VELOZ WEBINAR

Apartments and Condos: Creating Accessible Charging

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WEBINAR SPEAKERS

- Hannon Rasool, Deputy Director of Fuels and Transportation Division, California Energy Commission
- Naveed Ahmad, Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison
- John Schott, Director, Public Private Partnerships, ChargePoint
- Whit Jamieson, Program Manager, Forth
- Moderated by Munni Krishna, Strategic Partnerships Director, Veloz

WEBINAR TRANSCRIPT

Munni Krishna, Strategic Partnership Director, Veloz

Hello everyone. And welcome to today's Veloz webinar, Apartments and Condos: Creating Accessible Charging. My name is Munni Krishna, and I am Veloz's Strategic Partnership Director and your moderator for today's session. If you're on today's webinar, you're more than likely an advocate for transportation electrification. But as our Executive Director, Josh Boone, said in this month's Ride to drive Zero blog. If we are going to achieve our transportation electrification goals and bring the benefits of pollution-free, gas-free car ownership to more people, we need to find more ways to plug in at townhouses, apartments, and condos — also known in our industry as multifamily or multiunit dwellings, or even MUDs. To help uncover the challenges and provide solutions to these barriers, today we've assembled a group of industry experts to discuss charging at MUDs. We're going to delve into the concrete problems, both literal and metaphorical regarding the coordination needed to bring equitable, convenient, and cost-effective charging to multifamily dwellings.

I want to take a second to point you to a fact sheet about this topic that was sent with the last Veloz newsletter. And we just put in the chat to everyone here. This document is background around today's topic to help explain some of the discussion. Before we jump into today's panel discussion, allow me to tell you a little bit about Veloz. Veloz believes that the future is electric for all — all vehicles are electric, all people, corporations, and agencies who want or need a car or truck can and do choose electric, and all energy that powers these vehicles is carbon free. Veloz is led by a high powered diverse and well network group of action leaders from key sectors and Fortune 500 companies, public agencies, and non-profits alike, uniquely able to accelerate the

shift to electric vehicles. There is no other organization like it, and we don't want you to miss out. We invite you to explore membership on the join us page at veloz.org.
I also want to point everyone to the latest EV Market Report on veloz.org, presented in collaboration with the California Energy Commission and the California Air Resources Board. As many of you know, we recently hit 1 million EVs sold here in California, a huge milestone for our industry. Sign up for our newsletters on veloz.org to receive this information quarterly.

I am thrilled to introduce our speakers. Joining us today we have Hannon Rasool, Deputy Director of Fuels and Transportation Division at the California Energy Commission. John Schott, Director of Public Private Partnerships at ChargePoint. Naveed Ahmad, Senior Advisor, e-Mobility Business Development and Partnerships at Southern California Edison. And Whit Jamieson, a Program Manager at Forth. Let's jump into it. Before, our panel discussion we have two spotlight speakers this morning. To kick us off today we are thrilled to have Naveed Ahmad from Southern California Edison to start, please join me in welcoming Naveed.

Naveed Ahmad, Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison

Good morning, everyone. I first want to just say thank you to Veloz for having me on behalf of Southern California Edison, excited to be kicking it off today, so let's get right into it. First, just if any of you are not familiar with what Southern California Edison is, we're a 135-year-old investor-owned utility, meaning we're a private company owned by shareholders and investors, but also regulated by the CPUC and FERC, so we service 5 million customer accounts across 50,000 square miles, that comprises 185 cities, 15 different counties, 13 native American tribal nations. One fact I like to share is that our profits are not tied to the amount of electricity we deliver and more than 80% of our electricity is actually delivered to SCE customers from independent power producers. So, SCE has a long history of supporting transportation electrification.

Today, I really want to focus on our Charge Ready program, which launched last summer, as you can see below, we've got a whole suite of options that range from medium and heavy duty to actual EV purchase incentives. Today, I'm really going to focus on our Charge Ready program and dive even deeper into our multifamily options, so just to kind of summarize at a high, high level, right. I think as Munni talked about at the onset is that all of you are probably big advocates for EV charging and are trying to figure out how to get it into a multifamily property. And simply put we at SCE feel the true value of our Charge Ready program is this you're getting experienced insight, technical planning, technical execution, and ultimately funding to install EV charging on your property. We feel like we're the best choice in our market to get a customer's EV charging stations installed safely, accurately, and efficiently.
I want to talk about how specifically our program is an advantage for a multifamily property. First, our program covers most, if not all necessary costs that come with installing EV charging. Most of the time with a multifamily property, we're going to have to take a look at your parking structure, understand where the EV chargers are going to go, and ultimately make sure that the

electric infrastructure on the back end is adequate in order to support those stations. Upgrading electric infrastructure can cost hundreds of thousands of dollars, if not more. And we've got you covered if you applied to Charge Ready. Second, as I mentioned before, we've been doing this for a while in the last six years alone, we've successfully installed 2,500 plus charging ports in our territory on 140 different property sites. And we're talking about commercial properties, government properties, and obviously multifamily properties, which we're particularly interested in.

