Webinar: Workforce Development for the EV Charging Sector (Text Version)

This is a text version of Webinar: Workforce Development for the EV Charging Sector, presented on June 13, 2023.

Richard Ezike, Joint Office of Energy and Transportation: All right. Good afternoon, everybody. Welcome to our latest presentation of our Joint Office webinar series, focusing on Workforce Development Strategies. We'll take a minute to give some people time to come in and join our webinar. We'll get started in a few seconds.

OK, let's go ahead and kick it off. Good afternoon. My name is Richard Ezike. I am a program communications specialist at the Joint Office of Energy and Transportation. And I would like to welcome everyone to our weekly webinar series, our monthly webinar series for Joint Office.

Today, we'll be talking about Workforce Development Strategies in the EV and electric vehicle supply equipment space. So first off, I'd like to provide a couple of tips. So controls are located at the bottom of your screen. If they aren't apparent, please move the cursor to the bottom edge.

If you have any questions, please submit those questions using the Question & Answer window, which is—looks like the icon on the bottom of your screen. Thank you for that. I'd also like mention that, for a disclaimer, this webinar is being recorded and may be posted on the Joint Office website or used internally. If you speak during in the webinar or use video, you are presumed to consent to recording and the use of your voice or image.

So what are we going to talk about today? So first, we're going to, of course, provide an introduction to the Joint Office, for those who might not be familiar

with what we do. I'll then go into an overview of DOE Electric Vehicle Workforce programs. We'll then have an introduction to EVITP.

Then we'll have our perspectives. Our four panelists will have each different perspectives focusing on just their experience in workforce development and the work that they do in the EVSE space. And then we'll go into a panel question and answer session.

All right. So to begin, I'd like to welcome our executive director at the Joint Office, Gabe Klein, to share a few remarks. Gabe, I'll turn it over to you.

Gabriel Klein, Joint Office of Energy and Transportation: Great, thank you, Richard. Can everybody hear me? Yeah? Great. I really appreciate people taking time out of their busy Tuesday. There's a lot going on today in the news as well, and so we appreciate you coming here to hear from those that are providing training to the workforce of the future in the EV charging space.

We think it's really important—the president thinks it's very important to look at the supply side as well as the demand side of the work that we're doing. And there's a great deal of opportunity and opportunity to bring forth the next generation of workers who are going to help not only to build but also to operate and maintain our EV charging infrastructure, which is absolutely crucial to it being sustainable for the long term.

And we think there's an opportunity to create economic opportunities for all people in this country as, really, the economy in many ways is being reinvented around renewable energy, of which electrification is one component.

So this should be a great way to spend an hour. We think we can all learn a lot. We'll be diving into key topics and opportunities with our esteemed panel, as

they discuss how to build a diverse and highly skilled workforce within the electrified transportation industry. As Richard said, we're going to learn about EVITP and also other opportunities we have to support the operation and maintenance for EV charging.

I do want to mention also, in case you hadn't heard, the Joint Office has a $51 million Ride and Drive Electric funding opportunity announcement that contains a topic focused on workforce development. And concept papers are due June 16. Now, that's very soon. It's three days away. It's this week.

But it's a concept paper, so please do take a look at that on our website, driveelectric.gov. The Joint Office, as a reminder, is here to support by convening, educating, providing technical assistance, and formulating great policy with our partners at DOT and DOE. And so, on the technical assistance side, please feel free to reach out to us through our website, again, driveelectric.gov. And I look forward to learning today as well. Thank you very much.

Richard Ezike: Thanks for your comments, Gabe. I truly appreciate that. All right, let's go ahead and continue on with our webinar.

So I'd like to kind of give a brief overview of the Joint Office and what we do. Excuse me. So our mission and vision at the Joint Office is to accelerate an electrified transportation system that is affordable, convenient, equitable, reliable, and safe. And our overall vision is a future where everyone can ride and drive electric.

So we were established by the Bipartisan Infrastructure Law in late 2021. And we are very uniquely spaced between the Department of Energy and Department of Transportation, to help really move forward the [INAUDIBLE] future, [INAUDIBLE] to see the future of the electrified transportation system, focusing on building

out the charging network. So we support four specific programs, the National Electric Vehicle Infrastructure Formula Program—the $5 billion that's given directly to states via formula funds, to build out an EV charging network along highway corridors.

The Charging & Fueling Infrastructure Discretionary Grant Program—$2.5 billion, half for communities, half for corridors, as well as focusing on EV charging, as well as hydrogen, natural gas, and propane fueling infrastructure. We also support the Low-No Emissions Grant Program for Transit, which provides nearly $6 billion to support low and no-emission transit bus deployments. And we also support the EPA's Clean School Bus Program, which provides $5 billion to help school districts convert their buses to electric.

We also provide technical assistance strategies. We have special assistance for states, communities, tribal nations, transit agencies, and school districts. Some of that support includes having one-on-one meetings with states to address concerns related to NEVI. We have a concierge service with different ways of communication to efficiently route that TA request for these different programs that we support.

And we have a large team that's here to support your questions, almost 50 staff members across 10 different organizations. And if you have any questions, you can go over to our website, driveelectric.gov/technical assistance. And also, as mentioned earlier, the concierge service contact methods are listed in the slide, on the bottom of the slide, if you want to reach out to that service.

Over on our website, driveelectric.gov is a very robust and comprehensive website that connects state DOTs and our stakeholders to resources such as infrastructure planning and guidance, implementation guidance, data and tools,

news and events, and also the technical assistance request form that I shared previously. So if you have any questions or want to learn more about the Joint Office and the great work that we're doing, please go to driveelectric.gov and take a look at that website—very extensive, very—a really great website with all the information that will help you learn more about what we do and our impact.

