Massachusetts Electric Vehicle Infrastructure Coordinating Council
Wednesday, November 6, 2024 | 1:00 – 3:00 p.m.
Via Zoom

EVICC Members Present:

- Assistant Secretary Joshua Ryor, Executive Office of Energy and Environmental Affairs, EVICC Chairperson
- Commissioner David Rodrigues, Division of Standards
- Hearing Officer Scott Siegal, Department of Public Utilities
- Aurora Edington, Department of Energy Resources
- Sharon Weber, Department of Environmental Protection
- Chris Aiello, Department of Transportation
- Kat Eshel, Massachusetts Bay Transportation Authority
- Eric Bourassa, MAPC
- Audrey Horst, Research Director, Office of State Senator Michael Barrett
- State Representative Jeffrey Roy, Chair, Joint Committee on Telecommunications, Energy, and Utilities

Additional attendees and presenters:

- Katie Gronendyke, Clean Energy Policy Advisor, Executive Office of Energy and Environmental Affairs
- Hayden Latimer-Ireland, Executive Assistant, Executive Office of Energy and Environmental Affairs
- Sarah McDaniel, Deputy General Counsel, Executive Office of Energy and Environmental Affairs
- Betsy Isenstein, DCAMM
- Eric Friedman, DOER
- Mark Scribner, DOER
- Katelyn Lee, EVgo
- Emily Kelly, ChargePoint
- Bill Erlich, Tesla
- Nick Valorie, East Coast Renewables
- Mike McCue, East Coast Renewables
- Josh Cohen, SWTCH
- Chris Kluesener, Matcha

Agenda and Minutes

1) Call to Order

Assistant Secretary Ryor called meeting to order at 1:02pm and took roll call of EVICC Members present.

2) Approval of Meeting Minutes

Edington motioned to approve the minutes of the October 6, 2024 meeting and incorporate edits made by DPU Commissioner Rubin, Bourassa seconded. Motion passed.

3) Review of Meeting Goals and Agenda

Ryor presented slide deck reviewing goals and agenda for the meeting.

4) DCAMM Update on Charging Stations at State-Owned Facilities

Betsy Isenstein, DCAMM, presented slide deck.

Edington: With fleet installations, how has your experience been getting electric vehicle charging supply equipment installed and coordinating with utilities? Have you been running into any issues with grid capacity?

Isenstein: No significant issues, we have had a few transformer installations and upgrades along the way – they are not easy to come by these days, but we've managed to work around that. I don't believe any of the installations are more than 8 ports.

Ryor: Do you happen to know the rated capacity of those 8-port chargers?

Isenstein: We have that data, but I don't have it on-hand, we can provide it.

Ryor: It's good to hear you haven't had significant grid constraints so far. It could potentially be because of the size of the systems you're installing, which would be a good data point to have.

Friedman: I think you're just installing traditional level 2s?

Isenstein: Yes, all level 2s.

5) DOER Update on Charging for State Fleets

Eric Friedman, DOER, presented slide deck.

Ryor: The three-year date included on your last slide, are you just indicating the funding is being used to cover networking costs for three years?

Friedman: Yes, and I believe DCAMM is doing the same. The goal is to try and help agencies to initially not have to worry about those costs. When those three-year plans run out, the agencies will then take over responsibility for those fees.

Ryor: At that point they would start using their budget – which is state funded, as opposed to federal funding?

Friedman: Correct. However, it is important to note that these plans are not a very significant amount of the overall award, the cost on the slide is for three years.

Ryor: Have state agencies/fleets run into grid capacity issues at all in your experience?

Friedman: We haven't run into grid capacity issues, but have in some instances had to pay for upgrades to electrical panels to provide more capacity on the customer side. We haven't had to go to a utility to ask for more capacity. We're generally installing 4 port chargers, with the occasional 6 or 8.

Ryor: Sounds like you maybe haven't run into transformer upgrades, do you have a sense of how much transformer upgrades that you would have to pay for cost? I'm more familiar with residential transformer costs.

Isenstein: I do not, it was maybe a problem in a half a dozen sites so far. We ran into more issues with the availability of transformers, long lead time. We could also probably get you those numbers.

Friedman: Did you have to coordinate with utilities on the transformers? Or is it something that you and the site could just do on your own?

Isenstein: It's been part of the projects. We are doing turnkey projects, so the installer is doing the coordination.

6) Overview of Typical Charging Business Models

Mark Scribner, DOER, presented slide deck.

7) **Overview of EVgo's Business Model**

Katelyn Lee, EVgo, presented slide deck.