The main point that I'm trying to get across is that we have the experience and expertise to get EV charging installed, and we really want to help our multifamily customers go from that early-stage idea phase to actual installation, where your stations are installed and energized. And finally, we believe that installing EV charging is going to increase the long term of the value of these multifamily properties. There are many studies out there that validate this long-term value, but one that we like is a realtor.com study that showed that Metro areas with the most EV charging stations had home listing prices one and a half times higher than surrounding zip codes. And 2.6 times higher than the rest of the country. I think we all know we're in a challenging economic environment, it's also very competitive in California and we feel that we are here to give multifamily properties that Charge Ready advantage.

I want to break it down a little further and really make it tangible, right? And I'm going to share a hypothetical, which frankly, this hypothetical comes to me every week, basically. A condo complex is going to come to us, whether it's someone on their HOA board or an owner, and they're going to say, hey, I want to install 10 EV charging ports in my underground parking garage. I know my transformer is maxed out, I don't really know much more beyond that, and I'm not even sure which EV charging station company to pick. These are the type of concerns that we hear all the time and my role and my team's role, and our program is designed to one, make you feel comfortable and be clear about what you're getting into as you start the process and ultimately solve all your concerns with both financial support, but also that guided expertise.

Ultimately, my job is to help folks apply for our program and if the application is accepted that transformer and panel is going to get up upgraded. You're going to get a list of approved EV charging station products, so you have a curated list from which to choose from. And ultimately, you have real people to talk to from start to finish. Folks in multifamily space, they have a lot of hats that they wear and being able to understand the nuances of EV charging installation is not necessarily one of them. And that's why we're here to help you get to the finish line.

Moving from a hypothetical example, to a real example, I want to share one of our customers, Surfside Condominiums in Port, and I always get this wrong so I apologize, Hueneme, so this complex was built in the 1970s and the HOA approached us to get stations installed in 2019, when we were in the pilot phase of our Charge Ready program, prior to the stations getting installed, there were only two EVs on the complex, but kudos to their HOA board and particularly Robert, the VP who had the vision, after they went through the process to get all the stations installed.

They as of February of this year, they went from two EVs to 18 EVs, so love this example, because it really shows how it brought net new EVs to their community. And also love this quote from Robert, "Charge Ready was key to making it possible to install the chargers. Without the program, the association wouldn't have been able to justify the expenditure."

We understand that we're all under economic constraints and our program is designed to help meet those constraints, so love to finish with just giving folks some options, if you are in our territory, I definitely want to hear from you, right? In the immediate term, we're available to execute a presentation like this for your larger organization, HOA, whatever. In addition, we can provide a real curated list of next steps and resources to help you navigate how to move forward. In the medium term, we have something called an EV Readiness Study as well, so sometimes folks and I'm actually going to quickly go to this, so just so you know what an EV Readiness Study it's at no cost, as long as you're a customer in our territory and you meet certain requirements, but ultimately, we're trying to help our multifamily customers determine the feasibility of electrifying their property, right?

Once you apply, once again, no cost, you'll get a consultation call with an advisor. You're going to ultimately get a printout, a high-level study and different recommendations and resources to kind of help you move forward, so this is if you're not quite ready to apply. But the last thing I'll just end with, I'm going to drop this in the chat. I definitely encourage, especially if you're in our territory to please fill this out the... Oh, okay. Let me make sure. I'm going to stop sharing my screen here, but I want to just make sure to drop this next step interest, so as I end my time here, please fill this out. It'll allow us to continue the conversation one on one and ultimately help you move forward and install EV charging on your property. And with that, I will yield my time. And thank you Veloz and Munni again for allowing me to be here.

Munni Krishna, Strategic Partnership Director, Veloz

Thank you so much Naveed. We know here in California, that utilities are at the front line of MUD charging, and it's especially exciting to hear about a legacy build that was successful in getting charging. Next up, we've got Whit Jamieson from Forth to talk a little bit about a DOE project that they've been up to. Welcome Whit.

Whit Jamieson, Program Manager, Forth

Thank you. Let me get my slides up, there we go. Thank you Veloz for inviting both inviting me and I'm kind of representing two parties. Forth, obviously we do a lot of work in the transportation electrification sphere, but also a DOE project that I'm on called VCI-MUD, a vehicle charging innovations at multiunit dwellings. And that project is obviously around the technological barriers to charging EV at MUDs, so I just wanted to start with some basic simple, where we're at, and this is a little bit outdated Q1 of 2021. But as you can see, we're starting to hit the sharp pointy end of the hockey stick curve, so we should expect adoption to really increase over the next couple of

years. And California is a perfect example of how we're going to grow in the entire United States. Should also mention Forth is a nonprofit based out of Portland, Oregon, so your Northern neighbors.

Just some background, I'm sure most of you are very familiar with networked Level-2 chargers, but I think it's a good place to start just to make sure everybody is knowledgeable on what are some of these chargers and then what can they do? I have a list of features down on the bottom, which we can discuss how some of those breakdown barriers during the Q&A but wanted to mention these are the common chargers you're going to see out and about. We're able to facilitate billing and access control and what makes that possible really is them being networked, so having a connection to the internet. There we go. Charging at home is really valuable to residents. Obviously, if anybody here has an EV, I'm sure many of you do you can just plug in at a garage if you're not in a multifamily home and you probably have a garage. Pull in, plug in, it takes about 10 seconds, maybe less, and you don't really have to think about it.