As Gabe mentioned earlier in his remarks, the funding opportunity, the Ride and Drive Electric funding opportunity concept paper is due June 16. And today, the Charging & Fueling Infrastructure Discretionary Grant Program that I mentioned earlier in my slide, the $2.5 billion, the application is due today. So just want to remind everybody about those important deadlines.

And if you want to follow us, you can go to driveelectric.gov/subscribe, or driveelectric.gov/contact and submit your information or your specific inquiry. So that's a little bit about what we do at the Joint Office. So now I will turn it, and we'll do our polling questions.

And these are just two questions that will allow the opportunity for people to—we'll know where you are, where you're from, and how you're engaged in this space. So I will have Justin pull up the first question. First question is what sector are you from, which are government, state, federal, tribal, government, public sector, academia, utility, EV charging station operator, or EV or EVSE manufacturer. Please take some time to answer that question.

All right, thank you for that. So based on what we have here, we have a very diverse set of clients on our webinar. We have—about a majority are from—most are from state governments. We have some from the non-government, private/public sector, at 19%, followed by local regional government at 12%. All

right. And of course, we at least have everybody represented here, so that's wonderful to see.

All right, let's go to our second question. What region of the country are you from? Please take the time to answer that question. All right. Great, thank you. So we have quite a bit of geographic diversity.

Every region, including internationally, is represented in our audience today. So great to see that we have people from all over the country dialing into our webinar. All right, thank you, Justin. All right, let's continue on with our webinar.

So we'll start off with a presentation that I will do, focusing on the various workforce development programs in the EV space that are happening within the Department of Energy. First, I'll talk a little about the work that's being done in the Office of Energy Jobs, and then some of the programs within the Vehicle Technologies Office. So Betony Jones, who's our Director at the Office of Energy Jobs—she was unable to make it today due to work travel, but I wanted to share a little bit of the work that her office is doing, focusing on EV charging and workforce. So sorry about that.

So in terms of the workforce language in the NEVI rule, as you all may know, the final rule establishes a requirement that the workforce that's installing, maintaining, and operating chargers has appropriate licenses, certifications, and training. The final rule also requires all electricians installing, operating, or maintaining equipment to have a certification from the EVITP program, or graduation or a continuing education certificate from a registered apprenticeship program that covers EV charging infrastructure. And of course, later, Bernie will talk a little bit more about EVITP in detail.

For projects that require more than one electrician, that person must be enrolled in a registered apprenticeship program. Electrical work must be performed by qualified electricians. And non-electrical work must be performed in accordance with state requirements.

So in terms of the workforce supply, as we think about building out this infrastructure, we've really got the workforce in various states. We do have a pretty sufficient workforce. We currently are in need—to build this charging network requires about 5,000 to 7,000 electricians, according to research done by the Office. And current EVITP-certified electricians, there are about 20,000 across every state.

Now, EVITP does not train or certify contractor/employers, only electricians. And contractors are the business enterprises that employ multiple electricians and have large service areas. And those contractors are on the web—EVITP website, and are listed because they use EVITP-certified electricians.

Now, in terms of training our workforce, and as we look to build out this next generation workforce to support our electrified transportation system, we are, at Office of Energy Jobs and the offices within the DOE, thinking about strategies to really augment the skills of our workforce. And it really is going to require a significant amount of investments in people and in programs that are going to build out that workforce.

So that may include registered apprenticeship programs, pre-apprenticeship and apprenticeship readiness programs to build that electrician pipeline, education programs that provide for wraparound or supportive services for workers, and also programs that can introduce students to transportation electrification careers, through employment that includes simulated or hands-on training.

And if you actually look at our workforce development within the Ride and Drive Electric Joint Office funding opportunity that Gabe shared—this link—we'll just end there. So really thinking about these strategies, and we're really looking for great ideas to really help us to push this forward, to help us develop the next generation of workforce that can support our EV charging network.

All right, so then let me, again, go into our electric vehicle and battery design. This is the second area of focus within the DOE on the electric vehicle workforce development. So Alycia Gilde who's the National Manager for ZEV Partnerships and Engagement at the VTO. She's also on work travel, but I wanted to share some information and programs that are happening within the VTO.

So one program is the Advanced Vehicle Technology Competitions. And this is America's premier collegiate automotive engineering competition that directly relates to that fourth point that was mentioned on the Energy Jobs slide about education programs helping to bring students to transportation.
This has been going on for many, many years. And right now as you can see, multiple programs within the space. And currently, we're looking at focusing on the EcoCAR Mobility Challenge. This is the latest four-year advanced vehicle technology competition.

Almost 15 North American universities are participating. And the challenge is to re-engineer a next generation BEV, the Cadillac 2020—the latest version of the Cadillac LYRIQ. And teams utilize automation and vehicle to everything—V2X connectivity—to implement energy efficient, customer-pleasing features and meet the decarbonization needs of the automotive industry.

And within these goals, there's focusing on decarbonization through the deployment of battery electric vehicles, focusing on designing vehicles with an

understanding for customers and their needs, and identifying and addressing equity challenges in mobility as a very important part of the work that we do in DOE.

Another program that is being done is the Battery Workforce Challenge. So this is a public private partnership, 20 million between the Department of Energy and Stellantis. And it's managed by Argonne National Laboratory.

Four specific program pillars include having collegiate competition, regional workforce training, focusing on youth and high school STEM education, and developing a career-connected learning management system.

