

We're waiting for a few more folks to join. While you wait, answer the trivia question on the screen. No Googling or – I don't know any other search engines. No search engines. Use just your knowledge. Go to Slido.com, enter the event code #ILC and that will allow you to answer that trivia question. We'll get started in just a couple minutes.

[Silence from 0:00:32 to 0:01:12]

Okay, here we are. That's giving a couple of minutes. Hi, everyone. Welcome. Thanks for joining this webinar. Kiara, can we go to the next screen? There we are. All right let's get started. Welcome to this webinar on Opportunities for Partners of DOE's Integrated Lighting Campaign. My name is Axel Pearson, coming to you live in Salt Lake City, Utah. I will be your host today. Thank you so much for your time today. I'm going to tell you about the campaign, recognition categories, how to submit for recognition, the resources we offer, hopefully mostly what you need to know about the campaign to get involved. So again, thanks for joining. Let's move on to the next slide.

We're going to take a look at that trivia question. If you joined in time to answer the trivia question, the answer is C about 140 years. The Edison screw base was patented in 1881, which was 143 years ago. It's amazing we're still using technology this old, especially when the light source is completely different, right? It is now LED chips in the bulb on your screen instead of an incandescent filament. Perhaps we should think about updating the screw base, but that's a topic for another day. Kiara let's see how many people get it right. Can you go ahead and share those results on Slido? I did not fool many of you. Okay, good chunk of you said 140 years, a couple said 80. All right, nice. Thanks. All right. If you didn't see how to answer that question, I'll cover how to use Slido in a couple slides and don't worry there's more questions coming.

So yes, let's go back to the PowerPoint. Okay, so first some logistics before we get started. Slides and the recording will be posted shortly after the webinar on the Better Buildings Solutions Center. If you haven't been to that site, I encourage you, you can navigate there now go to BetterBuildingSolutionsCenter.Energy.gov. You hover over events and webinars and then you could click on On Demand webinar. From there you can click on lighting or any other technology you want to learn about. But under lighting, this is where you'll find this webinar and many more. Oh, so we'll be using Slido for polls and question answer. Hopefully you've all used it before. If not, it's pretty straightforward. We've got one more on Slido. Before we go there, I'll just say you can always shoot us an email at IntegratedLighting@PNNL.gov. That inbox goes straight to my computer, so I'm happy to answer any other questions or comments that you might have there.

So, Kiara, let's go to the next slide and tell folks how to do Slido. So you can go to Slido.com either on a new window on your computer if you have a couple screens, or you can go on your mobile device and then you enter #ILC and you should be able to answer a poll. Let's try a poll. The question is where are you calling in from today? So, I'll give you a second to get into Slido. Oh, good. I see two participants typing. All right, we've got Raleigh, Seattle. Nice. While it's not totally obvious yet, this is a Word Cloud, so

going over to Slido. Oh, Houston, nice. Okay, so this is how Slido works. I encourage you to try to get that set up. We have a few more poll questions coming in the next hour, and I would love your input. I see two more people typing. I'll give them a chance to answer. Honolulu, nice. All right, Montana. Not too far for me. I'm down in Utah. Okay, great. I think you all get the point. Let's go back to the PowerPoint.

All right, here's the agenda for today. I'm going to give you an overview of the integrated lighting campaign, starting with what is a technology campaign that might be new to you. We'll go over resources and technical assistance. These are things that are offered by the campaign. We'll talk about the recognition process. That is mainly what we're doing here, is recognizing. So, we have some categories in which people are recognized. We'll go over who was recognized last year in 2023, got a timeline for this year; and then we will have plenty of time for questions and answers and discussion at the end. So that's what we've got going for us. Let's go ahead and jump in. Don't be shy to answer questions into Slido as we go. We'll open that up at the end and we'll answer them as we can. All right? Move on to the next slide.

First, let's cover some campaign basics. If you're not familiar with a technology campaign, it's a market transformation strategy. They're collaborative programs designed to help speed the adoption of energy savings technologies and also build trust that these things do what we say they do. They actually work. They actually save money. They improve the space. The target stakeholders are typically building owners and managers, who are open to early adoption of some new technology. Hint we're talking about lighting controls today, but there are other technology campaigns out there for different building technologies, and they all struggle with the same challenge of moving along that market transformation curve from early adopters to mainstream adoption. And so, we're just trying to bridge that gap.