As one of my colleagues while ago said, what makes EV charging so amazing is you can be so lazy on charging because it takes so little time and you don't really have to think about it because so long as the electricity is there, you're good. Making sure that also is a reality or possibility in a multifamily home or a multiunit dwelling is really critical to allowing for everybody to access EV charging and transportation electrification. Also, important to recognize this was one of the sites that we received data from for the VCI-MUD project. Units were going for price premium at a condominium. Sorry. This is a lot of words, way more words than I try to generally allow for a slide, but this kind of breaks down different barriers that MUDs were seeing. And obviously each one of these barriers is very complex. I think you could probably write an entire paper on each one of these that'd be many pages long, but we tried to blow that down to five to 10 words.

There are areas that we miss, but I think this sums up the barriers pretty well, the VCI-MUD project really focused on the technological barriers, which are really more along the lines of space limitation, electrical related and usage. Of course, they all interact, especially with HOA related barriers were actually considered the most common for most people. Some of the technological solutions from an overview, there's a bunch of different solutions, but they kind of all fall into different buckets, so shared charging stations obviously are the most common, especially in places where you are limited both on parking availability and electrical capacity, so you don't have the electrical capacity to provide every parking spot with a charger. And that probably wouldn't make sense anyway, whereas dedicated charging stations are more regular when you're looking at a deeded parking spot, which is more common in a condominium kind of situation.

And then of course you have off-site charging, which needs to generally be independently funded, but that can also provide a really great opportunity for EV drivers at multifamily homes. A little bit more detail on the shared charging situation, shared charging usually requires some parking spots, those usually come from unreserved parking spots or guest parking spots, so that you're not removing any parking spots from residents. Some details on how those shared charging situations

work, it's really important to recognize that idle fees or overstay fees can really incentivize turnover. And that notification systems can kind of allow for the program to not impact people in an unfair kind of way. Because if you've got a large or idle fee, then that can really impact people. If they don't know that they're going to get hit by a five to $10 idle fee. In one of the sites that we actually had, they had a 20 to $25 idle fee.

And during the performance period that we received data from, nobody got hit with that because everybody knew it was going to happen, so they moved their car before that happened. Just one more thing it's really important to recognize that shared charging allows for access to a greater amount of people than a dedicated situation. But dedicated is easier for the individual EV driver. A little bit more on dedicated charging as this is kind of what everybody at a single-family home or with a personal garage is going to be able to deal with or is going to have, so this certainly it costs more, especially more in a multifamily home and considering how you pay for all the communal costs, potentially a service upgrade or a panel upgrade. It's important to recognize that there's a lot of costs that need to be allocated and carefully considered, especially from the HOA perspective, which is one that deals with dedicated charging more often.

And I wanted to mention load management benefits, the benefits scale with the more chargers that you install and that's especially important when you get to some of these larger condominiums or larger apartment complexes where you've got hundreds of vehicles, that's a lot of power. Especially if you're in a dedicated kind of situation, load management is really critical to preventing you from having to increase service, impacting the grid, et cetera. Something I think is really important for everybody to know when you're talking about EV charging at multifamily homes, multiunit dwellings is that everyone's a little different, every site's a little different, there's often similarities and commonalities, but they all kind of share these same four things that are or these three right here. Allocating installation costs appropriately is really critical.

Considering parking electrical situation early is also quite critical. Especially, if you think you're going to potentially need a service upgrade, you want to take that your utility, as Naveed said, as early as you can. And if the utility doesn't have a multifamily home program, making sure that, that is a priority is a good step in the right direction. California obviously is kind of a little bit ahead from the rest of the US, but we're catching up slowly. And lastly, I want to emphasize not skipping over stakeholder engagement from the decision maker point of view, but also from a programmatic point of view, not skipping over stakeholder engagement, including all voices and going after voices that have usually been ignored as part of these programs in the past. Also want to mention offsite solutions, we had some data come in from a DC fast charging hub in Maryland, and the results were decently, what's the word.

They indicated pretty strongly that if there is a DC charging hub nearby to multifamily homes, they will be used. It's important to recognize that cost is also going to factor into that, so if you have home charging, but it's really expensive, you're probably going to find somewhere else nearby. And there's a lot more resources, the website that the program is putting out, center for

sustainable energy is creating right now will be out in July. And they'll have a lot of details on all different sorts of EV charging at multifamily homes and how to do it, and different tracks that'll break it down by, hey, you're a resident, here's what you can do. You're your decision maker for an HOA or apartment building management organization, here's kind of a step-by-step process for you to identify what needs to happen in order to get EV charging. All right. Thank you very much. I'll pass it back to you, Munni.

Munni Krishna, Strategic Partnership Director, Veloz

Whit, thank you so much. It was really great to get an overview before we jump into the panel. And speaking of the panel, I'm going to invite everyone to come back on camera. And now me and the audience are going to pepper you all with questions. All righty, so Hannon, I'm going to pick on you first. From the CEC's perspective, do you think about funding existing multifamily and new build construction differently? And how do you think about the funding that's coming in for charging overall and how that gets put into multifamily charging?