So right now—it was launched in March of this year. The next steps are to select teams, launch in the fall, and then all the pillars as mentioned earlier will be complete. So this just shows us a lot of different programs that are happening within the DOE to really focus on building out that workforce. Right.
So now that I've shared some information about the DOE, now it's time to go and meet our panelists and learn more about the great work that they're doing.

So see here we have Bernie Kotlier from EVITP, Todd Stafford from Electrical Training Alliance, John Harriel from Morrow Meadows, Gabrielle Saylor-Moore from Inglett & Stubbs, and Kianna Scott from ChargerHelp. And they will be providing some insight on the work that they're doing and the impact to make it in the space.

So we will start off with Bernie from EVITP. Bernie, take it away.

Bernie Kotlier, Electric Vehicle Infrastructure Training Program: Thank you, Richard. And thank you everyone for their time today. So EVITP is Electric Vehicle

Infrastructure Training Program. And it is in its fourth generation of curriculum. Next slide, please.

So what is, and who is, EVITP? EVITP is a non-profit, brand-neutral, volunteer national EV industry collaborative that trains and certifies electricians. It was formally launched at the University of Michigan in 2012 and if you go to the next slide, you'll see all the different types of organizations that were the founding partners of EVITP.

There are no members. They don't pay dues, but they do contribute technical information to help create the curriculum and update the curriculum. You can see we have automakers and academic institutions and utilities, and all facets of the EV industry. Next slide, please.

The curriculum is very comprehensive, covering residential, commercial, industrial charging infrastructure. Everything from basic level through to medium, fast, and heavy duty commercial, industrial, and, of course, DC fast charging. And that includes maintenance, troubleshooting, and repair, and wireless energy transfer. Next slide, please.

So we don't have time to go through the whole curriculum in detail, but I do know one of the focal points of today's discussion is maintenance and repair. I just want everybody to know EVITP is not just about installation. EVITP is also training, maintenance, troubleshooting and repair.

And as you can see here in a more detailed description, it's a complete training program, which not only installs the EVSE or the charging equipment, but also troubleshoot repairs and maintains that equipment. Next slide, please.

So who's eligible to take EVITP? And Richard touched on this—thank you, Richard. But in the states that have statewide licensing of electricians, you have to be a state certified or state licensed electrician to be eligible to take the training and be EVITP certified.

In states that do not license electricians, you have to have the equivalent, which is 8,000 hours of documented on-the-job training and electrical construction. Next please.

So a big focal point of what the DOE and the federal and state governments are trying to do is make sure that this work is done by a diverse workforce. And I want to point out that EVITP draws from the existing pool of electricians. And that existing pool of electricians has become very diverse.

If you look at big cities around the country and look at the apprenticeship programs, most of them are more than 50% women and BIPOC.

Audience: I can't hear nobody, but

Bernie Kotlier: Hello?

Audience: Adjusting my volume.

Bernie Kotlier: Hello? I think—

Audience: [INAUDIBLE] EVITP diversity

Audience: Yeah, I mean,

Bernie Kotlier: I hear some discussing in the background, Richard.

Audience: On the computer?

Audience: Yeah.

Bernie Kotlier: Hello?

Audience: So you say you chose computer audio?

Audience: Yes.

Bernie Kotlier: Hey, Richard. Can you hear me? We have—

Audience: I'm not sure how good that will be—

Bernie Kotlier: We have a conversation coming in here.

Richard Ezike: One moment, please. I apologize for this—I was having difficulties. Lat's see.

Bernie Kotlier: Yeah. We need to mute all those other inputs, please.

Richard Ezike: I think you're a good, Bernie. Continue please.

Bernie Kotlier: OK. We'll go ahead. So I was saying that diversity is very important. And the electrical trade has become very diverse in looking at electricians around the country and particularly the apprenticeship schools that are training these electricians.

The big cities around the country generally have 50% or more of women and BIPOC in their apprenticeship. Los Angeles, which is the largest apprenticeship school in the country for electricians, is 81% women and BIPOC. So it's a very diverse trade and I think that's doing a great job at being inclusive as well. Next slide, please.

So basic course information, it's a 20-hour course with a proctored certification exam. It is convenient. It's demand-based. It can be accessed online, and the

exam is also online. The total fee for the course, the instruction, the exam, the certification, the record keeping, everything, is $275 total fee.

And the reason we're able to do that is because once again, EVITP is a volunteer organization. And we have very, very few people working at EVITP who are paid. Almost everyone's a volunteer. So main office is in the Detroit area, near the auto industry. And it's also taught in Canada. Next slide, please.

So why should EVITP be taught, or why should contractors want their electricians? Besides the NEVI requirement, it's all about safety and reducing risk. First to people, but then also reducing the liability to government agencies, to local governments, and the financial industry insurers and the rest.

Next slide, please.

Safety is critical. And I'm often accused of being overly dramatic here. But unfortunately, it's not. It's real. Next slide, please. This is a laboratory simulation of what happens when you overload a circuit, and this can happen when you're charging an EV. Next slide.

This actually happened in 2011. You see that there's a Chevy Volt in this picture. Fire started in the wiring of this garage, not in the Chevy Volt, because the electrical system is overloaded. Another one in 2011 is on the next slide, Richard.

And that is a fire that happened in North Carolina. Once again, not in a vehicle—in the wiring of the host facility, because it was overloaded. Next slide.

So EVITP makes sure that safety is the number one priority. And an important way to do that is making sure the electricians are up to speed on site assessment and load calculations. This just gives you an idea of what load calculations are all

about. And you have to be well trained, and you have to master them to pass the EVITP exam. Next slide, please.