So when a building owner or manager or facility manager adopts this new technology and it's a success, we want to help share that good story. They help demonstrate real-world savings and benefits of the technology, and then we recognize them for it. So, it's not just the building that installs the technology, like the lighting controls. There are other organizations that are critical to the success of the market transformation. They might provide resources and help along the way, and this campaign has categories to recognize them as well. So, you'll see on this slide we follow a handy formula. If we put together resources with knowledge sharing and recognition, we get accelerated adoption; and that's really our goal here with integrated lighting. Next slide, please.

Now that we know what a technology campaign is, we can see how it's done with integrated lighting. So, the ILC recognizes installations of, yes, you guessed it, integrated lighting. And in this case the term integrated means that the lighting system, so the sensors, the luminaires and the networked lighting system, can communicate with other building systems to enhance overall performance. As you know, lighting has come a long way from basic LED retrofits. It can work with the rest of the building to achieve deeper energy savings at the building level, for example by exchanging information with the

HVAC system, controlling plug loads, or even broader than the building level, by communicating with the electric grid.

Lighting and lighting sensors hold some valuable real estate, and that is up in the building ceiling. So that means they have this kind of bird's eye view of the space, which is really conducive for collecting information. It's a good perspective to have. So, they have the ability to collect that useful information and relay it to these other building systems, mostly occupancy, but ambient light, temperature and humidity, location of assets. There could be Bluetooth beacons involved. So, there's so many possibilities to make buildings more efficient and more optimized and lighting controls are really well situated to provide those benefits. So, while the campaign is especially interested in these integrated systems, we're still very interested in advanced lighting controls that are pretty tried and true at this point, but adoption is still low.

Advanced systems and controls in lighting, they improve the lighting performance; and we love to hear about how these systems are kind of going above and beyond basic on/off switches, maybe simple occupancy sensors in the switch to ceiling mounted occupancy, luminaire level lighting controls, daylighting, scheduling. When these things come together and combine the savings from each of those different capabilities, you can create a really nice, efficient and optimized lighting system. So, through the ILC, we really hope to learn about and recognize some of those innovative lighting projects, as well as the supporters that get them there and share the success of lighting and lighting systems and hopefully get more people to adopt the technology. Next slide, please.

An important piece of the campaign is the organizing committee, or more simply, the organizers. They are our primary planning and management team. They help by providing guidance for the ILC. They support our outreach efforts. Each of their organizations have an alignment with and an interest in our campaign. They review all the submissions for recognitions and ultimately decide who gets recognized. They help us form the resources that we offer. They make good connections for us. So, they are listed on the screen here. They are the Better Buildings Initiative, Design Lights Consortium or DLC, the Illuminating Engineering Society, IES, General Services Administration, GSA, NALMCO and the Lighting Controls Associations. So thank you to our organizing committee, really appreciate their support on the campaign. Okay. Next slide, and I believe it's a poll.

Here we are, so we're going to take another poll again. So, if you have that Slido screen up, let's go back. Let's take a moment to figure out who we have on the call today. Which of the following sector categories most accurately describe your organization? Take a moment. Go to Slido.com if you haven't already. There's also a link in the chat, so you can click on that, enter the event code #ILC and you can answer that poll question. Nice. Okay. Distributor, manufacturer, solution provider, great. You all know about the projects, 'cause you do them. That's great to see. Commercial real estate, government and public buildings, consultants, designers, engineers, ESCOs, energy efficiency organization. All my favorite people. Welcome. Thank you for being here. Awesome. Thanks for filling out that poll. Let's go back to the slides.

Okay, so let's talk about the recognition categories. Next slide. There are 12 total recognition categories. I have kind of chunked them up into a few of slides. So here are the first five. Starting on the left there, there's advanced use of sensors and controls for lighting. So, this is a big kind of catchall category. It includes connected lighting systems or network lighting controls, whatever your terminology of choice there is, luminaire level lighting controls or white tunable systems, really those nonintegrated systems but there's still considered advance and again, really good energy savings, really good capabilities with these systems. They may not be truly integrated, but we still like them, and we still want to recognize them. You'll see in a few slides this is where we get a lot of the submissions in this category, so keep them coming.

Beyond that advanced use of sensors controls, there are four separate categories for those truly integrated systems. Again, those systems that work with other building components to help optimize performance. So, there is integrated controls with plug loads. So, these are typically controlled receptacles that respond to lighting occupancy sensors, so they might use occupancy data in the space to either turn on or off a controlled receptacle and save energy that way. Next, there is integrated controls for HVAC; and they typically also respond to occupancy sensors; but instead of shutting off in appliance, it might adjust the temperature set points or ramp up or down ventilation. We see those a bit and those are great projects and a lot of potential there.