Hannon Rasool, Deputy Director of Fuels and Transportation Division, California Energy Commission

Yeah, that's a really great question. And we do think about the existing stock slightly different than the upcoming stock. I mean, one thing that's really important and was already mentioned here today is that the existing stock is quite diverse and quite different, but it's also an area we don't want to give up on. I mean, the reality is that at home charging, be it single family home or a multifamily home, is more convenient for the driver, it's often cheaper for the driver, and it's actually better for the grid as well. Because it's often Level-2 charging, often managed or networked charging. And so, there's so many benefits to it that it's area we need to focus on. But again, what's really important to keep in mind here is there is no one solution for everyone, right? There's going to be some Level-2 that we can do.

It's definitely the preferred approach, especially networked. In some cases, Level-1 is actually sufficient. I kind of joke with some folks that sometimes all people need is a plug, right? If not the most elegant solution, but in some instances that's what someone will need. And then in other instances, we need to look at DC fast chargers, which are closed by MUDs as well. And so, we do a lot of this analysis to see what the right approach is. And we do a lot of incentive funding as well. We recently had solicitation that we released late last year and scored earlier this year and we had a diversity of applicants and different solutions as well, so we're real excited to watch that play out.

Munni Krishna, Strategic Partnership Director, Veloz

Fascinating. Naveed kind of the same question for you. When you're working on your program, what differences do you see between existing multifamily and new build construction that are best practices? How do you interact with these folks differently?

Naveed Ahmad Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison

Yeah, great question. It's important to know first that Charge Ready is for Level-2 and Level-1 chargers only, at this point. We are entrusted with rolling out options for DCFC, but that program hasn't rolled out yet. Now when you're looking at build properties versus new construction, so the key is the certificate of occupancy, so I think a lot of people on this call may be well aware of CALGreen code, which requires that 10% of all parking spaces for any property, whether multifamily, commercial, government is EV capable. Meaning the building has capacity as well as the conduit and wiring. And I'm a non-technical person, so that's about as technical as I get, so just FYI. But really what our new construction rebate program is designed to do is to nudge a developer to go ahead and install the EV charging station.

Remember to comply with CALGreen code, you don't have to install a single EV charger. What we're trying to do, particularly as the property is in development is they're already paying to meet the requirements of this code. Conduit a lot of times is often the most expensive, so what we're trying to do with the new construction rebate is to nudge that developer, that decision maker to go ahead and install the EV charger, so when the property is live and ready to take folks in, it's got the stations installed and operational. How do we incentivize, so when we wrote the program in 2018, the median price of a Level-2 charger was $2,900, so the new construction rebate is designed, every port gets obviously assuming you meet all our requirements and the station is installed and energized the customer will get a $3,500 per port, so it's designed to cover not only the cost of the station itself, but any installation or incremental installation costs that would come with it.

Compare that to the other option for the built properties, certificate of occupancy pre-January 1st, 2017, that's going to require infrastructure upgrades, and all of those are covered by SCE, assuming the customer meets the requirements. The point that I want to make is that in addition to those infrastructure upgrades, the customer still gets a $1450 per port rebate, so they get half of that $2,900 median price. And some folks are like, well, why don't we get $3,500? It's like because you're also getting all the infrastructure upgrades at no cost, right? And remember we want our customers to own and operate the stations. We're not in the business of setting the... We do have, own and operate. It's very small sliver, 2,500 of the 30 to 40,000, right?

And that own and operate is only available for multifamily customers and disadvantaged communities. In the vast other majority of the times, the customer's going to own and operate the station, we want them to set the price, we want them to kind of dictate how it works. We're not in the business of micromanaging that part, our job is to get the stations installed safely and

efficiently and make sure that all your questions are met up until installation and after as well, but really on the infrastructure side.

Munni Krishna, Strategic Partnership Director, Veloz

Thanks Naveed, that's great. John, we've talked a lot about infrastructure and putting things in the ground, but software has a huge part to play in this as well. In ChargePoint's experience, what part of your software suite has been the most valuable for existing multifamily, and is it different for new construction or do you see it the same?

John Schott, Director, Public Private Partnerships, ChargePoint

Yeah. Thanks for the question, Munni. Great question and great to hear both Hannon and Whit touch on the importance of network charging in multifamily properties. We see some grant and utility programs in various aspects of the country, for some reason require network charging for various verticals, whether it be workplace or DC fast charging, and sometimes for multifamily they say that they don't need to be networked. We think that's a huge miss and network charging is critical specifically for multifamily properties. Part of the software solution that ChargePoint and others provide that I think is critical to both existing and new construction multifamily properties is the ability to power manage, so for example, on a single 40-amp circuit, you can oversubscribe that circuit and install four Level-2 ports, so if there are four vehicles charging at a single time, you can manage that power down to lower levels.

If everyone's charging at the same time, or if there's just one or two vehicles charging, they can get more power. Similarly on a 200-amp panel, the ChargePoint solution actually allows you to install up to 20 Level-2 ports and power manage that. Again, if you had 20 vehicles all charging at the same time, each vehicle could get an equal amount of power, just over two kilowatts. But if there are just a few vehicles charging, they can get the full power of what the charger is able to provide, so I think a similar solution that can address both an existing and multifamily, and just again, want to emphasize the importance of making sure that it's a networked solution, not just in multifamily properties, but in all various use cases for EV charging.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Thanks, John. All right, we've touched on this a little bit. Each of you brought it up in your own way, but let's dig into the topic. There is a huge debate in our industry with consumers, with the HOAs, and everyone, should it be Level-1, should it be Level-2, should it be DC, should it be DC fast charging plazas that are in proximity to multifamily dwellings? Hannon starting with you, what is the CEC's opinion if there is one, are you technology neutral? Where are you going to put your funding?