It's not just the smaller commercial and the residential safety that's critical. Large, high-powered installations like DC fast chargers and industrial chargers are very dangerous because of their high power. And unfortunately, there have been some tragic incidents. So safety, once again, is paramount. And that's the core of EVITP along with the other training. Next, please.

So there's been a lot of precedents around the country in various cities, ports, utilities. And I think everybody knows here, and Richard mentioned it: there's a NEVI requirement as well for EVITP. Next please.

The EVITP website is evitp.org. You'll find a lot of information there. But I want to focus on a couple of things quickly. Next slide. The certification check—if you want to be sure electricians on the job—and once again, the EBIT requirements are not about the contractor. They're about the electrician. They're the ones that are trained and certified. There is no certified contractor in EVITP, only electricians. You want to be sure that electrician is certified, you go to the website, don't look at a paper document. They can be forged. They can be counterfeit.

Go to the website, click on Certification Check, and you can put the number or the person's name, and you can do that on a mobile device right on a project site. Next, please.

Richard also mentioned that there are EVITP approved contractors in all 50 states. And just because a contractor is on the list, doesn't mean that their projects are in compliance. They're the business people. It's the electricians on the job who have to comply. They're the ones who do the work.

I should also point out—reemphasize what Richard said about the 20,000 EVITP certified electricians in the United States. They're in all the states. And to put that in perspective, those 20,000 EVITP electricians can install, between now and 2030, about 20 million charging stations.

For those who are concerned about having enough labor to do this and enough electricians, I wouldn't be concerned. Because if you look at the federal goals and the state goals, the objective for the next six, seven years is about three million charging stations. We already have enough electricians trained and certified to install 20 million. So that's important. And they also do the maintenance and repair. Next slide.

That's the last one. So just—Well actually, I think that's exactly 10 minutes, Richard. So I'll turn it back to you.

Richard Ezike: All right. Thank you, Bernie, for that information about EVITP. All right. So now let's go into our panel discussion. And I'd like to remind everybody, if you have questions, please put them in the Q&A. We want to hear from you about your thoughts on this topic.

So with that, my first panelist will be Todd Stafford from the Electrical Training Alliance. Todd, I'll turn it over to you.

Todd Stafford, Electrical Training Alliance: Thank you, Richard. It's great to be here as well. Let's get started today. A little bit of history about the Electrical Training Alliance and who we are. We're actually formed by the International Brotherhood of Electrical Workers and the National Electrical Contractors Association. Created in 1941, an organization called the National Joint Apprenticeship and Training Committee. Since, we've changed the names to Electrical Training Alliance as the more accurate description of who we are. What we do is diverse populations as

well as organizations coming together for training in the electrical construction industry.

Annually we'll train 50,000-plus apprentices. This year, in calendar year 2023, as well as academic year of '22–23. Plus 70,000 junior-level workers in a variety of tasks involved with the electrical industry, including those knowledges and skills that are involved with performing tasks.

That's our goal. Our mission is to prepare for any type of installation that involves electrical work, is what we're looking, and trying, to prepare someone fo. A career-level training, not just job-specific, job task-type training. With 8,000 hours on the job, 900 classroom hours, for what we call related instruction hours according to registered apprenticeship.

We cover every skill set involved with any type of instruction involved with generation to use of electrical power. What we do—when you think of power—is what an electrician does is power transfer from the source to the load. We'll start at the source for generation, whatever it's photovoltaic system, or nuclear fired system, coal fired. It doesn't matter.

The same physical layer, the same infrastructure involved, the same transfer of power from generating source to use, the same physical layer is employed in all of them. But when we train an electrician, it takes care of every type of application of electrical power, not just a specific job application.

For example, photovoltaics or charging system or battery storage, it doesn't matter. It covers all those areas involved in overcurrent protection, temperature de-rating conductors, termination points, all that doesn't matter what type of source it is, or where it's being used at. The [INAUDIBLE] matters all in between.

We work on all that. That transfer of power from source to load. So thank you, sir. We'll go to the next slide, please.

Electrical Training Alliance and I continue to work. That 400 hours out of 900 hours related construction time, we take 400 related to the National Electrical Code. There are OSHA safety standards involved, electrical safety work practice, industrial, and industry-specific, that require safety training.

And that's—again, we tend to think about when new technologies, new applications, hit the market, we all need to train on this particular application of electrical, whatever it may be. Well if there's 100 learning objectives involved with training in that one area of work, well, 99 have already taken care of the electrical workforce.

We just have to train in the application. A new widget installed on our electrical system interacting involved. There's not really a big change for installing physical infrastructure. That would [INAUDIBLE] the rating that Bernie just spoke about and showing the picture of what can happen if it's not done correctly.

That's done in our apprenticeship program with any type of source load. It doesn't matter. The safety training, how to lock something out, and tag out. How to work on the energize system or de-energize, the process to work in with that environment. You don't have to worry about electric use, that's done as well. It's taught.

And again, it doesn't matter. Because out that 500-hour related instruction hours on electrical theory, electrical equipment instruction, and electrical installation requirements, that's all based on safety standards. All of the—the whole safety environment.

And we like to think about, yeah, we're a construction industry, but we also have a construction maintenance part of that [INAUDIBLE]. We do both. It's not just one side of the work picture that we try to concentrate on, but it's all electrical work. And it's all done under the same training parameters that we build in our industry.

And for specifically for electric vehicle charging systems, is our course curriculum [INAUDIBLE] satisfies requirements that the certification body holds for training. And again, we don't certify electric training. That's not what we do.

We train third-party entities, review and assess, evaluate the individuals training for our credentialing system, whether certification, licensure. Maybe in some cases partner licensure, that's what we do. But electric vehicle charging systems is just another application for power transfer, is all it is.