The third is integrated lighting and horticultural controls, which could be some integration that optimizes greenhouse energy efficiency, could improve crop yield, reduce the use of chemicals or pesticides, improve water efficiency or other kind of non-energy non-resource benefits. Many greenhouses use this type of technology. In fact, I think we could learn a lot from greenhouses in how well connected and networked they are and apply that to commercial buildings. All right. And finally, there's an other category that really looks for any other building system of where the lighting sensor can inform things like security, internet of things or IOT grid interactivity. So many options here. So, this again is kind of a bit of a catchall for those advanced integration projects. We get some really cool technology here. I hope to see those kind of come through again. So that's a fun one. Okay. Next slide, please.

Here's our next set of – we did five on the last slide, so here's five more, the first of which is innovative maintenance, operation financing service models. So, this really includes innovative approaches to fund integrated lighting or advanced lighting control projects. We've had lighting as a service project here, unique incentives, utility incentives or alternative financing options. In fact, we will be covering a recognition from last year in a webinar in a couple weeks. That is with the city of Berkeley; and they overhauled their lighting and their public safety building, using on-bill financing from their utility. So, this was a great example where the contractor and the company providing the update gets paid upfront and then they pay back the loan through their utility bill and then they get the savings after the loan is repaid. So, Kiera, can you drop the link to that webinar in the chat? Perfect. There it is. So, I hope to have you on that one. We're going to have a

couple of people from the city of Berkeley tell us their story. I'm really looking forward to that one and that's on February 27.

Okay, back to the categories, the next one we're looking at, the second from left is categories specifically focused on small buildings, which we define as building smaller than 50,000 square feet. This category is really to acknowledge that lighting controls, they're not one-size-fits-all. Sometimes it doesn't make sense to have a complex networked lighting control system, especially in a small building with a few luminaires or buildings that don't have a BAS or a dedicated facility manager. So, we're looking here for kind of novel room control applications, really small projects that have incorporated an advanced lighting system or capabilities that really works for the space and the occupants. So, we want to capture some of those smaller buildings, and make sure that they get the benefits of advanced lighting too.

All right, the category in the middle there we have for germicidal ultraviolet or GUV systems for energy savings and improved air quality. This is clearly a hot topic right now. It's a promising technology for safety and buildings. We want to recognize projects that have successfully deployed energy-efficient GUV systems and buildings to reduce the spread of airborne pathogens and improve indoor air quality. This is especially relevant for the larger goal of building energy efficiency, as a lot of the research done here at PNNL suggests that GUV lighting is more effective and more energy efficient than the alternative of ramping up, building ventilation and increasing outdoor air exchange and increasing ventilator – sorry, filtration. So that's what many buildings did during the pandemic. We're now learning that GUV offsetting a bit of that energy from increased HVAC is more efficient and more effective at improving indoor air quality. We had two great recognitions in this category last year, so I hope to see some more.

Our new category for – actually, it was new last year. The fourth one is sustainability in lighting, so also a popular topic. We want to highlight projects that have successfully minimized their carbon footprint and impacts across the project lifestyle, life cycle. This could be using products that are serviceable, maybe they're made of an alternative material or recycled materials, or approaches that extend the product lifetime to sport maintenance and improved end of life outcomes like reuse, remanufacturing, recycling, and proper disposal of e-waste. We did recognize one of these last year, so hope to keep this category going as well.

All right, the last category on this slide is energy justice, diversity, equity, inclusion in advanced lighting. So, this category seeks to recognize advanced projects which successfully incorporate energy justice, diversity, equity, inclusion practices. This can include siding, installation, contracting, or procurement. For example, if a lighting retrofit in a building or a site that offers benefits to its local community, especially if it's an underserved or disadvantaged community, they can offer education on the energy savings approaches or a plan for donating or sharing the costs and energy benefits with that community. We had a recognition in this category as well. We'll talk about that in a minute, but that was a Boys and Girls Club out of Minneapolis. Okay. So, each of these categories has more examples on our website. So go to our website and take a look. We

have examples to help you think through some of these; but if you have any questions or if you wonder if your project fits into one of these categories, please don't hesitate to reach out. We'd be happy to talk through it with you and make sure that we have a category that fits for you. All right, next slide, please.

So, we have two more recognition categories; and these are geared towards, again, those supporting companies that may not actually have installed lighting; but they still are encouraging the use of advanced lighting controls and technologies that facilitate integration or overall efficient building systems. This could go to our utility partners, nonprofit partners that advocate for energy efficient lighting, many more. So, the category to recognize those exemplary supporters is the first one, and really that's a pretty broad category.

