sean Postera will tell you all about how that's how that's been implemented in uh in her county and you know essentially you know, they, as I understand, they have to check the box like they've pulled down, downloaded the specification, they've read it and considered it, right? So, you're embedding it into the process before it actually moves forward. , and I'm sure there's still auditing that she needs to do along with that. The other thing that that that actually personally I found very effective in my previous corporate life is just embedding those you know climate goals in this case or refrigerant goals into the departmental goals right it's not a higher level goal it's a higher level goal that has teeth in it where the departmental heads are responsible for achieving their their fair share of that goal and and even into you know personal performance goals of the senior executives those types of I guess best practices help to give us teeth in in the sustainable procurement world regardless of what you're focused on

00:49:47

Aleisha Khan: Great. Well, I don't see any other questions. , so maybe I can ask another question. , so Vicki, back to you. , so I, you know, I live in Maryland as well, so I am aware that the state has some big climate goals and, you know, I can imagine there's people from other states who may or may not have those. Similarly, , on the corporate side, you know, businesses that may or may not have that top level climate goal. And I'm wondering how you feel that that has really helped. I think you referenced it a few times, but just to go back to it, like you know, do you know how it works in Maryland? Do you have certain achievements that you're expected to reach or is it just everyone's doing the best they can to contribute or how does that kind of work?

Victoria Nellis -DGS-: Yeah, that's a great question. Uh so I think in the early stages of a lot of our goals, uh a lot of it is, you know, everybody was just kind of trying to do their best and you know, see what they could.

00:51:04

Victoria Nellis -DGS-: Uh this past year, I can't remember if it was calendar year or fiscal year, so I'm not going to say which, but this past year, our Department of the Environment had to go through and each of our agencies had to create climate plans. and part of their climate plans was going through and saying, "What are you going to do to help us achieve our goals?", so we worked with the team over at the Department of the Environment just to kind of help u you know give some general suggestions. So we offer a lot of training for procurement officers. so you know there were some things about like hey each agency could make sure they have a green purchasing specialist on board. You know, they could go through and incorporate more recycled content, different things like that. but I think that a lot of the agencies really latched on uh to some of the specific ideas that, you know, were kind of thrown out there.

00:51:56

Victoria Nellis -DGS-: I know that there were several that were really looking at making sure that all of their construction or renovations were really up to par with helping us achieve those goals. , so I think now that the plans have been created, they've been submitted, they've been published, everything like that, I think agencies now kind of have a bit of a roadmap that they're working on. , and I think that helps. And then even in Maryland, when it comes to private businesses, they fall under the uh, building energy performance standards. So if you have a business within the state of Maryland, you're going to have to do that reporting , and that benchmarking. So I think that is going to really help drive what we're doing. , and the nice thing about our specifications is because they're publicly posted, it's not just something that agencies have access to. If private businesses want to take a look and see, hey, this is what Maryland as a state is doing with their government stuff, I can pull some stuff from that.

00:52:50

Victoria Nellis -DGS-: , you know, it's a great resource for really anybody in the state to help us achieve our overall goals.

Aleisha Khan: I love that. Thanks. And it really speaks to the power of the state government, doesn't it? I mean, it's not just, you know, setting an example with state-owned buildings, but all of the other ripple effects and especially with businesses in the state, too.

Kris Spriano: Yeah.

Aleisha Khan: That's fantastic. I think that what we'll do, we just have five minutes left or less. So, I'll turn it back over to Kris and she and I will just kind of close us out here.

Kris Spriano: Sure. So, again, just a reminder that the toolkit is available for everyone to download. , we also are available whether that's, you know, a need for technical support from Alicia and her team, whether that's providing feedback on the toolkit or, you know, maybe even expressing your interest in what's not in the toolkit and having that be developed in our next phase of of work together.

00:54:02

Kris Spriano: , if you're interested in joining us for that next phase, would love to to hear from you, we're, you know, organizing our approach for that right now. and the best way to to really contact us for any of these things is just drop us an email at info@ that's going to come to Liz and I and then we'll make sure to route it to the reef team if that's appropriate or we'll just help you out directly.

Aleisha Khan: Great. Thanks, Chris. And just, you know, to to also say, you know, if you're really coming at this from the refrigerant side, or are looking for more information on refrigerants, Reef runs a community of, you know, building owner operators, connected to, you know, the uh technical development and policy development areas as well. So, we really welcome you to work with us and can help with more information. I was listening to Vickiy's presentation and I loved that it was so candid and went through all the details. and I will say that you know this is worth it. The impact on climate is huge from refrigerants and it is really overlooked. So, again, I think these guidelines, these purchasing guidelines and toolkit will really really help in making this much easier to do and help you have a huge impact from where you are. So, we're excited and hope you can get started and again, as Chris said, we're here to help with that. So, thanks again for joining us. Thank you.