So the workforce is there. And we talk about the 20,000 specifically trained in electric vehicle charging systems. Yeah, we're great. We're at 25,000, where we're at. We're looking to increase that number hopefully more next year by the time the next apprenticeship class goes through.

We'll train EVCS. When they reach the general level worker with 8,000 hours-plus experience, they can sit for a certification exam. Now, that number can grow every year and even exponentially in some cases. As workforce demand increases, we'll definitely have the skillsets involved.

And getting that knowledge and ability over to those new learners on the electric vehicle charging system is a fairly straightforward application for us. We do it for other technologies. This is not just this technology, but it's—reiterating again, we get excited about one thing at a time, where it appears in our industry and approaches us as a problem to solve.

But the problem's already solved, we already created the methodology and the training parameters there, the workforce is there, and the application of how we train as well. So Richard, thank you. Next slide, please, sir.

Again, contact information to the Electrical Training Alliance is here if you need additional information. It's easy to reach me. But I thank you and I'll finish up for now. Thank you.

Richard Ezike: Thank you for your time, Todd. Really appreciate your comments. All right, next we'll go to our next panelist, John Harriel, Jr. John, if you unmute yourself. Put yourself on video. I'd love for you to introduce yourself, talk about the work that you do in the community, in Los Angeles.

And particularly, your work with second call and the nonprofit that you founded, and how this relates to building a workforce development within the EVSC space. So John, I'll turn it over to you.

John Harriel: Yes. Name John Harrell, better known as Big John. Also electrician, IBEW Local 11, 26 years, diversity manager for Morrow Meadows and superintendent for the whole West Coast. Also have a life skills mentoring class that we do in the in the hardest hit communities, which a lot of these stations and EVITP is going to happen at.

We do a life skills class because that component with the trades, I have to have the life skills in order to do this work. And like Todd talked about on Electrical Training Alliance, we don't want just individuals going out there just putting together something without understanding, I have to be trained. And what does that mean doing the work?

And the work that I do is make sure that we have the individuals with the right attitude, with the right life skills, and the right motivation and the right training to do this work. Because again, this is an organic holistic view at this.

I mean, think about it. Just to even power it off or to open up a cabinet, you have to be trained. You have to be licensed. And the safety of it, because certain charging stations would be two—208, 240 volt. But then DC charging stations, those ones are 480 up to 1,000 volts.

And I mean, just checking those, make sure they're locked out, tagged out, that's a whole level of understanding that we have to have in these communities. And we're doing that work to where these young men and women, after they get done with this, they can go do other electrical projects and have a career in this. Like I have had for 26 years, but I've been able to do it for 26 years, because I'm trained by professionals, and I'm trained by the best. And we offer that in the community.

So from here all across the nation, we have mentoring in communities that's hardest hit. So they can understand what's going on and they're getting trained the proper way.

And we would love to build a partnership with Kianna Scott and her team, to link up with the IBEW so that everybody can win and we can do this. And especially in these communities where energy and bad things are coming together and we can make it happen in our community.

It's a win-win for everybody if we can do this with what we do. But it's so important about the training, and that's what I do with the life skills, train individuals and get them right.

Richard Ezike: Thank you, John. I really appreciate you your comments and your insight on the work that you're doing in the community. And I'm sure we'll have a lot of great questions from the audience about that.

John Harriel: Absolutely.

Richard Ezike: All right.

John Harriel: Absolutely.

Richard Ezike: All right. Thank you. All right. So next we'll go to Gabrielle Saylor-Moore. Gabrielle is at Inglett & Stubbs. And she is a project manager there. So Gabrielle, I will turn it over to you. Gabrielle, if you unmute yourself.

Gabrielle Saylor-Moore, Inglett & Stubbs: I'm sorry. So I hope you guys get some excellent information during this hour. Just to say who I am, I'm a project manager at Inglett & Stubbs, which is one of the big three electrical contractors in Atlanta.

And I'm also a journeyman through IBEW 613, where I was Apprentice of the Year. So it's really important to me to focus on how and why. How do we get people to increase their talent stack? How do we get people to get more certifications? How do we get people to see the importance of that?

And so one of the biggest things that I think other people have mentioned is that we are heading in a whole new direction that is going to take everyone—everyone's skill set to come on board and realize what our country wants to do in terms of transportation.

And so as we do that, it's going to take different skill sets. And they can be trained. Like John said, they can be trained. I originally was not an electrician. I

come from asset management and then I joined the apprenticeship to become an electrician. So my background is a little bit different than most apprentices. I came as a second-career and I excelled. So that is the why. The why is that we have a huge problem to solve and that we are going to need everyone's talent to solve that problem.

And then the other question is, how do we encourage others? How do we get people to take the leap and change careers, and to do something new? Or if they're in the career, how do we get them to see the importance of getting the EBITP training?

And I am the president of the EWMC of out of Atlanta, which is the Electrical Workers Minority Caucus. And so I have a mandate to my membership. And the mandate is to stretch yourself a little bit.

As new technologies come on hand, let's make sure that we're at the forefront of those trainings and let's make sure that when it's time, that we have the skill sets to execute the plans that our customers want. Because these are things that our customers are demanding.

And so in doing that, the inaugural class here in Atlanta was in 2021, and 50% of that class were EWMC members. So I'm really proud of that, because now when we talk about diversity, equity, and inclusion, we really have to recognize that in order to be in leadership, you have to be trained.

So you have to understand what's going on. And you have to understand where our industry is going. And so it's really important as we explain to people and the people that are already in the field, why is it important to sharpen your skill set, to understand what our customers are demanding, and then understand how we

can execute these projects in a timely way, and a cost-efficient way, and safely. So that is my spiel on why and how.