We also have a specific category to recognize supporters that are doing more around energy justice, diversity, equity, and inclusion. So again, this is similar to the category that I just talked about; but this one is focused on maybe nonprofit partners or someone that facilitates kind of engagement in the community with these projects. So, yeah, ultimately we want to make sure that we don't leave out the supporters that work with and represent efficient lighting. So, you're eligible for recognition, too, if that applies to you. All right. So with all those categories talked about, let's see who we recognize last year to give you an idea of recognition. So, let's go to the next slide.

So last year we had 16 total recognized partners. You can see the spread across the different categories. We had most of them recognized in advanced sensors and controls and a decent spread throughout the other categories. But as you might see, we didn't have as many true integrated projects as we would've hoped. This is really telling us that we're still early in that adoption curve. The technology is there. The potential for energy savings and building optimization and improvement for occupant comfort is there, but we really want to share more examples of this and bring it into the mainstream. So, this is really what we're hoping for this year is those truly integrated projects. But you can see we had – I mentioned two of the GUV systems, recognizes two innovative maintenance operation and financing service models, and a good spread of the others. So yeah, let's go to the next screen.

We have our partner organizations listed. Here's just some logos on this slide, so good range of partner organizations. We have Lineage down on the righthand corner is a cold storage facility. We had higher ed represented by Texas A&M University. We had a couple local governments. The state of Michigan, Los Angeles County. We had two public schools, that is Morenci and Kinnelon high school. Kinnelon was a GUV application. Who else did we have? Lighting Environments Free Form our office buildings. Alamosa was also a school district, and then of course the Boys and Girls Club of the Twin Cities. They are our energy, justice, diversity, equity, inclusion recognition, so really a good set last year. I really enjoyed working with these organizations. Next slide.

We have three supporter recognitions, so Light Justice was recognized as that exemplary supporter and the DEI champion. So as the name suggests, they really try – their mission is to get the benefits of good lighting to all communities; and they really focus on underserved and under-resourced areas to make sure that they have access to good lighting. The California Energy Alliance is a nonprofit, out of California obviously, that advocates a ton for energy efficient lighting in building codes; and they allowed me to speak on a couple of their webinars; and their members brought in a couple of projects. They were great. And then there's also Evergreen Consulting Group out of Oregon. Great partners of the campaign and they do a lot of good work around energy efficient lighting and controlled, so we recognized their collaboration efforts as well. Okay, next slide, please.

So, if you're wondering what it means to be recognized, one of the main benefits of being recognized is that we do a lot to promote your organization. We set up email blasts and social media accounts, announcements on our accounts. We develop case studies and infographics. The infographics can be used as website banners. They give key details of the projects, like the one you see below. And we also produce videos of the projects, and these are optional. Not everyone likes these, but City of Chicago took the opportunity, so the participant here was able to tell their story in their own words. So, these two screenshots are taken from the Chicago Smart Lighting program. This is a recognition in 2022. They undertook a massive streetlight modernization project, converting more than 280,000 high pressure sodium streetlights, converted them to high-efficiency LEDs with advanced controls. They have a dashboard that covers their whole city, and they can identify outages and streamline maintenance. Really a great project. Next slide.

There's also the recognition event, and this is the fun part. Recognized partners are invited to attend an event where we present their projects individually. We give them a Certificate of Recognition. Last year's event was in Schomburg, Illinois. It's always held at the IES Annual Conference, and so that's where it was last year in 2023. I've included a few pictures from that event. We had a good turnout. Hope to keep that going in 2024. Like I said, that's a good event. Get people to travel and receive their accolades. So yeah, next slide, please.

Beyond recognition, I mentioned we would talk about resources. There are resources for everyone involved in the campaign, and we try to host a number of different resources for people in different sectors and areas, and project lifecycle areas. So, the IES – sorry – ILC website serves as a resource for things like reports and case studies from national labs and other third-party organizations, utility incentive lists that might help provide financial support for those taking on advanced lighting projects. Webinars and trainings are also listed on their end topic relevant videos. We're always adding to this. And if you think of a resource that you would like to see, please let us know. That's related to the next piece on the next slide about technical assistance. Let's go to the next slide, please.

There we are. So technical assistance is really just – it could be broad assistance, but really we're so happy to help with things like helping you understand the technology and the capabilities of advanced lighting systems. We can point you to available resources if

we don't have what you're looking for. We help people weigh the pros and cons of a lighting upgrade or what capabilities they might need. Say a project is looking just to meet code with advanced lighting systems. We have some people that are experts in that; and if you want to go above and beyond code, we can help you do that, too. So, if you need help, let us know. We would be happy to connect you with the lighting experts here at Pacific Northwest National Laboratory. Not to toot our own horn, but PNNL is recognized as having some of the top lighting people in the world. So yeah, let us know. Love to help, and that is definitely part of our scope with this campaign is providing that assistance. Next slide, please.