Ryor: Can you speak more about how you identify which companies to partner with? I would imagine that because you collect revenue from charging, high utilization rates are an important part of your business model – 1) is that the case and 2) if, so, how do you go about identifying ideal companies to partner with?

Lee: We have a proprietary siting tool which incorporates data and other factors into siting. We want to put charging stations where drivers are already going. We also have long-term partnerships with multiple companies.

8) **Overview of ChargePoint's business Model**

Emily Kelly, ChargePoint, presented.

Kelly: ChargePoint is a global leading charging network and hardware provider. We have over 400,000 ports worldwide and over 500,000 public ports on our network specifically in Massachusetts. Dedicated to charging every type of electric vehicle on the market, from light, medium, and heavy duty. We have a range of products, home charging to fast charging options.

In addition to having our own network and manufacturing hardware, we can also onboard our software on to other companies' hardware through partnerships we have. On the fleet side, we acquired a company that can be used on buses for fleet management.

Our primary business model is not to own and operate charging stations themselves, but to provide smart network systems to many types of organizations. We sell equipment and our software and then manage network. Whoever wants to own and operate and offer charging as an amenity, we sell directly to them. We continue to manage network and software. We can still send updates and coordinate installation repair and maintenance through our network of third-party partners. Even though we're the technology provider, our interaction with customer doesn't end when we sell the product. We try to be there every step of the way to manage any challenges that may arise.

We sometimes can see challenges with our business model. As we are not the ones to own and operate the station, we have to be very clear about whose responsibility it is to maintain the stations and keep them running. Reliability is top of mind for the company.

We provide technology, we partner with business to expand charging. We also offer charging as a service, partners host charging at no cost initially, then use revenue from the chargers to pay for equipment and network fees. We need site hosts to be diligent about maintaining the chargers. We have added app options for drivers to share issues with stations, using AI to help speed process of repair. We have recently expanded our installation partner trainings, we were noticing some issues with installation causing reliability issues, so we now have specific modules for installers to complete.

9) **Overview of Tesla's Business Model**

Bill Erlich, Tesla, presented.

Erlich: Tesla is most similar to EVgo, the way we refer to business model internally is as an owner-operator. Initially, when first EVs were being sold, a charging network was built out with the understanding that charging was needed to sell EVs. It's become its own business unit. There are developers that go find properties, either site lease or license agreement. Occasionally land purchase, but that's rare. Then, team will design chargers, working with utilities. We will contract with electrical contractors to install. Sites are owned and operated by Tesla. We have been moving towards having partners. It is convenient for businesses as they don't have to

put in any money up-front. Maintenance is internal to Tesla. We take reliability and uptime very seriously. We want to operate in a financially sustainable manner, but also want to grow to keep up with the demand for charging – especially as the Tesla network is opening to other auto manufacturers. We don't disagree with reliability standards or mandates, our standard internally is generally higher, but reporting can be excessive. We are constantly working to expand the network and maintain momentum.

Ryor: We are working towards our next assessment, which will look at what the state can do to make sure we have equitable and robust charging infrastructure in Massachusetts. When it comes to charging business models, I'm curious to hear if there is one recommendation each of you have for helping charging business models in state and thus the proliferation of chargers?

Lee: Follow up on other questions – we are happy to provide charging to any business that wants to work with us and doesn't want to own the infrastructure – it doesn't have to be a large business. It is difficult for businesses to give up parking spaces needed for infrastructure, it can be hard for smaller businesses to get permission from landlords. One of the biggest barriers we see in terms of deployment is finding a way to make it easier with property agreements and incentivize giving up parking. Data reporting and fees can also make deployment difficult in certain area.

Ryor: Following up specifically on your point about parking difficulty and the need for standard agreements – would templates created by this group be helpful?

Lee: We haven't fully considered the policy solution but we think incentives would be helpful to make this more worthwhile for potential hosts.

Kelly: Streamlined permitting would be helpful, we see many delays due to this. Interconnection timelines are also difficult, including delays due to transformer supply constraints. California recently passed legislation to speed this up.

Ryor: If you can share that legislation, that would be helpful.

Erlich: Most I hear out of Massachusetts is permitting. Grid capacity would be useful to get out ahead of, but I haven't heard of a specific example in the Commonwealth yet, but charging stations will likely get larger. Transformers and supply chain issues are two things that I have heard a little less about recently than two years ago, but it is something that can stall a project. We have had good luck working with our utility partners in the state.

Aiello: Permitting was brought up – is this a zoning issue or is it more a mundane and time-consuming process to pull permits from multiple, local Departments of Public Works?

Kelly: I think the latter – many jurisdictions have their own processes, and some can move faster than others. I can get more specific feedback.