Gabriel Klein: All right. Thank you, Gabrielle. Really truly appreciate your comments on the why and how. All right. Then to our final panelist, we welcome Kianna Scott, who is a Senior Vice President of Workforce Development at ChargerHelp.

So Kianna, I will turn it over to you. Please unmute yourself. Come on video and I'd love to hear from you.

Kianna Scott, ChargerHelp: Sure thing. Can everyone hear me? Yes. Because I know we were having some technical difficulties before. But good morning, everyone. Afternoon, for some.

My name is Kianna Scott. I am the Senior Vice President of Workforce Development in charge of health. One of the newest members on the team. I've been here for about six weeks. This has been a fun-filled, definitely a learning experience for me.

I hail from—I'm so excited to be on this panel. I feel like I hail from some of the landscape that John Harriel was talking about. My background is in secondary and adult education. Most specifically, in the—in Watts, Los Angeles. And—but let me just talk a little bit about ChargerHelp.

So ChargerHelp, in its most simply stated way, we fix charging stations. Because as our founder would say, they break. We provide training towards performing O&M on charging stations. We do that along three tracks.

One is a community track. We work with a lot of workforce development organizations. Companies that are willing to invest in their community members

and upskill them. So we provide foundational training for folks that just want to learn about how to perform O&M on charging stations.

We also do a re-skill track. That's for folks that are not really new to the space. They probably have some automotive background. Have some knowledge base around just EV vehicles. And that comes with a bit more information. You get a capstone project in there, your OSHA 10, your NEP 70, NFPA 70E.
And excuse me, a certificate of completion. And then we also do the EVSC check track. That is everything that comes with the reskill track, but we also combine some manufacturing certifications and trainings in that.

When I think about diversity, equity, inclusion, and belonging in this space, I definitely, one, am thankful for the conversation. I know with just opening it up to where our country has come. Ever since the murder of George Floyd, I know there's been a lot of urgency and there's been a few different catalysts around opening this conversation around inclusion in a lot of different industries.

I will say in this space in particular, as we move towards mass EV adoption and moving the country towards decarbonization and net-zero and moving us to the grid with electrification, if you will—the catalyst and the urgency as Gabriela has mentioned, it's an all-hands-on-deck need right now.

So we don't really have—considering the urgency, we don't really have a lot of time. We need, again, all hands on deck. We need people to have information and access. We need people with varying levels of skill sets to be able to put their hand on the plow and contribute.

So ChargerHelp, we saw the need, we saw the charging stations being created, manufactured, deployed, and installed. But there was a gaping hole around O&M. And when they break down, it really puts a dent in the 97% uptime.

So again, that's a need that we feel. But I think I think one thing that ChargerHelp is really—and I'll stop talking after this—is really intentional and deliberate about and really proud of, is starting our technicians off—we have a very diverse group, but we start our technicians off at $30 an hour.

And we have been able to see technicians buy their Teslas and get a piece of property in some other spaces where the starting income doesn't really allow. And we're talking about adults that have kids, that have families. They need to be able to transition to employment that is gainful, sustainable, and that allows them access to the American dream like every other folk, even in this space.

So I think for me, diversity, equity, and inclusion is beyond the optics of having folks of color, if you will, in this space. But the varying skill levels, the varying education levels, and being able to pay people, again, so that they can live. And that's it.

Richard Ezike: All right. Thank you, Kianna for your comments. Really well received and appreciated. All right. We will then go to our Q&A session. Again, if you have questions, please put them in the Q&A.
I'll invite all their panelists to bring your video back on, if it's not already. And then we'll go ahead and get started. So thank you to my esteemed colleagues at the Joint Office for helping to manage the session.

And they are going through the questions and make sure that we get them answered for you as possible. So let's go ahead and get started with our first question. The first question is—and again, anybody can answer this.

Are there any scholarships for this apprenticeship and other training programs? Who'd like to attack that one? There might be more for Bernie and Todd. But if others can answer that as well, please step in.

Todd Stafford: Well, our apprenticeship program is free, actually. We don't charge our apprenticeship program to take training. It's a privately funded industry. We fund our own training within our industry control. So I'm participating in training, going through the five-year inside program or outside alignment program, et cetera.

We have several programs to go through. They're all funded privately. So no scholarship is needed.

[INTERPOSING VOICES]

John Harriel: Go ahead, Bernie.

Bernie Kotlier: OK, John. That's all right, John. After you.

John Harriel: Well, what I was going to say is our apprenticeship is so rigid that once they get done, they can transfer those credits to any major university, continue the education if they want to. Because of our apprenticeship that is so well-rounded, and so through that, they can go and get continued education. They want to go to a university or anything like that with the transcripts from the IBEW.

Gabriel Klein: So Richard, I'll just jump in on that quickly. Please on the EPITCP side, as I mentioned, it's $275 for the whole course. And while—you know, I know, there have been some scholarship programs proposed, once somebody is an electrician, they're making pretty good money.

And we strongly recommend that those scholarships go to pre-apprenticeship to help people from the community get into the trade.

Richard Ezike: Gotcha, great. Thank you. All right. Let's go to our next question. So for any—to the panelists, so what is the best and fastest avenue to obtain operations funding in order to implement the program, build a fleet, and hire more employees?

Gabrielle, because you're in the business space. This might be a question that would be directed to you, but again, everybody, please feel free to share your thoughts.

