Jacob Veaughn

From: Jacob Veaughn on behalf of Records Clerk
Sent: Friday, October 2, 2020 4:35 PM
To: 'Ebo Entsuah'
Cc: Consumer Contact
Subject: RE: AEE Comments for Docket No. 20200000-OT

Good afternoon, Ebo Entsuah

We will be placing your comments below in consumer correspondence in Docket No. 20200000 and forwarding your comments to the Office of Consumer Assistance and Outreach.

Jacob Veaughn
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From: Ebo Entsuah <eentsuah@aee.net>
Sent: Friday, October 2, 2020 4:15 PM
To: Records Clerk <CLERK@PSC.STATE.FL.US>
Cc: Matt Stanberry <mstanberry@aee.net>; Claire Alford <calford@aee.net>; Leah Rubin Shen <lrubinshen@aee.net>; Noah Garcia <ngarcia@aee.net>; Melanie Bostick <Melanie@libertypartnersfl.com>; Liberty Office <office@libertypartnersfl.com>
Subject: AEE Comments for Docket No. 20200000-OT

To Whom It May Concern,

Good Afternoon, please see submitted comments for Docket No. 20200000-OT.

Thank You,
--
Ebo Entsuah
Principal
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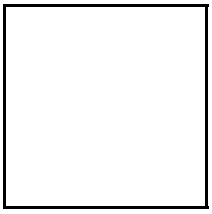

October 2, 2020

Ben Crawford
Adria Harper
Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Boulevard
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To the Office of the Commission Clerk:

Advanced Energy Economy (AEE) thanks the Florida Public Service Commission (PSC) for its leadership in initiating the request for comments regarding the future of electric vehicles (EVs) in Florida. AEE is a national association of business leaders representing over 70 companies in the $238 billion U.S. advanced energy industry, which employs 3.5 million American workers. "Advanced energy" encompasses a broad range of products and services that represent the best available technologies for meeting energy needs. Among these are energy efficiency, energy storage, demand response, natural gas electric generation, solar, wind, hydro, nuclear, and EVs. When considering issues related to EVs, it is important to consider how EV-related technologies work together with other advanced energy technologies in the broader context to make the electricity and transportation systems more secure, clean, reliable, and affordable. AEE brings this broad, systems-level perspective to this proceeding.

AEE's member companies span the transportation industry and include manufacturers of EVs of different vehicle sizes (from small low-speed vehicles to large heavy-duty vehicles), charging infrastructure providers, grid integration solution firms, fleet operators, and companies providing supporting technologies and software services. The advanced vehicles industry, which includes hybrid, electric, natural gas, and fuel cell vehicles, has an important role to play in shaping the future of transportation in Florida.

As described further below, the EV market is growing rapidly, and numerous states across the country are recognizing electrification as an essential component of a modern, reliable transportation system. Pursuant to the PSC's September 2nd memorandum requesting stakeholder feedback on EV regulatory topics, we are pleased to submit these comments to help inform the PSC's EV charging infrastructure master plan.

Please do not hesitate to reach out to us or Melanie Bostick with Liberty Partners of Tallahassee, (850) 528-8809, if you have any questions or need additional information.

Respectfully submitted,

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Cc: Melanie Bostick, Liberty Partners of Tallahassee

We encourage the Commission and the state of Florida to view transportation electrification as an engine to power Florida's economic recovery. As the adoption of EVs increases, there will be a growing need for the construction of supporting charging infrastructure, which will bring additional well-paying jobs to the state while cultivating an advanced energy workforce that has been affected by COVID-19. The Commission should use these comments as an opportunity to prepare for the growing transition to electric transportation and to maximize the benefits that EVs can provide to both the grid and ratepayers.