Hannon Rasool, Deputy Director of Fuels and Transportation Division, California Energy Commission

Yeah, and I have to smile a little bit because I'm watching the chat as well. And certainly, an interesting conversation on people's opinions. I think we have to recognize we are still in early days, right. We are seeing great uptick in EV adoption and infrastructure, and that is amazing. Like I'm really happy with where we are as an industry, but we have a long way to go and we're still learning as well, so I don't know that anyone has a perfect solution, right? I mean the way we think about it and our recent solicitation we did late last year. As we open it up, we want innovation to come forward, right? And so, we're going to provide incentives, we're going to do some grant funding. We typically don't pay for the entire installation. We want people coming forward with their skin in the game.

They believe in what they're doing. And some of those folks are saying like, look, Level-1 is the right way to do it, others it's Level-2, others Level-2 and networked, others it's DCSC. I do not think there's a silver bullet here. And so, we just need to be really mindful of one solution is not going to work for everything. I think it was Whit that showed that slide with that really neat looking MUD building on a corner lot. And the way we think about this, right, is there are MUDs that are high rises downtown with underground parking garages, there's other ones near the coast that are fourplexes, there are others that are inland and have different dynamics. And so as much as we really encourage Level-2 and networked, because we see so much value there.
We don't want to preclude other options. And so that's part of the process we do when we do solicitations. And we're very committed to continuing down that road and doing a lot of deep analysis to see what's working and what maybe we need to put by the wayside a little bit.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Whit, actually. Whit you, I was literally coming to you next. I'm not even going to ask you the question, go for it.

Whit Jamieson, Program Manager, Forth

I wanted to add something in that the Level-1, Level-2, DC charging debate, again, reiterating different charging solutions are going to work for different locations, but also recognizing that as the vehicles become larger, have larger battery packs, can charge at faster rates. We need to recognize that Level-1 is going to work for less and less of those people with larger vehicles, especially trucks. While the Level-1 is going to work for people that have a short commute or only drive their car once every two or three days, the Level-1 is probably not going to work for most people with trucks, unless they also have DC chargers nearby or charging at their workplaces, so we have to recognize that Level-1 has its place. And I think that is certainly part of the discussion, but it also needs to be reconciled with the fact that most people want to be able to just plug in and not worry about it.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Naveed, let's go back to infrastructure and the copper in the ground for a little while. In your experience with these projects, have you learned any best practices in terms of how to bring down the cost of retrofits? Anything that you've learned that you can share with potential HOAs on the webinar today?

Naveed Ahmad Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison

Yeah. I'm like furiously trying to answer everyone's questions that I can [inaudible 00:35:17] and definitely-

Munni Krishna, Strategic Partnership Director, Veloz

We have an active chat today.

Naveed Ahmad, Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison

Yes, very active. This is like the easiest question I've ever gotten in my life. Just come through Charge Ready. I mean, as I mentioned, even installing, so the minimum is four ports to apply for our program, and even that process can result in hundreds of thousands of dollars for a multifamily property, if the program didn't exist, to upgrade their infrastructure. Assuming you meet our requirements, you're getting that infrastructure upgraded at no cost, right? We're dead focused on getting 30 to 40,000 of these installed over the next three plus years through the life of this program. And what I remind people is that let's just put aside the business case and solving EV chargers and how it increases the value of your property and just focus on risk mitigation and future proofing your property, right.

I can't predict the future, but I imagine that the CalGreen code is getting more stringent effective January 1st, 2023. And we might see further strict legislation coming from California, so there might come a point where you might have to do this and then the program doesn't exist anymore, right? The point I'm trying to make is that this program, we did a pilot, we did a bridge, we got approval from the CPUC every step of the way, now we're here at Charge Ready 2, you saw the vast range of programs, obviously I'm biased. But what I'm trying to say is that now is the time to take advantage. If you're a multifamily owner or HOA person in our territory, at the very least you should be doing your due diligence for your property on if EV charging makes sense. And my role is to, it's kind of like applying to college, like I'm your advisor. I can't guarantee that you're going to get approved.

Because as soon as the application is submitted, it goes to much smarter people to evaluate. But what I can do is answer all your questions, position you as best as I know, and ultimately help you get accepted, and ultimately get to the point where you'll get your stations installed and energized. The demand is so high for our program right now that from the moment your application is submitted, if everything goes perfectly, if there's retrofits involved, meaning we have to go in, it's going to be 14 months to get the stations installed and energized. That's the day you submit, assuming you get accepted, assuming everything goes right, then your stations are installed and energized and any rebate check is sent after, so 14 months is a long time, right? Once again, I encourage everybody if you're worried about cost and you're in our territory, but you think EV charging makes sense, engage us, talk with us. Every property has unique circumstances, but we're here to help you understand and get that cost down as much as we can give the program traits that we have.

Munni Krishna, Strategic Partnership Director, Veloz

John, we know that putting stuff in the ground costs money, and we also know that charging costs money, electricity costs money. There is a way to make some money back on what you charge. Talk to us a little bit about how software can help with the ROI for HOA owners on making some of that back and getting their costs covered? Not saying that it's the only way to put chargers in, but tell us a little bit about that?