Gabrielle Saylor-Moore: I believe that it was mentioned earlier that there's currently a $51 million opportunity through Ride and Drive Electric. So if you're interested, there are so many programs currently going on to not only help you—to help you along, but also, there's funding opportunities.

So I think one of the biggest things is to stay clued in to the Joint Office. See what they have going on and make sure that you avail yourself of all of the—I guess—the government programs that help small businesses. They get you to be efficient.

So yeah, I would stay clued in here. That deadline, I believe you said, was June 16. So it's coming up a little fast, but you may want to check it out. And then if you check out the website, there's a lot more things coming down the pipeline.

Kianna Scott: I would like to add that—I get this question sometimes, a lot around when folks ask us about training. And the hard truth, especially when we talk about charging installation and manufacturing and deployment, the whole thing—and when we talk about diversity and equity and inclusion around that space, a lot of the infrastructure right now, just where it is, it's not to—Gabrielle mentioned—right now, it is not matching the pace of, I'm sorry, of disbursement of funds right now.

So there's a whole bunch of money coming down the pipeline. We've seen it, we've heard it, we've gotten a lot of information about it. But these charging stations don't exist everywhere. So we're getting a lot of asks around training.

But my question is around literally, not necessarily our efficacy, but the viability of someone being able to use that skill, because where they live, they're trained, there's not a charging station around.

So I encourage people not to silo out these opportunities. Create an ecosystem and a network of, a menu of training, where folks can maybe have some stackable certifications. So that they can get trained to perform O&M. They can maybe do an HVAC.

They can—I can't think of something else right now. But just some other opportunities that are very adjacent. But that can support someone being able to be more gainfully employed and have more opportunities.

They can have as many keys on their key ring as possible. But when you're looking for folks to come and train, don't silo them out and isolate. Can you just do this? But you haven't done any forecasting around the pipeline, whether or not there's jobs available. So you have a trained workforce, with no jobs to receive them.

Gabrielle Saylor-Moore: So to your point, so to your point, Kianna. I think that's why it's really important for people to go through the training and have a trade. And that this is an integral part of our trade. I am a trained electrician, that is what I am. I am a journeyman wireman.

But as a journeyman wireman, it's still important to get trained specifically on EVITP. And so while you can be broad, there is a need to go deep at the same

time. And so I do want to say that if people do go to the trades, choose a trade—obviously, I'm partial to being an electrician. [CHUCKLES]

But as you go through the trades, there's so many opportunities. Right now, I'm a project manager over data centers. but every data center has charging stations. So as we service customers' needs, we need to make sure that we can service their needs holistically within our own companies.

So while, yes, we can do a tenant buildout, but we also can add charging stations to your tenant buildout. And just add value to the customers that we have already. So I do think it's important for people to use this as a piece. This is a piece, and this is—I like to use talent [INAUDIBLE].

But this is just a piece of what you should be skilled to do as we move forward. Because there's a holistic thought process around EVITP. And I think as people take the course, the course definitely shows you where you fit in.

Where the EVITP fits in, it's a holistic ecosystem of customers and how we're going to use private customers to be able to fill these needs. So, yeah.

John Harriel: And it's so important. Like Kianna talked about. If you go to the trades, you have more of a variety of doing things. But also, the people who want to go get the money, that's a lot of money out there. Be aware that money comes with some stipulations, and we have to understand about training.

But more importantly, especially in our communities, the one thing that we must address is, they've got to be drug-free. The apprenticeships are drug-free. I can't go up in there—just because in California is legal to have marijuana, it is not federally legal.

So don't sit up there and think you're going to get this money, just go in the community and go to a corner, just hire a bunch of people. It does not work that way. People get killed that way. That's why these apprenticeships are so important.

And it's so important that a person not only go through the apprenticeship, but at the same time get those life skills that we talk about—anger management, low self-esteem, dysfunctional family, Kianna talked about growing up in Watts. I'm right five miles away from her.

Well, she knows what goes on in those communities. And in those communities, death and destruction got to be talked about. If we don't talk about it and they send a person out there working on something, and they've got 208 volts, and they don't know what they're doing, not paying attention because they're thinking about something else, they can get killed.

That's why the training is so important. And also, if the work isn't there, it doesn't matter. But me being an electrician, I don't have to do EVITP right now. I'm building a hospital, or I'm building a stadium. I'm building this. Or if I'm an HVAC, I'm doing this, or doing that.

It all ties together. And for us, we have the capability, we have the land, we have the classes, and we have the technology to train to where they're not limited to one thing. So those who get the money, but don't understand the system, they're setting themselves up for failure. And we don't want to do that, especially in the communities like ours.

Richard Ezike: Thank you, John, for that. I'd love to have more time for one more question. So for EVAC precertification—Bernie, I'll direct this to you. How long would an electrician be certified for? And for those that completed the EVITP 4.0

program, would they need additional training to meet the requirements under EVITP 5.0?

John Harriel: Hey, Bernie are you muted?

Richard Ezike: Bernie, yeah, are you muted?

John Harriel: Until he comes in, I know my license is good for two years. And from what I know, and what I went through, I don't need no additional training because a lot of the training I went through was based on my electrical knowledge already—low calculations, understanding, lockout tagout, certain configurations, with plugs. All that ties into my original training as an electrician dealing with power. The things of that nature and building things. But my license is good for two years.

Todd Stafford: Did Johnny, as well as what he's saying—Richard tried to help here as well. It's called the training model of 4.0 to 5.0, that's coming out of the upgrades and needs of training for EVITP. That's not a large change.

There's physics behind that. Why we do our load calculation. Why we do an installation. So that's not changing. Maybe different types of equipment may change, but not the application what we do. That's not just an extension of what we already do.