I. *Projecting the increase in the use of electric vehicles in this state over the next 20 years and determining how to ensure an adequate supply of reliable electric vehicle charging stations to support and encourage this growth in a manner supporting a competitive market with ample consumer choice.*

A. *Please provide a ten-year and twenty-year projection for increased EV use in Florida, including your data source for such projections.*

B. *Provide an estimate of the number of charging stations that will be needed to meet the demand presented by these ten and twenty-year projections.*

As a threshold matter, AEE recognizes that EV projections can be a useful tool for the PSC in assessing how EVs can benefit Florida utility customers and the grid. We submit, however, that these projections should not unduly delay progress on transportation electrification (TE) or the Commission's ability to pursue no-regrets regulatory action that facilitates the growth the state's growing EV market. In addition, EV forecasts are not static: by taking constructive near-term action, the Commission can maximize the benefits of TE for Florida's utility customers, grid, and economy, which will in turn lead to further acceleration of the TE market.

To place Florida's EV market in context, the U.S. has experienced considerable EV growth in recent years: light-duty EVs have grown at a compound annual growth rate above 50% since 2011 and the market climbed 81% in 2018 with over 360,000 vehicles sold.[1] The medium- and heavy-duty EV markets are also expanding as innovations in battery technology continue to advance. For example, annual sales of plug-in electric public transit buses were 10% of the

[1] These EV sales figures include both plug-in electric vehicles (PHEVs) and battery electric vehicles (BEVs) sales. https://insideevs.com/news/341824/december-2018-us-plug-in-ev-sales-report-card/

annual sales of public transit buses in the U.S. as early as 2017 (the most recent year with complete data).[2] Today, there are over 50 light-duty EV models for sale, with dozens of new models arriving in the next few years, including trucks, SUVs, and all-wheel drive models. It is clear that transportation electrification has begun in earnest and will only continue to grow during the coming decade.

The EV market is nascent in Florida, with just over 61,000 EVs on the road as of early 2019, but it is growing rapidly.[3,4] In 2018, EVs comprised 1.03% of all light-duty vehicle sales in Florida – or just over 13,000 units.[5] From 2011 to mid-2019, a total of 47,308 light-duty EVs were sold in the state but over 40% of those sales were made after January 2018 (sales increased 108% between 2017 and 2018.)[6] The advanced vehicle industry is also a burgeoning economic engine in Florida, supporting over 7,000 jobs in the Sunshine State, which is around 5% of the just over 160,000 advanced energy jobs in the state.[7]

Projections for the deployment of light duty EVs in the United States vary. Based on historical sales figures, AEE adopted an S-curve technology adoption model and estimates that approximately 1.4 million EVs will be on Florida's roads in 2030 and 8 million by 2040. Edison Electric Institute (EEI) developed a balanced sales forecast derived from five independent expert forecasts and projected that there would be 18.7 million EVs on the roads in the United States by 2030, noting that their previous sales estimates had been revised upwards to account for actual market activity.[8] Based on EEI's projections and the assumption that the ratio of EV sales in Florida versus the United States stays roughly the same,[9] there would be approximately 1.3 million EVs deployed in Florida by 2030 – or more than 20 times the number of current EVs on the road. Bloomberg New Energy Finance (BNEF) estimates 26 million EVs will be on the road nationwide by 2030; by apportioning the national estimate based on Florida's share of vehicle

[2] https://www.ebstart.co/data-publications
[3] Data retrieved from EV Atlas Hub. https://www.atlasevhub.com/materials/state-ev-registration-data/
[4] EVs include all-electric battery electric vehicles (BEVs) and plug-in hybrid vehicles (PHEVs).
[5] EV Market Share by State. https://evadoption.com/ev-market-share/ev-market-share-state/
[6] Advanced Technology Vehicle Sales Dashboard. *Auto Alliance*. https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/
[7] https://info.aee.net/florida-advanced-energy-jobs-fact-sheet-1-0-1-0
[8] *Electric Vehicle Sales Forecast and the Charging Infrastructure Required Through 2030*. Edison Electric Institute. (2018). Page 5. Http://www.ehcar.net/library/rapport/rapport233.pdf
[9] https://www.fhwa.dot.gov/policyinformation/statistics/2017/mv1.cfm

registrations, it would be anticipated that approximately 1.8 million EVs would be on Florida's roads by 2030.[10] While forward looking analyses are always imprecise, these assessments all tell a consistent story and provide a sense of the order of magnitude of EVs to be expected on Florida roads in the near future.