John Schott, Director, Public Private Partnerships, ChargePoint

Yeah, sure. Thanks for the question. Yeah, again, software being such a critical component and particularly in multifamily, we have a flexible solution that enables property managers or property owners to either have the tenants build directly or to cover those costs on their behalf, and then to kind of figure that all out on the back end. Again, having that flexible solution and we have a solution particularly where each port, the driver pays a $20 a month fee for that connectivity and all the services that come along with the network, including a full coverage, our assure program, providing that maintenance and any needed repairs for that. Yeah, that's how software can be kind of utilized to help keep those costs low and giving those flexible options that work for the specific property.

Munni Krishna, Strategic Partnership Director, Veloz

Great. I've got two more questions for you folks before we go into the audience Q&A. Whit the first one is for you. In your research, what were the main benefits to multifamily dwelling owners or HOAs to install EV chargers? What really moved the needle?

Whit Jamieson, Program Manager, Forth

Yeah, so it obviously depends on whether you're talking about the average resident or tenant versus the decision makers say for an HOA or property management. Property management sees it as an opportunity to keep tenants for a longer time, to track new tenants, and to offer an amenity that just other locations don't, so that's kind of a competitive advantage, whereas HOA decision makers often see it as again, a tool to attract new residents, homeowners, also increase the value of the units for current homeowners. It's also something that just residents want, they want to go electric and be able to charge at home, so it depends on each individual segment, but yeah, I think that answers that.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Hannon, one of the things that we haven't touched on today is equity and charging. And we know that in priority communities in California, even in talking about software solutions, sometimes telecommunications are not even available the way that it is in urban centers. Is the CEC going to be funding multifamily dwelling installations and charging with the same focus on priority communities as you do the rest of your charging programs?

Hannon Rasool, Deputy Director of Fuels and Transportation Division, California Energy Commission

Oh yeah, absolutely. A lot of what we do is equity focused. And so just off the bat portfolio wide, our goal is 50% of our investments towards low-income communities and disadvantaged communities. And we increase that for certain solicitations as well. And so, I know we're not here to talk about medium duty, heavy duty trucks and buses, but for that portfolio 50% is the floor. And so, across the board, we're looking very heavily at equity. We definitely think the role of the public dollar is not only to accelerate the market in general, but also to address gaps that the private market may not otherwise address. And that includes rural communities, MUDs, low-income communities. And so that is very much a focus of what we do. In fact, in the governor's proposal that is still pending before the legislature on the budget. That is very much an equity focused proposal, both on the vehicle incentive from the Air Resources Board, the infrastructure incentives from the Energy Commission, more and more we're focusing on the equity component of this because we know it's the right thing to do.

And we know that, that is our role to help encourage that. And you know, frankly sometimes it costs a little bit more. We're really mindful of when we design our solicitations, that there's not one price point that works across the board, right? Like even among Level-2, a Level-2 at a MUD may require more public investment than a Level-2 at a single-family home, or a Level-2 in a public setting, or a workplace. And so, we really think through all of this when we design our solicitations. But again, these are often not just ambitious targets for us they're requirements. We'll say at least 50% of the funding must go towards A, B, or C. And so, we're very mindful of it even from the design phase of our solicitations.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Okay, before we go into audience questions, something that we've been seeing in the chat a little bit is a question about everybody, all utilities, and their various programs, so if you are from another IOU or a municipality here in California, and you've got an MUD program, please throw that in the chat. Otherwise, at Veloz we'll follow up with everyone with other programs. Okay, so folks, I'm not sure who can answer this, but a question that we've been getting from the audience over and over is they're really confused. How do you look for an installer? What resources do you use to find someone that can install an EV charging station at a multifamily dwelling? And anyone can take that.

Naveed Ahmad Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison

I can jump in here, so at SCE, and I know we've talked about the concept of a networked charger, right? Ensuring that the station has cellular connection. I was just typing this answer as well. One of the questions was, hey, Charge Ready, what's the program requirement in terms of years? The requirement for Charge Ready is you agree to have the stations operational for 10 years. Part of our way of checking that is the station being there is it's required to be networked, it sends data back to our team monthly, right? And that's our way to make sure that the station isn't down, we don't want stranded assets, right? We're using rate payer funds to help stand up this program. We're putting a lot of time and energy to get these installed. We want to make sure that the stations are operational as much as we can.

To the question of, okay, how do I pick? In order for any station to be installed through our Charge Ready program, we have what's called an approved product list. Once again, a lot of requirements. I know for example, ChargePoint is on our list with a bunch of their different products, so what we can do is we share that list. We are required to be agnostic, so I'm not going to be like, I like this one the best. That being said, we share the list. And what I always encourage folks to do is to do their homework, right? Mention to you, it's a 14-month process to get these installed. When a customer applies, we want them to start reaching out to EV charging companies. We have a list, ask questions, understand what you're getting into. A lot of these companies will maybe give you a discount on the unit price, right?