So I'll see a whole lot of change in their training model that's there, the certification period—I'm not familiar with being—we just take care of the training side, what we're doing.

Richard Ezike: Gotcha. Thanks, Jonathon. Appreciate that. We have one more final question before we conclude. And this is coming from a principal of a high school career tech center.

So this question comes from this principal. And John, this might be tailored to you. Is HVAC the best program for this career pathway on top of our automotive tech program?

John Harriel: I'm biased. Oftentimes in high schools, there's three trades that they normally attract to—carpentry, HVAC, and labor. Most of the time they stay away from the skilled trades, which is the electrician elevator union.

Now for me, they need to get the electrical in there. And let me tell you why. As far as an electrician, our work is unlimited. We can do HVAC work, but HVAC can't do our work. We can do anybody else's job, but it's hard for them to do our job.

And Todd can attest to this. We do anything from the pole all the way down to the light switch. Anything that has to do with fiber optics, a fire—fire alarm, low voltage, DOES, anything you can think of that's got a wire in it, we are trained in it. And that's what makes our trade one of the most—trades that no matter where you're at, you have to deal with us.

And if he doesn't have electrical, how do we get it to him? And how do we build that relationship to where they have an avenue to get into the IBEW? It is one of the best kept secrets that a lot of individuals just don't know about, because they think that, oh, scared of electricity.

No, we are trained to do it the safe way to where, if done correctly, you have a long career with no incidents. And it is highly rewarding and high pay and benefits. I mean, man, we get pensions. Come on. [CHUCKLES]

I mean, the healthcare—I mean, I've seen people whose kids had to get heart surgery and it only cost them $5 because of our medical. I think the only people that have better medical is the government. And again, all the money doesn't go

on a check. But it builds to where when you retire, you can live just as good as you were living when you were working, if you do the things correctly, like you're supposed to do.

So it's there, but electricity is one of the ones that I hardly ever see in the schools because I guess they just don't have the right relationships. And I'm here to help them build those relationships.

Richard Ezike: All right. Thank you, John. And we'll make sure that all our panelists, if you want to reach out to them and get their contact information, we can definitely share them with you. Because this has been a really amazing panel and just some great insights from everybody.

So definitely want to say thank you all for those comments and your insights. So we will conclude with a few slides. So additional resources, you can go to our driveelectric.gov page. If you want to learn more about our Community Charter projects that we previously funded—I mentioned earlier our technical assistance to states and communities on driveelectric.gov.

Information about a multi-unit dwelling charging—we are about to post a paper around multi-family housing charging. And we also have urban electric mobility toolkits. You can go to go to driveelectric.gov now. You'll see Urban Electric Mobility Infrastructure Toolkit.

We're about to make our second update on our Rural Electrical Mobility Infrastructure Toolkit, as well. So keep a lookout for those. And our upcoming webinar topics—on the 27th, we'll be doing a webinar on futureproofing and resiliency insight design.

So on that date of course, we'll be putting that information through our newsletter, our LinkedIn page, and other communication mediums. So keep a look out for that invite. You can also go to driveelectric.gov/webinars to see past webinars, where we talked about a number of different and diverse topics in the EVSE charter space.

John Harriel: Hey, Richard.

Richard Ezike: Go ahead.

John Harriel: Real quick, just in case you didn't talk about it. I just want everybody to understand that there is a difference between a technician and electrician. There's a difference.

Technicians cannot do electrical work. Just so you know that. I want everybody to understand that. I don't want nobody to think that technician and electrician are synonymous. Because I don't want anybody to be misled.

Technicians do the great work that they have to do after we get done with our work, but they cannot install, check—they can't do none of that. That's not what technicians do. Because I was looking at some of that. And I was like, well, wait a minute. Let me clear that up right quick. Just so people know.
Certain things that happen on these EVITP and charging stations, it's got to be done by electricians. The technician happens after we do our electrical part.

[INTERPOSING VOICES]

John Harriel: I just want to make sure we all clear on that. Those two terms are not synonymous. They are totally different. They all got to work together, but electricians got specific things they do and technician got specific things that they do. Just so we understand that.

Kianna Scott: Yeah.

Richard Ezike: Thank you for that, John. Yeah. Like they said, they all have to work together. And it's—

John Harriel: Yeah, you got to work together. But you don't want a technician doing some NFPA saving work on install and disconnecting. That's not what they do. Because they can mess around and get themselves in trouble.

Richard Ezike: Right.

John Harriel: We've got to do our part, get it safe for them. And then when they do their part, they do the part to bring it all home, and we bring it up and they bring it home. But they are two different things.

Kianna Scott: [INAUDIBLE] bring it back online. [INAUDIBLE]

John Harriel: Yes. Yes. And there are two different modalities to where they're distinctly different. Just so you understand that.

Richard Ezike: Gotcha, gotcha. Thank you, John. Thank you, John. And so we conclude our webinar today. If you did have any questions, or didn't get your question answered, please go to our contact page on driveelectric.gov.

I encourage you all to sign up for our newsletter, driveelectric.gov/subscribe. And as I mentioned, we will post our webinars on driveelectric.gov. So with that, thank you for your time. Hope you really got a lot from our wonderful panel, and they shared some really great insights, and their space.

And as Gabe, our executive director, mentioned, [INAUDIBLE] really being up the next generation workforce to—build our clean transportation future is very key. And we at the Joint Office are just one of a number of partners and entities that

are going to help support this. So with that, thank you for your time. And I wish everybody a wonderful day. Take care.

Bernie Kotlier: Thank you, Richard.

Audience: Thank you, Richard.

Gabriel Klein: Thanks, everyone.