There is no precise formula or methodology that perfectly determines EV charging infrastructure needs at a state or regional level. To determine a reasonable *estimate* of the amount of charging infrastructure needed to support a given population of vehicles, the U.S. Department of Energy developed the EVI-Pro Lite tool.[11] By adjusting a series of parameters – including vehicle population, vehicle mix, plug-in hybrid vehicle support, and access to home EV charging – users can determine an approximation of a state's workplace Level 2 (L2), public L2, and public Direct Current Fast Charging (DCFC) plugs.[12] To support 1.4 million EVs in 2030 (AEE's estimate, which falls between the EEI and BNEF estimates), the EVI-Pro Lite tool indicates that Florida will need approximately 40,900 workplace L2 plugs, 26,100 public L2 plugs, and 4,600 DCFC plugs.[13] For reference, there are approximately 3,500 public L2 plugs and 750 DCFC plugs currently in the state.[14] In short, there is a substantial EV charging infrastructure gap that Florida must fill to accommodate future EV charging needs and ensure that all citizens have access to the technology.

[10] *Electric Vehicle Outlook 2020.* Bloomberg New Energy Finance. (2020) https://about.bnef.com/electric-vehicle-outlook/
[11] https://afdc.energy.gov/evi-pro-lite
[12] The model does not provide insight on where charging infrastructure may or should be sited.
[13] Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite. Assumes default parameters with the exception of home charging access: assumes 90% of EV drivers have access to home charging. Https://afdc.energy.gov/evi-pro-lite
[14] *Id.*

II. Strategies to develop the supply of charging stations, including, but not limited to, methods of building partnerships with local governments, other state and federal entities, electric utilities, the business community, and the public in support of electric vehicle charging stations.

A. Provide comment on strategies to develop the supply of charging stations, including methods of building partnerships between charging station installers, governmental entities, electric utilities, the business community, and the public.
B. Provide examples of strategies adopted or being considered in other states that could be implemented in Florida.

To address the charging infrastructure gap described in the section above and maximize the benefits of TE for Floridians, the PSC can and should take a proactive role to reduce barriers to EV charging in the state and lay the foundation for a robust EV charging services market. AEE agrees that partnerships are an essential component of any strategy to accelerate the deployment of charging infrastructure: government entities, electric utilities, industry, and the public all have a role to play. As stewards of the grid and the entities responsible for the safe, reliable, and equitable provision of electricity, electric utilities are a particularly important stakeholder in the effort to develop EV charging stations in Florida. By extension, as the utilities' regulator, the PSC holds a critical role in providing regulatory guidance and authorizing investments to further support the EV market in a manner that benefits utility customers, the grid, and society as a whole.

One particularly important issue that the Commission will need to consider is the role that utilities have to play as it relates to electric vehicle supply equipment (EVSE) deployment. We see five potential roles for the utility covering the range of possibilities:

1. Utility as **Facilitator**: The utility treats PEV charging like any other potential load, providing nondiscriminatory electric service when and where requested, but not engaging directly in the business of vehicle charging.
2. Utility as **Enabler**: The utility deploys additional infrastructure up to the point of connection to the EVSE to proactively build out capacity in key areas to enable project development – also called the "make-ready" option – but does not take a direct role in installing, owning or operating the EVSE.

3. Utility as **Manager**: In addition to delivering electric service to the location of the vehicle charger, the utility manages the charging operation to better integrate charging with grid capabilities and grid needs.
4. Utility as **Provider:** (includes Manager role): The utility delivers electric service to the charging equipment, which the utility owns and is able to earn a return on, and the utility provides charging services.
5. Utility as **Exclusive Provider:** (includes Manager role): Vendors other than the utility are prohibited from reselling electricity to the public, which could be inclusive of charging service, effectively extending the utility monopoly functions to PEV charging and EVSE deployment.