But then they have network fees on the back end, right? That concept of sending the data. And once again, I'm here to help customers as much as I can, ask those questions and understand, but ultimately, it's the owner's responsibility because they're going to own and operate the stations, right? Our job is to make sure that the stations get installed and that infrastructure is working. The owner's job is this is their asset, they're paying for it, they need to understand what they're getting into. And we will do everything we can to educate you as much as we can. In addition to the approved product list, we have what's called registered trade professionals, so registered trade professionals have to go through a certification with us. Same thing, we have to be agnostic. I

think somebody in the chat, Jackie, I know Jackie pretty well, so hi, Jackie. Qmerit is one of the ones, again, I'm just citing what I see in the chat.

I'm not, so Qmerit is on our list, they're an approved installer, same thing, right? We encourage customers if they want that help to have somebody walk through the process. We want them to look at the list, reach out to vendors, understand, okay, what is going to come with bringing them on? And ultimately these vendors know how to ultimately get to the finish line where the stations are installed and operational. The other thing is that a lot of EV charging station companies are also trade professionals, right? They can install as well and be a trade professional as well. I know that's a long-winded answer, but hopefully that helps answer the question.

Manni Krishna, Strategic Partnership Director, Veloz

That was fantastic, Naveed. In continuing with the topic of equity, one of the key components of multifamily dwellings is that people that live in them should not have to be charged more than those that live in single family homes. And this is a bit of an esoteric question, but how can we educate landlords and HOAs to ensure that they're charging fair rates to their residents? And again, anyone can take this.

Whit Jamieson, Program Manager, Forth

That's a pretty tricky question. There's a lot of different angles to take this from, but it's really hard to educate all of the HOAs and all of the property management groups out there. It's also important to recognize that a lot of those managers, what's the word, property managers, they need to make sure that amenity is not costing them a lot of extra money. I think, the place to start is having utilities that are capable of talking to that specific point, potentially even legislation. I know that's kind of a heavy-handed approach to it, but you do often see some really high prices per kilowatt hour or per time when it comes to network chargers in multifamily homes. And it's tricky because the incentives are clearly not matching the needs. And it's tricky because there's a lot of different incentives, sorry, different incentives for different organizations to reduce costs and not reduce costs in order to make sure that the amenity is not a drain on the property management, their financials, or else they're less likely to install charging at future locations.

That said, I think in a lot of areas, you're seeing utilities approach to installing these chargers or providing incentives to install these chargers in different new innovative manners, including even on bill financing. That's generally more for single family homes, but I think a few have played around with it for even commercial locations. I do think there's a lot of work to be done here, especially because the difference between, I guess I'm not as familiar with California's electricity rates, but in Oregon the difference between commercial location and a residential, a single-family location could be two, to three, maybe four, or even five times. If people at residential level are paying eight to 10 cents per kilowatt hour, you really could be seeing 30 to 50 cents in some

locations, if there's no knowledge of how these different rates will affect the people actually charging.

John Schott, Director, Public Private Partnerships, ChargePoint

I can piggyback just on that question. As Whit said it's a tough question. I think we certainly don't have it figured out. And I did see someone's kind of chat in the comment. It seems like we've been talking for many, many years now that we don't quite have this figured out yet, but I think it just really speaks to the challenge of EV charging in multifamily properties. But one thing that we're looking forward to doing, Hannon talked about the recent California Energy Commission grant funding opportunity REACH, reliable equitable access for charging at multifamily properties. At ChargePoint, what was awarded a little over $4 million, and we're excited to explore some new concepts through that. One thing that, back to the question I would encourage is utilizing programs like those, like the programs at the Energy Commission with other state agencies and the programs that Naveed has been talking about through the utilities to cover as much of those upfront capital expenditures as possible, so that those costs don't need to be passed through or to be recouped through the drivers at the multifamily properties that are getting the benefit of access to EV charging.

One thing that we look forward to exploring with the Energy Commission is using those funds to, again, cover those significant upfront capital investments, making sure we get a new dedicated service, getting that property enrolled in the EV rate, and hopefully working with some nonprofit partners for education, outreach and awareness, to try to minimize those costs that are passed through to drivers, so they hopefully are just reflective of the energy cost and not having to cover all that significant capital upfront expenditure.

Munni Krishna, Strategic Partnership Director, Veloz

Great, thanks guys. As our final question for today's webinar, we have one question for you that we want to hear a different answer from each of your individual perspective, public sector, private sector, IOU, and Forth. Our goal to sell a hundred percent of EVs in 2035 is not that far away. We know the biggest benefit of driving an EV is your ability to charge at home. We've been talking about that all morning. What would be your top policy priority that you think can get MUD chargers installed faster? And I'm going to start with you, Hannon.

Hannon Rasool, Deputy Director of Fuels and Transportation Division, California Energy Commission

I'll tackle I think two priorities, right? Two would be continuing to invest in existing stock. Again, we know they're diverse, they're different, they're a large challenge, but we cannot ignore that because we want the same equitable access for those who live in apartments and condos as elsewhere. And the other is something we've already done but need to continue to do is to be

really mindful of policy going forward and how we're treating the new stock, because we don't want to perpetuate the problem that we see today with what's being built. It's really a multi-pronged approach, but one that I think it's solvable, but it's not easy. I mean, that's why we have these conversations, and we have a large stakeholder process, and we make these public investments. These are not easy. We're changing an entire industry. We're changing the way people think about transportation and it's a worthy cause and we're going to stick with it, but I'll say folks should remain patient, keep bringing their ideas forward, and understand there's probably not one silver bullet, but we're real excited to keep working on this problem.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Naveed, let's go to you next.