Okay, so if I haven't convinced you yet to get involved with the campaign, hopefully this will get us the rest of the way there. This is a bit of a summary of the benefits when it comes to being a partner of the campaign, either as a participant or a supporter, meaning if you have a building and you own a lighting system or if you're just in the industry. We saw that there's a bunch of manufacturers and service providers on there. You are a big part of the campaign as well. Really, we provide a great opportunity for visibility to your organization and project through case studies and infographics. We list supporters on the website so people can find companies that support energy efficient lighting. We also promote you through our website and newsletters as well as DOE's.

So, we have webinars like this one throughout the year. I mentioned one in a couple weeks where we're going to highlight our recognized partner and their contractor. So, they get to talk about their business a little bit and tell us how they serve their customer, the city of Berkeley. We ask participants to speak at DOE events. A lot of times that's webinars or conferences where you can get on a bigger national stage and speak about your project and share your success. If you're recognized, you get a framed certificate. You get to use the ILC logo and yeah, so good, good benefits there. Next slide.

Surely by now you're ready to submit for recognition, so I encourage you to go to our website IntegratedLighting.Energy.gov. Under the recognition tab, you'll see a "Submit for Recognition" button on that page. You can start to fill out your submission. Next slide.

This on the right side of the screen is really all that we ask for. Those are two fields. You really only need to fill out one. Once you kind of click the button and complete the contact forms, then the fields open up and it is really just about telling us your story of your project. Again, I mentioned there's some examples underneath; but really the more you tell us, the better you can make your case for recognition. It's really pretty simple. It's kind of an initial submission process. Once we get your application, then we get in touch and we often have a phone call or a video chat and learn more about your submission, ask you questions; and we can build out the story a little bit more. So, it's pretty simple and streamlined submission process. I encourage you to do it. Of course it's free. So, and that's another piece of technical assistance. If you don't know how to submit or you want help, let us know. We're happy to do that. Okay? Next slide should be the timeline.

There we are. So just to give you an idea of timing for this year's campaign, the campaign officially kicks off after the recognition event of last year, so really it was kind of the fall of 2023. The submission process opens on January 1 and then the recognition submission process is open through March 31. So, you are welcome to submit applications throughout the spring ending in March; and then we get together with our internal team, with DOE and our organizers; and, again, the organizers are the ones that make the final selections of recognition. We let recognized folks know by June 30, and then we will have that recognition event in August. This year the IES annual event is August 15 to 17. We don't know what day we will hold that event, but we will make it known as soon as we know. But it is in mid-August and it's in New York City this year. Okay. Next slide.

That is all my slides, so we can start some Q&A if you have any, otherwise I'm happy to let you go early. I know everyone is busy these days, but please, if you have questions, if you haven't already entered them in Slido or you could answer my questions. What else would you like to see from the ILC? What would help you submit for ILC recognition? What would make being recognized more valuable? Is there something that would work for your organization?

Ooh. Do you have an energy audit Excel template as a lighting audit? That is excellent. I know those exist, and I know we have some of them, but I don't think there's one available on our website. Mark, I will look for one and get back to you. Thank you. Do you have any ASHRAE supporting documents for commercial building? I think we do as well. So that's another. I think we do have some ASHRAE resources on our website, but I'll take a look. What is the current ASHRAE standard for commercial building lighting? Now you are testing the limits of my knowledge on ASHRAE, but we definitely do have some standards experts here at PNNL. So, let's get in touch, Mark. I'm happy to help you with some of those questions; and yeah, we can definitely work through it. I know we have folks on ASHRAE committees here that contribute to those standards, so that's great. Thanks for asking those questions. Okay, so you still have an opportunity. We got plenty of time or I could let you go and you can email me at IntegratedLighting@PNNL.gov, and I'm happy to answer your questions that way. Kiera, can we see what's left here?

I think just there's the email address. That's what I wanted to show. So, I think with that we'll call it. Thank you again for your time. I hope this was useful for you. This webinar is recorded, so if you want to come back and listen to any of the information, you're welcome to do that or let me know I could send you the link or we could have a talk and I'll tell you all this information again. I like talking about it, so thanks for joining. Have a good rest of your day and I hope to get some projects from you all soon. Thanks again. Bye.

[End of Audio]