As we see it, with the exception of the Exclusive Provider role, all options should be on the table at the present time with the right approach depending on the market segment in question. The goal of the Commission for each segment should be to eliminate underlying market barriers to facilitate the development of an expanded competitive market while simultaneously ensuring service provision in areas that are outside the reach of the competitive market (e.g., deployments in rural areas with lower population densities, multi-unit dwellings, and economically disadvantaged communities).

At this relatively early stage of EV market development, all capital resources should be brought to bear, including but not limited to private capital, utility investment, automaker and other partner direct support, public funds, and other sources of funding (e.g., Volkswagen settlement money via the Environmental Mitigation Trust). This all-encompassing approach will accelerate the needed deployment of charging infrastructure. As such, both utilities and third-party charging infrastructure companies have critical roles to play in the deployment of EVSE.

Third parties should be able to develop and own charging facilities. Third-party EVSE ownership and operation harnesses the power of the competitive market in a way that ultimately benefits consumers. In market segments where it is difficult for these companies to make a business case for developing, utility ownership and operation of EV charging assets may be warranted until the business case for third-party ownership improves.

Beyond determining the role that utilities should play in charging infrastructure, we believe it is critical for utilities to be engaged in other areas including the development of beneficial rate design, smart charging programs, and customer education and outreach efforts, all of which can be addressed through transportation electrification programs (TEPs). Utilities in Florida and across the country have already developed and implemented TEPs. Although TEPs may vary widely in scope and size, many share several common elements, including but not limited to:

- **EV charging infrastructure.** In partnership with EV charging service providers, utilities incentivize or facilitate the deployment of EV chargers and/or associated electrical infrastructure (often known as "make-ready" infrastructure). In many cases, TEPs incorporate equity by allocating a percentage of chargers in underserved communities and/or supporting medium/heavy-duty EV charging that reduces harmful diesel emissions in these communities.
- **Rate design and load management.** Effective EV rate design can avoid or mitigate utility distribution system upgrades, create downward pressure on utility rates for all electricity customers through the efficient use of the grid, generate fuel cost savings for drivers and fleets relative to internal combustion engine (ICE) vehicles, facilitate the integration of renewable energy on the electricity system, and incentivize greater private investment in charging stations. In the appropriate contexts, utilities have implemented time of use (TOU) rates and commercial EV rates that better align demand charges with cost causation, and other load management solutions that turn EVs into grid assets – not liabilities.
- **Education and outreach (E&O).** With a broad customer base and natural position as an expert on matters related to electricity, utilities are well-positioned to communicate the benefits of EV charging and the use of electricity as a transportation fuel. In partnership with 3rd parties, utilities have sought to reduce customer awareness gaps and make the transition to EVs simple and transparent for customers.

TEPs have emerged as a crucial regulatory topic at public utilities commissions across the country in recent years. Recognizing the shift in technology availability, consumer preferences,

and state policy goals, regulators have generally sought to guide utility engagement on transportation electrification in a fashion that supports broad grid and utility customer benefits. While several states have adopted legislation to enable utility investment in transportation electrification, many states have actively shaped utilities' role in the EV space at the regulatory level. For example, the Maryland Public Service Commission also initiated a stakeholder process to consider "a limited utility infrastructure investment in EVSE [electric vehicle supply equipment], working with private industry and identifying locations at which it is difficult to attract private capital for EVSE investment."[15] The process culminated in the approval of a Statewide EV Portfolio that included Maryland's four investor-owned utilities and will support the deployment of over 5,000 L2 and DCFC chargers across several key market segments.[16] Similar to Maryland, the Michigan Public Service Commission's held a proceeding on the role of regulated utilities in TE and determined that utilities should file TEPs with a focus on customer education, infrastructure deployment, grid management, and rate design.[17] Since the conclusion of the Commission's inquiry, both large regulated utilities in the state have received approval of their TEPs: for example DTE's *Charge Forward* offers customers incentives for residential L2 chargers, commercial L2 chargers, and public DCFC chargers.[18] Additionally, the Public Service Commission of South Carolina recently approved Duke Energy's Electric Transportation Pilot, which provides residential customers with EV charger rebates, encourages beneficial EV load management, and authorizes Duke Energy to deploy and own up to 40 public DCFC chargers near major travel corridors.[19]