Valorie from East Coast Renewables, mostly doing Level 3 installs: Certain towns prohibit the installation of Level 3 chargers outside of town hall. In our experience, Eversource takes longer on pre-approvals than National Grid. We have been working since August 2023 and haven't gotten pre-approvals from Eversource. Capacity hasn't been an issue for us so far. Transformers have delayed a lot of Level 3 chargers.

Weber: I heard Emily mention medium and heavy-duty charging, I'm curious if the business model is different on the medium and heavy-duty side.

Kelly: I think it's too soon to tell for the heavy-duty side. We're providing a lot of charging for transit buses right now, which tend to be owned by the transportation agency. For us it typically doesn't change the model for medium duty.

Ryor: We will provide everyone with the link Katelyn shared in the chat regarding best practices from EVgo.[1]

Moving on, we will have 10 minutes for each of these next presentations and will have a separate webinar for the MassCEC presentation that was originally scheduled for today's meeting.

Siegal: I wanted to go back to something in Mark's slide, there was a bullet that said regulatory support may be needed because in Massachusetts only Municipal Light Plants may own electric vehicle chargers. There's no statue or regulation in Massachusetts that prohibits an electric distribution company from owning and operating and electric vehicle charger. I will provide some relevant links.

10) Presentation on SWTCH's Business Model

Josh Cohen, SWTCH, presented slide deck.

11) Presentation on East Coast Renewables' Business Model

Nick Valorie and Mike McCue, East Coast Renewables, presented slide deck.

Ryor: One of the things I find interesting that your company and potentially others offer is your second option on your slide, you're taking care of nearly everything and offering a portion of the revenue to the owner of the site?

Valorie: Yes, it is a pretty large portion of the revenue that owners are getting.

Ryor: Josh (SWTCH), you mentioned a program in British Columbia (BC), could you contrast it to the programs in Massachusetts and New England?

Cohen: I can't contrast it with Massachusetts programs, but am happy to share about the BC Hydro program. BC Hydro was already partnering with Autogrid for a savings programs. We had multiple multi-unit residential buildings (MERBs) and approached BC Hydro and Autogrid. We got multiple charger owners and buildings enroller – if at least two unit-owners in the building participated, the building gets an incentive. If drivers participated in at least two demand-response events per month, they got a credit. The demand response events were us cutting charging so that cars were only charging at about 20% during peak hours. We allowed people to opt in and out if needed. A very small percentage of drivers ended up opting out. Lessons learned: customer onboarding experience and enrollment should be as seamless as possible, also looking at incentives to see if we were providing enough money to make it worthwhile.

12) Presentation on Matcha's Business Model

Chris Kluesener, Matcha, presented slide deck.

Edington: Do you offer services for public use of the chargers you're installing and how do you think of the fee structure you're putting in place?

Cohen: For most chargers, we're not the owner-operator. Many of our installations are for public-facing charging and it is mostly up to the property owner. Our sales team has a worksheet that includes an ROI, some of our property owners are installing less as an income source and more of an amenity, folks are typically looking at a 5-7 year ROI when it comes to pricing. SWTCH is starting to dip into owner-operator, and in this instance, incentives are useful in determining pricing.

[1] The links to EVgo's best practices included in the meeting chat were emailed to the EVICC distribution list on November 15, 2024. The links are also being included here: Local Zoning Codes Best Practices and Local Permitting Best Practices.

Valorie: For pricing, and as an electric vehicle driver, the pricing we've seen working is about 50 cents/kilowatt hour. That is what I am advising my customers. For fleet, I've been going back and forth on that, finding it hard to believe that community will not charge fleet charging.

Aiello: I've seen great work around managed charging and flattening out the curve; there are many ways to do that – most of it seems to be incentivizing charging at times of less demand. National Grid recently showed me a slide where the increased electrification of heating may shift the peak demand hours. Any ideas about strategies for that period of time where the convenient overnight charging period might become a time of peak demand?

Cohen: I think it will be an ongoing conversation and iterative process that will include rate design and software to manage charging at scale.

Valorie: In July, National Grid held an energy summit. My takeaway from that summit and other engagements is that Massachusetts wants to be poster child of renewable energy, so I think the state will collectively make sure that demand charges on electric vehicle stations won't adversely affect things.

Ryor: Chris (Matcha) had to drop off the meeting, but added that pricing will have to be a core competency moving forward.

Next steps: Reminder that the MassCEC presentation will be a separate webinar. We will circulate information on that webinar via the EVICC mailing list and put that information on the website.

13) Meeting Adjournment

Weber moved, Edington seconded. Motion passed and meeting was at 3:01pm.

14) Materials

- EVICC 11.6.2024 Meeting Deck
- SWTCH Energy Presentation