Naveed Ahmad Senior Advisor, e-Mobility Business Development and Partnerships, Southern California Edison

Yeah. I think my perspective on this is, I'm very focused on bringing in applications through our Charge Ready program, so from my personal perspective, I think that it's smart to sequentially raise the stakes for lack of a better way of putting it that we're seeing with CALGreen code. I can't say I'm knowledgeable enough to say if there should be any drastic change. I do think that the fact that CALGreen code, since January 1st, 2017, has incrementally gotten more stringent is a good thing, right? That to me makes sense. I would also say that certain cities go above and beyond, so I see a lot of comments about how it is not possible for multifamily properties to afford chargers. I've seen that comment a number of times, and frankly, I disagree with that.

Like I said, the median price for a Level-2 charger is $2,900. And particularly if they go through a program like Charge Ready, right? There are a lot of options. I do think it's complicated and I understand that it can be overwhelming. And the only reason I know as much as I do is because it's my job, but I definitely encourage HOA members, residents, some of you have already reached out to me via the interest form, so thank you. Start the conversation now, right? Do your due diligence. It is an asset that you're buying, so it can be overwhelming. But I do think that there are a lot of resources in place to make it feasible for really any property. I mentioned this in the chat as well, is that 50% of the 30 to 40,000 chargers were ordered by the CPC for them to be in disadvantaged communities, right.

We are, and we continue, I think it was in my deck, but when we did the pilot program... Yeah, when we did the pilot program, we were only required to do 10% in disadvantaged communities and we hit 48%, right. Part of why we jumped the stakes for this Charge Ready program that launched last summer is because we far exceeded. Once again, the point I'm making is that astringents are going to get more, probably going to get higher over time from in the state of California. Now is the time to do your due diligence. I think it is possible for pretty much any property. I mean, we've had applicants from affordable housing, low income, they're part of the

equation, it really is. I don't think people should think that they are excluded from taking advantage.

Munni Krishna, Strategic Partnership Director, Veloz

Great. Whit, you're up next. And we're just about at time, so I'm going to give you 30 seconds to respond.

Whit Jamieson, Program Manager, Forth

Perfect. I think both what Naveed and Hannon said is really, really accurate. What I would add is utilities stepping up and not just in California, but all over the US. Utility stepping up and also PUCs, or UTCs, or whatever they are call it in your state, really pushing utilities to create programs that match the costs. And you'll see significant uptick there.

Munni Krishna, Strategic Partnership Director, Veloz

And last, but certainly not least, John.

John Schott, Director, Public Private Partnerships, ChargePoint

Thanks. Yeah, I think about this kind of in the same way that Hannon was laying it out, in terms of a multi-pronged approach. I think definitely focusing on the building stock that's being designed and built today, making sure that we have the right policies in place, building codes that require new garages to be charging ready, right to charge laws, to give tenants the right to install EV charging, and definitely streamline permitting processes. I don't think anyone's mentioned that, but that can be a significant barrier to cost effective and efficient deployments. And then on the existing building stock, again, just to echo the funding that is coming from state energy offices and utilities, really taking advantage of that.

It's great to see in that CEC GFO, again, there was originally about eight and a half million allocated. I think they ended up awarding nearly 27 million. And so, making sure that there's not programs just in California, but across the country, there are programs opened currently for multifamily charging in Massachusetts, North Carolina, across Canada. And of course, with the Bipartisan Infrastructure Law, although all the attention right now is on DC fast charging and [inaudible 00:59:36], there's two and a half billion for corridor and community charging that we hope some of that gets invested into Level-2 charging specifically in multifamily properties, so thanks. Thanks for the question.

Munni Krishna, Strategic Partnership Director, Veloz

Great. I want to take a moment to say thank you so much to our wonderful panel and your thought leadership on today's webinar. We could not have had this conversation without you. And we thank you so very much. I've got a couple Veloz updates to round this out. You're welcome to go off camera if you'd like.

Okay, so next up this summer, we have our summer Summit series, registration is now open. We're going to be discussing the state of the EV ecosystem in partnership with our members, learn more and register at veloz.org/events. We've got some other events coming up this summer as well. We would invite you to join one of Veloz's key partners, ETCommunity in Sacramento for the 40 Acres Juneteenth Block Party. ETCommunity is going to be running a booth educating celebrants about the value of electric vehicles. This event is funded by a recent award to Veloz and they're partners by the California Governor's Office of Business, so we want to thank them so much. We also have two upcoming webinars on Vehicle-to-Grid Integration, and EVs and Natural Disasters coming in August and October respectively. Please reach out to our Program Director, Alfred Artis, if your organization is interested in presenting.

For more information about upcoming events, industry newsletters, and much more, please subscribe to our e-blast at veloz.org. And of course, please visit us at electricforall.org powered by Veloz. Please share, follow, and tag us on social media platforms, we love to hear from you. And I will say today's chat was very lively and we really liked that. And finally, before I let you go, we encourage you all to become part of the Veloz revolution by contacting me at the email shown on the screen. Thank you so much for joining us today and have a wonderful rest of your week.