In fact, regulators in 24 states have approved over $2.5 billion for transportation electrification investments across over 40 utilities since 2012.[20] Moreover, the PSC already has direct experience with utility TEPs. Duke Energy Florida's PSC-approved *Park & Plug* program seeks to deploy 530 charging ports across several key market segments including multi-unit dwellings,

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[15] Notice, In re Transforming Maryland's Electric Distribution Systems to Ensure That Electric Service Is Customer-Centered, Affordable, Reliable and Environmentally Sustainable in Maryland, Docket No. PC 44, at 9 (Md. PSC Jan. 31, 2017).
[16] https://www.psc.state.md.us/wp-content/uploads/MD-PSC-Approves-Modified-Utility-EV-Charging-Portfolio_01142019-1.pdf
[17] https://www.naruc.org/default/assets/File/EV%20surge%20summary%20070618-final.pdf
[18] https://www.newlook.dteenergy.com/wps/wcm/connect/dte-web/home/service-request/business/electric/electric-vehicles/pev-biz-charge-frwd
[19] https://dms.psc.sc.gov/Attachments/Matter/5bfb6e54-75b5-4173-a35a-d5db91ebb693
[20] Lepre and Smith, *Electric Utility Filing Bi-Annual Update*, Atlas Public Policy, February 2020. $2.5 billion figure accounts for new recent TEP approvals in other states.

workplaces, public locations, and major corridors.[21] Duke Energy has also committed to deploying a minimum of 10 percent of chargers in income-qualified communities and will report charger usage data to the PSC on an annual basis.[22]

As EV adoption continues to increase, both utilities and regulators are realizing that TEPs are not a one-off exercise but rather part of a broader sustained effort to meet evolving utility customer and grid needs. Indeed, regulators can and have already authorized successive TEPs for a single utility that adapt to changing market conditions in their service area; these TEPs either improve upon previous programs or address new market needs where electrification has become increasingly feasible, including but not limited to multi-unit dwelling charging, workplace charging, public fast charging, medium/heavy duty fleet charging, and (air)port charging.[23]

In sum, many regulators – including the PSC – have already authorized utility investments that support transportation electrification. Utilities are essential partners in facilitating the deployment of foundational EV charging infrastructure necessary to accelerate EV adoption. Industry participants, local governments, and NGOs will also play a key role in efforts to grow the EV market. With appropriate regulatory guidance, utility TEPs have increased access to electricity as a modern transportation fuel, encouraged system load factor improvements and the efficient use of the grid, catalyzed the growth of the private EV charging services market, expanded customers' energy options, facilitated the integration of renewable energy, and supported regional emissions reductions.

[21] https://www.duke-energy.com/our-company/florida-future/park-and-plug
[22] *Id.*
[23] https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442463904

III. Identifying the type of regulatory structure necessary for the delivery of electricity to electric vehicles and charging station infrastructure, including competitively neutral policies and the participation of public utilities in the marketplace.

A. Provide comment on the regulatory structure necessary for delivery of electricity to EV charging station infrastructure.

B. Provide comment on what constitutes competitively neutral policies in the electric vehicle charging marketplace.

C. Provide comment on the participation of public utilities in the electric vehicle charging marketplace.

D. Provide examples of regulatory structures adopted, or being considered, in other states regarding electricity supply to EV charging station infrastructure, including examples of competitively neutral policies and the participation of public utilities in the marketplace, that could be implemented in Florida.

The PSC's regulatory structure is important for guiding the provision of electricity service to EV charging stations. It is helpful to approach this provision of electricity service from two perspectives: electricity to the charging station and electricity to the vehicle. In the former case, electricity provided to the charging station is similar to the delivery of electricity to any other end use. EV charging station owners typically pay for electricity on the same tariff as the rest of their site loads. However, more utilities are implementing tariffs available for commercial EV chargers that reduce demand charges, support private investment in EV charging infrastructure, and better align with system cost causation principles.[24] In either case, utilities are setting rates for electrical service to the EV charger.

For delivery of electricity to the vehicle, charging station owners and operators typically have discretion to levy a fee for EV charging services.[25] In some cases, charging station owners and operators offer the station as an amenity and therefore do not charge a fee for service. In part due to the diversity of EV charging station market segments (and associated electric tariffs), charging speeds (kilowatts), pricing units (by minute or by kilowatt-hour), and EV charging service provider business models, there is no single, established competitive price for EV charging

[24] For more information, see *Increasing Electric Vehicle Fast Charging Deployment*: *Electricity Rate Design and Site Host Options*, https://brattlefiles.blob.core.windows.net/files/15077_increasing_ev_fast_charging_deployment_-_final.pdf
[25] In the case of residential EV charging, EV drivers typically pay for electricity on their residential service tariff.

services. These characteristics of the EV charging services market make it difficult to readily draw comparisons to the gas station model for fueling internal combustion engine vehicles. For example, EV charging at home with a L2 charger may be less expensive per kWh than public fast charging. Nonetheless, it is important for the PSC to consider these dynamics and the nascency of the EV charging services market in future regulatory guidance to catalyze the deployment of EV charging infrastructure.

In order to stimulate a growing market for EV charging services, the PSC and utilities should ensure that reliable utility service is provided to EV charging stations just as it is provided for any other end use. Utility interconnection processes should not unduly discriminate against EV charging infrastructure and should be made transparent to all EV charging service providers as well as site hosts. In addition, utilities can and should be equally available to meet with EV charging service developers before project commencement to ensure charging stations can be deployed efficiently and cost-effectively. Finally, utilities should seek to ensure that EV chargers in the same customer class have access to the same menu of rate design options and do not artificially preclude EV charging station owners from adopting different rates.

Regarding the utility role in EV charging infrastructure, AEE reiterates that utilities are essential partners in supporting the growth of the EV charging services market. Rather than stifle the market, utility programs can offer new avenues for competition among EV charging service providers, establish markets for EV charging services where they previously did not exist, and extend greater choice to customers. One way utilities can act as a market facilitator is through investment in utility-side electrical infrastructure necessary to support EV charging stations. Utilities should be able to design, install, own and maintain equipment on the utility side of the meter, including a new service connection, transformer, conductors, connectors and conduit up to and including the electric meter along with any necessary construction to comply with local regulations. Many utility TEPs include and account for utility-side upgrades needed to support EVSE in the case of commercial charger deployments.

The Commission must also consider the utility role in customer-side EV charging infrastructure. In this context, we urge the PSC to take a flexible approach to EV charging infrastructure

deployment models. In some particularly underserved market segments, utility ownership may be justified – and even encouraged by some EV charging service providers – as a means to increase access to charging in these areas. Indeed, this approach has been affirmed in Duke Energy Florida's *Park & Plug* program. In other instances, site hosts and EV charging station owner-operators may be best positioned to own and operate chargers. For example, Consumers Energy's *PowerMIDrive* provides up to $5,000 per charger rebates for L2 stations for commercial customers; these stations are intended to be owned by site hosts.[26] We do not recommend that the PSC attempt to prematurely and narrowly define the role of utilities and EV charging service providers given the nascency of the market and the urgent need to address market gaps. Rather, consistent with regulator's approach in other states, we ask the Commission to adopt a flexible approach to charging infrastructure deployment models and consider where different models could best suit the state's market needs. In other words, the goal of the Commission should be to eliminate underlying market barriers to facilitate the development of an expanded EV market while ensuring equitable access to EV charging infrastructure.

We thank the PSC for the opportunity to comment on these timely, important transportation electrification topics. Florida has the potential to leverage EVs in its economic recovery, support advanced energy businesses, and generate widespread utility customer benefits by scaling the EV market. However, without decisive action to lay the foundation for a robust market, the state risks forfeiting these economic opportunities and losing ground to other states. We respectfully urge the Commission to develop guidance that will send a strong market signal to catalyze EV adoption and put the state on a path toward a modern, reliable transportation future.

[26] https://www.consumersenergy.com/residential/programs-and-services/electric-vehicles/level-2-charging-station-rebates